PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING

AGENDA
October 4, 2023 @ 9:30 a.m.

Sarasota County Administration Center
Commission Chambers, First Floor
1660 Ringling Boulevard, Sarasota, FL

Additional information may be obtained by contacting the Peace River Manasota Regional Water Supply Authority, 9415 Town Center Parkway, Lakewood Ranch, Florida 34202 or through the Authority's website www.regionalwater.org. Persons with disabilities who need assistance may call (941) 316-1776 at least two business days in advance to make appropriate arrangements. No Stenographic record by a certified court reporter is being made of this meeting. Accordingly, any person who may seek to appeal any decisions involving the matters noticed herein will be responsible for making verbatim record of the testimony and evidence at this meeting which may be necessary to appeal such decisions.

BOARD OF DIRECTORS

Commissioner Elton Langford, DeSoto County, Chairman
Commissioner Bill Truex, Charlotte County, Vice Chairman
Commissioner George Kruse, Manatee County
Commissioner Mike Moran, Sarasota County

CALL TO ORDER

INVOCATION

Commissioner Elton Langford

PLEDGE OF ALLEGIANCE

Led by the Board

WELCOME GUESTS

HOST COUNTY REMARKS

Jonathan Lewis, Sarasota County Administrator

PUBLIC COMMENTS

Any individual wishing to address the Board on an item on the Consent Agenda or Regular Agenda ("Voting Agenda Items") or an issue that does not appear on the agenda should complete a 'request to speak' card and submit it to the Authority's recording clerk prior to this Public Comments item. Each person that submits a 'request to speak' card will have three (3) minutes to address the Board. Fifteen (15) minutes is provided for this Public Comment item unless additional time is needed for individuals to address the Board on Voting Agenda Items. If the time limit is exhausted and there are still individuals that want to address the Board on non-Voting Agenda Items, the Board will entertain any remaining comments near the end of the meeting. Comments on Voting Agenda Items will be heard first.

CONSENT AGENDA

1. Minutes of the August 2, 2023, Board of Directors Meeting
2. Projects for State of Florida Grant Funding (Local Funding Initiatives)
3. Update on Hurricane Ian Repairs, Costs and Cost Recovery Efforts
4. Disbursement of Funds for FY 2023 Debt Service Coverage Payments

REGULAR AGENDA

1. Water Supply Conditions Report
2. Peace River Reservoir No. 3 Project, Work Order No. 3 - Final Design and Permitting
3. Professional Construction Manager at Risk (CMAR) Services for the PR3 Pumping and Conveyance Facilities
4. Peace River Water Treatment Plant Expansion Pilot Testing Results and Recommendations
5. Contract, Scope and Fee with Carollo Engineers for Integrated Regional Water Supply Plan 2025

CHAIRMAN'S REPORT

1. Annual Review of Executive Director

GENERAL COUNSEL'S REPORT

EXECUTIVE DIRECTOR'S REPORT

ROUTINE STATUS REPORTS

1. Hydrologic Conditions Report
2. Check Registers for July and August 2023
3. Peace River Regional Reservoir No. 3 Project (PR3)
4. Regional Integrated Loop System Phase 2B Interconnect
5. Regional Integrated Loop System Phase 3C Interconnect
6. DeSoto Booster Pumping Station Project
7. Brackish Groundwater Reverse Osmosis Project at the Peace River Facility
8. Peace River Basin Report

BOARD MEMBER COMMENTS

PUBLIC COMMENTS *(if necessary)*

Individuals who previously submitted a 'request to speak' card to the Authority's recording clerk and there was inadequate time during the initial Public Comments item for them to speak on non-Voting Agenda Items, will be given three (3) minutes per person to speak on such item.

ANNOUNCEMENTS

Friends of Peace Water BBQ
November 3, 2023 @ 11:30 a.m.

Peace River Facility Ranch House
8998 SW County Road 769, Arcadia, FL 34269

Next Authority Board Meeting
December 6, 2023 @ 9:30 a.m.
DeSoto County Administration Building
Commission Chambers, First Floor
201 East Oak Street, Arcadia, FL

ADJOURNMENT

Visit the Business page of our website *www.regionalwater.org* to access the Agenda Packet

Additional information may be obtained by contacting the Peace River Manasota Regional Water Supply Authority, 9415 Town Center Parkway, Lakewood Ranch, Florida 34202 or through the Authority's website www.regionalwater.org. Persons with disabilities who need assistance may call (941) 316-1776 at least two business days in advance to make appropriate arrangements. No Stenographic record by a certified court reporter is being made of this meeting. Accordingly, any person who may seek to appeal any decisions involving the matters noticed herein will be responsible for making verbatim record of the testimony and evidence at this meeting which may be necessary to appeal such decisions.

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

CONSENT AGENDA
ITEM 1

Minutes of August 2, 2023 Board of Directors Meeting

Recommended Action - **Motion** to approve minutes of August 2, 2023 Board of Directors Meeting.

Draft minutes of the August 2, 2023 Board of Directors Meeting are provided for Board approval.

Attachments:
Draft Minutes of August 2, 2023 Board of Directors Meeting

Minutes of Board of Directors Meeting
PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
Manatee County Administration Center
Honorable Patricia M. Glass Chambers, First Floor
1112 Manatee Ave West, Bradenton, FL
August 2, 2023 @ 9:30 a.m.

Board Members Present:
Commissioner Bill Truex, Charlotte County, Vice Chairman
Commissioner George Kruse, Manatee County
Commissioner Jerod Gross, DeSoto County Alternate
Commissioner Ron Cutsinger, Sarasota County Alternate

Staff Present:
Mike Coates, Executive Director
Doug Manson, General Counsel
Richard Anderson, Director of Operations
Terri Holcomb, Director of Engineering
Jim Guida, Director of Water Resources & Planning
Ann Lee, Finance & Budget Sr. Manager
Mike Knowles, Engineering & Projects Sr. Manager
Angela Sain, HR Coordinator
Rachel Kersten, Executive Assistant & Agency Clerk

Others Present:
A list of others present who signed the attendance roster for this meeting is filed with the permanent records of the Authority.

CALL TO ORDER

Commissioner Truex called the meeting to order at 9:30 a.m.

INVOCATION

Commissioner Truex offered the invocation.

PLEDGE OF ALLEGIANCE

The Board led the Pledge of Allegiance to the Flag of the United States.

WELCOME GUESTS

Commissioner Truex welcomed guests and recognized the Board Member alternates in attendance, including DeSoto County Commissioner Jerod Gross as Commissioner Langford's alternate, and Sarasota County Commissioner Ron Cutsinger as Commissioner Moran's alternate.

HOST COUNTY REMARKS

Manatee County Utilities Director Evan Pilachowski made welcoming remarks.

PUBLIC COMMENTS

Public comments were made by Alix Urban, Zachary Hudson, Tim Ritchie, Richard Russell, and Orvel Howard.

AWARDS / RECOGNITIONS

1. WTPO Magazine Article

Richard Anderson announced that the Peace River Facility and the employes who work there were the subject of a "Top Performer" article in the July 2023 edition of the National Treatment Plant Operator Magazine. This is a tribute to the dedication of Authority employees and the unique and resilient supply system they operate to meet water supply needs in our region. Copies of the magazine with the article were provided to the members of the Board.

PUBLIC HEARING – BUDGET FOR FY 2024

1. Open Public Hearing

Commissioner Truex opened the public hearing at 9:49 a.m.

2. Presentation of Budget for FY 2024

Mr. Coates presented the proposed final budget for FY 2024.

3. Public Comment

Public comment was made by Tim Ritchie.

4. Close Public Hearing

Motion was made by Commissioner Gross, seconded by Commissioner Kruse, to close the Public Hearing. Motion was approved unanimously.

Commissioner Truex closed the public hearing at 10:10 a.m.

BUDGET FOR FY 2024

1. Adoption of Budget for FY 2024

Mr. Coates recommended approval of the proposed final budget for FY 2024 in the amount of $141,522,579.

Motion was made by Commissioner Kruse, seconded by Commissioner Cutsinger, to approve the Budget for FY 2024 in the amount of $141,522,579. Motion was approved unanimously.

2. Resolution 2023-07 'Resolution Setting Forth Rates, Fees and Charges for FY 2024'

Resolution 2023-07 formalizes the Board adoption of the Budget for FY 2024 and establishes the rates, fees and charges by the Authority for FY 2024 in accordance with the 'Second Amended Interlocal Agreement Creating the Peace River Manasota Regional Water Supply Authority' and the 'Master Water Supply Contract'.

Motion was made by Commissioner Gross, seconded by Commissioner Kruse, to approve Resolution 2023-07 'Resolution Setting Forth Rates, Fees and Charges for FY 2024'. Motion was approved unanimously.

CONSENT AGENDA

1. **Approve Minutes of the June 7, 2023, Board of Directors Meeting**
2. **Approve Resolution 2023-08 'Florida Water Professionals Month'**
3. **Approve U.S. Geological Survey Joint Funding Agreement #24MCJFA104 for Monitoring in the Peace River**
4. **Approve Annual Regulatory Plan 2023-2024**
5. **Approve Phase 3C Regional Interconnect Easement Acquisition**
6. **Approve Work Order with Johnson Engineering for Final Design and Permitting on the Peace River Facility Perimeter Security and Traffic Circulation Improvements Project**
7. **Approve IRWSP 2025 Ranking Approval/Consultant Selection**
8. **Approve Update on Hurricane Ian Repairs, Costs and Cost Recovery Efforts**

Motion was made by Commissioner Kruse, seconded by Commissioner Cutsinger, to approve the Consent Agenda. Motion was approved unanimously.

REGULAR AGENDA

1. Water Supply Conditions Report

Mr. Anderson presented the Water Supply Conditions at the Peace River Facility as of July 13, 2023, for the Board's information:

- Water Supply Quantity: Excellent
- Treated Water Quality: Excellent

May Water Demand	33.75 MGD
May River Withdrawals	63.70 MGD
Storage Volume:	
Reservoirs	5.20 BG
ASR	8.35 BG
Total	13.55 BG

2. Legislative Priorities for FY 2024

Laura Donaldson, the Authority's lobbyist with Manson, Bolves, Donaldson & Tanner discussed the proposed legislative priorities for the Authority in 2024. Once approved by the Board, the legislative priorities will be presented to each of the Authority Members legislative delegations and will guide the Authority's legislative lobbying efforts for the year. Regular session in the state legislature is scheduled from January 9, 2024 – March 8, 2024.

Motion was made by Commissioner Cutsinger, seconded by Commissioner Kruse to approve adoption of the Legislative Priorities for 2024. Motion was approved unanimously.

Commissioner Truex added that he spoke with Speaker Renner recently and will reinforce the water quality item on the priorities list. This is number one, top of the list for him. We are all in this together and will need to continue to work together to align our individual legislative priorities to secure as much funding as possible.

3. Peace River Regional Reservoir No. 3 (PR3) Design and Construction Schedule Update and State Funding Grant Award for FY 2024

Terri Holcomb presented the Board with a design and construction update on the Peace River Reservoir No. 3 project, which will develop a new 9 BG off-stream reservoir on the RV Griffin Reserve. The project also includes a new pumping station on the Peace River and pipelines connecting a new pump station with the expanded reservoir system. Feasibility and Siting work for the project is complete, and the Consultant, HDR Engineering, Inc. (HDR), presented their findings and recommendations for the sizing, siting, and configuration of the project components to the Board at the December 1, 2021, meeting.

At the February 2, 2022 meeting, the Board approved Work Order No. 2 with HDR to proceed with the Preliminary Design, Permitting, and Third-Party Review Phase of the Project. Work Order No. 2 advances the project through the preliminary design phase and includes robust geotechnical, surveying, and bathymetry investigations to inform the design development. The fee for Work Order No. 2 is $7,249,699 and is 100% covered by the FY23 FDEP Resiliency Grant. The Preliminary Design (30% design) for the Project is nearing completion and is currently undergoing the Third-Party Review of the design documents including the construction schedule and cost estimate.

Ms. Holcomb stated that Authority staff are currently working with the PR3 Consultant to develop Work Order No. 3 - Final Design for the project and anticipate bringing this Work Order to the Board for consideration at the October 4th meeting. She added that funding has been secured for the Final Design through an FDEP Resiliency Grant and a SWFWMD CFI Grant for $7,500,000 and $15,000,000 respectively. She also explained that to capitalize on the benefits of getting early contractor engagement in the Final Design process, a Construction Management at Risk (CMAR) delivery method will be used to construct the pumping and conveyance (pipelines) portion of the project. To bring the CMAR on by December 2023 and obtain the first construction cost estimate by April 2024, the procurement process for selecting the CMAR began in June 2023. In addition, Ms. Holcomb added that the Authority has secured a State of Florida grant in the amount of $10,000,000 for the Final Design and Construction of the PR3 Project.

4. Southwest Florida Water Management District 2025 Cooperative Funding Initiative Applications

Terri Holcomb

Ms. Holcomb presented the FY 2025 Cooperative Funding Initiative applications for the Southwest Florida Water Management Districts (SWFWMD) that are due October 6, 2023. Four (4) Authority projects are proposed for submittal requesting a minimum of 50% funding of eligible costs for each project. SWFWMD policy requires that an applicant provide a funding order ranking if more than one project is submitted in a funding year. The recommended project ranking is shown in the table below:

Rank	Project	Estimated Project Cost
1	Peace River Reservoir No. 3 Project (Q272)	$351,000,000
2	Regional Integrated Loop System Phase 3C (Q313)	$61,350,000
3	Regional Integrated Loop System Phase 2B (Q355)	$73,250,000
4	Peace River Facility (PRF) Expansion	$153,200,000

Ms. Holcomb explained that of these four projects, the first three listed already have current co-funding agreements in place. The submittal of these projects for the upcoming funding year ensure they will be considered for continued funding.

Motion was made by Commissioner Cutsinger, seconded by Commissioner Gross to approve submittal of the Authority's FY 2025 Cooperative Funding Initiative Applications to the Southwest Florida Water Management District for four regional projects and approve the recommended project cooperative funding ranking. Motion was approved unanimously.

5. Overview of Mitigation Options for the Surface Water Expansion Project

Jim Guida provided the Board with an overview of currently anticipated wetland impacts, and potential mitigation options and estimated costs that are currently under evaluation for the Surface Water Expansion Project.

Mr. Guida stated that the Peace River Regional Reservoir No. 3 Project (PR3) will develop a new 9 BG off-stream reservoir on the RV Griffin Reserve. At the February 2022, meeting, the Board approved HDR to proceed with the preliminary design and permitting phase of the Project, which includes development and submittal of Environmental Resource Permit (ERP) and Section 404 (404) Permit applications for State and Federal regulatory consideration and approval, respectively. Mr. Guida stated that HDR is preparing to submit these permit applications for submittal to the SWFWMD (ERP) and the FDEP (404).

Mr. Guida explained that a key consideration for both these permits is wetlands impacts and the need to provide compensatory mitigation for these impacts. It is currently estimated that the proposed reservoir and associated infrastructure will result in 237 acres of unavoidable impacts on the RV Griffin Reserve. He continued that Wetland mitigation will be required to compensate for resultant losses in functional habitat. Mitigation options currently under consideration include wetland creation, restoration, and enhancement onsite at the RV Griffin Reserve ("Onsite Permittee Responsible Mitigation"), purchase of mitigation credits from wetland mitigation banks within corresponding watersheds (i.e., Peace and Myakka River Basins), or a combination thereof. Mr. Guida added that he will continue to provide the Board with updates on the findings of the evaluation process and Board approval will be secured prior to commitment to any method.

Commissioner Cutsinger asked if there was a preliminary cost available for the purchase of these mitigation bank credits. Mr. Guida explained that this is what we are currently evaluating.

6. Salary and Compensation Study Results and Recommendations

Angela Sain along with Rob Williamson, Project Manager with Evergreen Solutions presented the results of the Authority's recently completed Salary and Compensation Study for the Board's information and recommendations for their approval.

Ms. Sain explained that according to the policy adopted in the Authority's Pay Plan, the Authority is to conduct a formal Classification and Compensation study at least once every 3 - 5 years and localized salary surveys are performed in the interim years by Authority staff. The last formal Classification and Compensation Study was initiated by Evergreen Solutions in October 2020, with results presented to the Board in October 2021. No local salary surveys have been initiated or pay structure adjustments proposed since the October 2021 study was presented. Ms. Sain continued that in accordance with the policy, Authority staff contracted with Evergreen Solutions in March 2023 to perform a Salary Survey Market Analysis and Internal Equity Analysis.

Mr. Williamson explained that the primary mechanism for assessing market equity is a salary survey of the organization's job classifications compared to a group of market peers. Sixteen (16) market peers in the geographic area from Tampa to Fort Myers provided data for the survey. He continued that there are multiple factors affecting the Authority's ability to retain current employees and make new hires, including a shortage of skilled labor, competition from other employers, historical inflation, and a lack of affordable housing. Mr. Williamson went further to say that the recommendations contained in the Salary Survey Market Analysis are intended to help the Authority remain competitive in the tight labor market and correct its standing in the market where inequity is identified.

Mr. Williamson stated that Evergreen Solutions recommends that the Authority administer a 6% upward adjustment to the pay ranges and has recommended certain pay grade reclassifications to bring the Authority's salaries in line with the market. The recommended pay range adjustment would require five current employees to be raised to the new minimum in the adjusted pay range at a total annual cost $10,531. Additionally, an annual (FY) indexed adjustment to the pay ranges consistent with the Bureau of Labor Statistic Consumer Price Index is proposed to help support a competitive pay structure in between the formal pay and classification studies.

Motion was made by Commissioner Cutsinger, seconded by Commissioner Gross to accept and implement revised 'Authority Pay Plan'. Motion was approved unanimously.

Commissioner Cutsinger commended Ms. Sain and Mr. Williamson on their presentation of the findings, stating that it contained great information that was easy to follow.

Commissioner Truex stated that he agreed with Commissioner Cutsinger's comment, adding that Evergreen Solutions had completed a Salary and Compensation Study for Charlotte County last year and did a fantastic job for them as well.

7. PFAS Legal Services

Mr. Manson along with Mr. Anderson provided the Board with a presentation on PFAS substances and what the recent proposed rules from the EPA would mean for the Authority and drinking water standards as a whole.

The USEPA has initiated rule-making for drinking water standards (MCL's) on a large group of chemicals commonly referred to as PFAS, or per- and polyfluoroalkyl substances. PFAS substances are persistent synthetic compounds used in a variety of industrial and consumer product applications including non-stick cookware and firefighting foams. The presence of PFAS compounds in source water and drinking water is of increasing public concern due to their widespread use and environmental persistence.

In May, The U.S. Environmental Protection Agency (EPA) proposed the first national primary drinking water standards for six per- and polyfluoroalkyl substances (PFAS). The proposal would establish maximum contaminant level goals (MCLGs) and maximum contaminant levels (MCLs) for six PFAS compounds.

The financial impact to utilities nationwide is estimated by EPA to be $3.8 billon dollars per year for treatment systems to remove PFAS compounds in drinking water. There is an ongoing lawsuit in Federal Court against the manufacturers of PFAS. This lawsuit is in mediation and reached a proposed settlement that if approved by the Judge will create a multibillion-dollar recovery fund for impacted plaintiffs. There are 6 defendants in potential settlements, there are still 25 defendants remaining. Joining the lawsuit now would allow the Authority, as a party, to advocate in the two settlements as well as participate in the additional litigation remaining. The Authority has detected PFAS in its water source and can meet the requisite requirements to participate in the lawsuit and potentially recover money for additional monitoring and treatment.

Manson Bolves Donaldson Tanner, P.A. is jointly representing water suppliers with two law firms that have been litigating the case for the last 4 years. The contract for legal services is on a contingent fee basis meaning there is no cost to the Authority for legal services unless an award is provided to the Authority.

Motion was made by Commissioner Cutsinger, seconded by Commissioner Gross, to Approve Legal Services Contract with Baron & Budd, P.C., Cossich, Sumich, Parsola & Taylor LLC and Manson Bolves Donaldson Tanner, PA for legal services in PFAS Litigation. Motion was approved unanimously.

Commissioner Truex asked if there was any chance that the State would be joining this case. Mr. Manson explained that the Florida Attorney General is pursuing it as well, but not as a part of this specific case.

GENERAL COUNSEL'S REPORT

Mr. Manson had no further updates for the Board.

EXECUTIVE DIRECTOR'S REPORT

Mr. Coates had no further updates for the Board.

ROUTINE STATUS REPORTS

There were no Board comments on routine status reports.

BOARD MEMBER COMMENTS

There were no additional Board Member comments.

PUBLIC COMMENTS

No additional public comments were made.

ANNOUNCEMENTS

Next Authority Board Meeting
October 4, 2023 @ 9:30 a.m.
Sarasota County Administration Center
1660 Ringling Boulevard, Sarasota, FL

Future Authority Board Meetings
December 6, 2023 @ 9:30 a.m. – DeSoto County

ADJOURNMENT

There being no further business to come before the Board, the meeting adjourned at 11:28 a.m.

_____
Commissioner Elton Langford
Chairman

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

CONSENT AGENDA
ITEM 2

Projects for State of Florida Grant Funding
(Local Funding Initiatives)

Recommended Action - **Motion** to approve the pursuit of grant funding from the State Legislature in 2024 for two regional projects - the Regional Transmission System Expansion Project and the Surface Water Expansion Project, and request letters of support from Authority Customers for both projects.

Two regional water supply and transmission system projects are proposed for state funding through the State of Florida legislative local funding initiative programs in the House and Senate. The projects and funding dollar requests are described in the table below. With Board approval, staff will work with the local legislative delegation on sponsorships for these projects. Letters of support are also requested from Authority Customers for the funding.

In 2023, the Authority was successful in obtaining FY23 local funding of $10,000,000.00 for the PR3 Project.

Project	Project Features	Requested State Funds	Estimated Total Project Cost	Project Description
Surface Water Expansion Project	Peace River Regional Reservoir No. 3 (PR3)	$10 M	$351M	9 BG Reservoir, new intake pump station on the Peace River, new reservoir pump station, and interconnecting conveyance pipelines to meet growing water supply needs in the region.
	Peace River Facility (PRF) Expansion		$153.2M	Expansion of the existing water treatment plant and ancillary equipment to provide up to an additional 24 MGD of treatment capacity, coupled with the PR3 Project will yield up to 18 MGD in AAD.
Transmission System Expansion Project	Phase 2B Regional Interconnect	$5 M	$75.0 M	Approximately 13 miles of large-diameter transmission pipeline to deliver additional water to meet growing needs in western Charlotte County.
	Phase 3C Regional Interconnect		$69.6 M	Approximately 7.3 miles of large-diameter transmission pipeline to deliver additional water to meet growing needs in northeastern Sarasota County.

Budget Action: No action needed

Attachments:
Tab A: Draft Local Funding Project Brochures
Tab B: Draft Letters of Support for the Projects

TAB A
Local Funding Project Brochures

Peace River Manasota

Regional Water Supply Authority

The Peace River Manasota Regional Water Supply Authority is a regional water supplier that provides wholesale drinking water supporting the region's economic growth and quality of life. The Authority provides the platform for its four member counties to collaboratively plan the region's water supply benefitting from an economy of scale, shared expertise, and environmental stewardship.

EXECUTIVE DIRECTOR
Mike Coates, P.G.

AUTHORITY BOARD
Chairman Elton A. Langford
DeSoto County
Hon. Bill Truex
Charlotte County
Hon. Mike Moran
Sarasota County
Hon. George Kruse
Manatee County

COMMUNITIES SERVED
Charlotte County
DeSoto County
Manatee County
Sarasota County
City of North Port

Voter find ensuring a reliable supply of water extremely important* **85%**

1 to 6 Every $1 spent on infrastructure improvements in the US **generates** $6 in return*

Years of service for regional transmission mains* **65-95**

*valueofwater.org

32% Projected population **growth** in Peace River 4 county service area by 2050

BEBR Florida Population Studies, Feb 2022

PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
9415 Town Center Parkway Lakewood Ranch, FL 34202
Tel 941-316-1776 PEACERIVER@REGIONALWATER.ORG

Peace River Manasota
Regional Water Supply Authority

REGIONAL TRANSMISSION SYSTEM EXPANSION

PROJECT FEATURES

PHASE 3C
7.3 miles of 42 inch diameter transmission main to serve Northeast Sarasota County

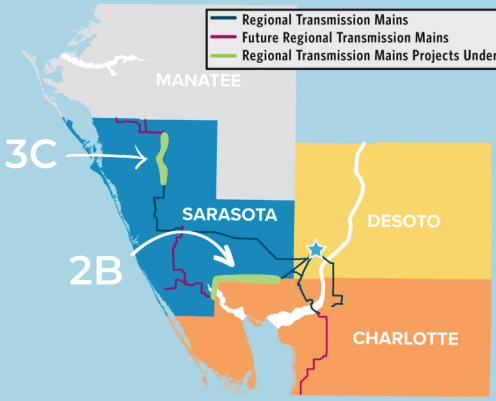
PHASE 2B
13 miles of 42 inch diameter transmission main to serve Western Charlotte County

PROJECT BENEFITS

- Supports future interconnection of the two largest drinking water systems in the region
- Interconnects alternative water supplies providing regional connectivity and reliability
- Increases resiliency to drought, hurricanes, floods and climate change
- Improves drinking water quality to residents

PROJECT - TOTAL CAPTIAL COST

- Estimated at $ 138 Million



FY 2024 REQUEST

$5 Million

Schedule

REGIONAL TRANSMSISSION SYSTEMS

2021	2022-2024	2025	2026
FEASIBILITY AND SITING	DESIGN AND PERMITTING	PHASE 3C CONSTRUCTION COMPLETE	PHASE 2B CONSTRUCTION COMPLETE

By the Numbers

The number of **jobs** supported in the economy from $1 million of direct investment in water *

16

1 to 6

Every $1 spent on infrastructure improvements in the US **generates** $6 in return *

Average number of **years of service** for regional transmission mains *

65-95

*valueofwater.org

PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
9415 TOWN CENTER PARKWAY LAKEWOOD RANCH, FL 34202
941-316-1776
3C@REGIONALWATER.ORG or 2B@REGIONALWATER.ORG

Peace River Manasota
Regional Water Supply Authority

SURFACE WATER EXPANSION PROJECT

PROJECT FEATURES

- Peace River Regional Reservoir 3 (PR3)
  - 9 Billion Gallon Reservoir
  - New River Intake and Pump Station
  - Raw Water Pipelines
  - Environmental Restoration and Ecological Enhancements
- Water Treatment Plant Expansion (WTP)

PROJECT - TOTAL CAPTIAL COST

- Estimated at $ 484 Million

1 MILLION PEOPLE

Provides potable water to a region of 1 M people in Charlotte, DeSoto, Manatee, Sarasota Counties and the City of North Port

PROJECT BENEFITS

- Public Health & Safety
- Economic Growth & Development
- Sustainable Water Resource
- Increased Reliability
- Environmental Stewardship

FY 2024 REQUEST

$10 Million

Schedules

PR3

2020-2021	2021-2024	2024-2027	2027-2029
FEASIBILITY AND SITING	DESIGN AND PERMITTING	CONSTRUCTION	OPERATION AND RESERVIOR FILLING

WTP

2023	2024-2026	2026-2028
PRELIMINARY DESIGN	FINAL DESIGN AND PERMITTING	CONSTRUCTION

By the Numbers

The number of **jobs** supported in the economy from $1 million of direct investment in water * **16**

*valueofwater.org

30 Million gallons of potable **water** delivered every day to 4 county service area

Projected population **growth** in Peace River 4 county service area by 2050# **32%**

BEBR Florida Population Studies, Feb 2022

PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
9415 TOWN CENTER PARKWAY LAKEWOOD RANCH, FL 34202
941-316-1776 PR3@REGIONALWATER.ORG

TAB B
Draft Letters of Support

Date

Kim Cramer, Policy Coordinator
Governor's Office of Policy and Budget
Environmental Unit
400 S Monroe St
Tallahassee, FL 32399

RE: Letter of Support for Peace River Manasota Regional Water Supply Authority *Surface Water Expansion Project*

Dear Ms. Cramer:

On behalf of the XXXXXXXXXXXXXX Commission, we are pleased to provide this letter of support for the Peace River Manasota Regional Water Supply Authority's Surface Water Expansion Project (Final Design and Construction) for which $10,000,000 in state funding through the legislature is requested this year.

This project enhances regional water supply resiliency to disasters such as drought, floods, hurricanes, and climate change and will provide adequate drinking water capacity to meet growing needs for the next 15 to 20 years, supporting economic development and public health and safety in the region. Project components include a new intake and pump station to withdraw raw water from the Peace River, a new 9 billion-gallon above-ground reservoir, and a 24 million gallon per day expansion of the existing water treatment plant.

The Project is part of the Authority's regional plan for a fully interconnected potable water transmission system served by Alternative Water Supply (AWS) sources and supports the Southwest Florida Water Management District's Regional Priorities and Objectives.

The XXXXXXXXX Commission appreciates your time and consideration of this important water supply project.

Sincerely,

XXXXXXXXX
Chairman

Date

Kim Cramer, Policy Coordinator
Governor's Office of Policy and Budget
Environmental Unit
400 S Monroe St
Tallahassee, FL 32399

RE: Letter of Support for Peace River Manasota Regional Water Supply Authority Regional *Transmission System Expansion Project*

Dear Ms. Cramer:

On behalf of the XXXXXXXXXXXXXX Commission, we are pleased to provide this letter of support for the Peace River Manasota Regional Water Supply Authority's Regional Transmission System Expansion Project (Construction Phase) for which $5,000,000 in state funding through the legislature is requested this year.

The Project includes construction of over 20-miles of 42-inch diameter drinking water transmission pipeline, including seven (7) miles in Sarasota County and thirteen (13) miles in Charlotte County. This expansion will enhance regional water supply resiliency to disasters such as drought, floods, hurricanes, supporting economic development and public health and safety in the region and improving water quality to residents.

The Project is part of the Authority's regional plan for a fully interconnected potable water transmission system served by Alternative Water Supply (AWS) sources and supports the Southwest Florida Water Management District's Regional Priorities and Objectives.

The XXXXXXXXX Commission appreciates your time and consideration of this important water supply project.

Sincerely,

XXXXXXXXX
Chairman

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

CONSENT AGENDA
ITEM 3

Update on Hurricane Ian Repairs, Costs & Cost Recovery Efforts

---

Recommended Action -

Status Report. This item is presented for the Board's information and no action is required.

On September 28, 2022, Hurricane Ian made landfall near Cayo Costa as a strong Category 4 hurricane with sustained winds of 150 mph. Hurricane Ian's path proceeded directly over the Peace River Facility (PRF), with the facility experiencing an extended period of hurricane force winds and rainfall totaling 15.7" within just 48-hours (about 30% of average annual rainfall). While the Authority's regional supply and transmission facilities continued to operate and deliver water throughout Hurricane Ian, some of these facilities did sustain damage. The attached memo provides a status update regarding the repairs to the facilities as well as insurance and FEMA claims.

Budget Action: None.

Attachments:
Memorandum – Hurricane Ian Damages and Claims Status

MEMORANDUM

Project: Hurricane Ian Damages and Claims

Date: October 4, 2023

TO: Mike Coates, Executive Director

Developed By: Ann Lee, MBA, CGFO, Finance & Budget Senior Manager

---

On September 28, 2022, Hurricane Ian made landfall near Cayo Costa as a strong Category 4 hurricane with sustained winds of 150 mph. Hurricane Ian's path proceeded directly over the Peace River Facility (PRF), with the facility experiencing an extended period of hurricane force winds and rainfall totaling 15.7" within just 48-hours (about 30% of average annual rainfall). While the Authority's regional supply and transmission facilities continued to operate and deliver water throughout Hurricane Ian, some of these facilities did sustain damage. The following is a status update regarding the repairs to the facilities as well as insurance and FEMA claims.

Overall Repair Efforts

In February 2023, staff updated the Board regarding the number and type of repairs underway and pending from Hurricane Ian. In total, the Authority had roughly 110 damage incidents, including structures, roofing, debris, erosion and electrical/control equipment. As of July 11, 2023, there are three major repair efforts ongoing – roofing, Reservoir 2 delaminations and river intake dredging – which are detailed below. Total repair costs invoiced through September 5, 2023, are $1,845,933.43 and there are additional open purchase orders for repairs totaling $1,313,693.43, bringing the total potential repair costs to $3,159,626.86. The majority of the open purchase order relate to the ongoing roofing repair efforts detailed below totaling $654,034 as well as outstanding repair efforts that are uncompleted and/or unbilled.

Roof Damage Repair Status

As a result of the high winds of Ian, the Authority sustained damages on the roofs on thirteen (13) buildings, of which seven (7) required total replacement. On April 5, 2023, the Board approved the work orders to Sutter Roofing for $654,034 for the roof repairs and replacements. As of September 5, 2023, permits have been obtained for six roofs and one roof has been completed (unbilled). At this time, staff anticipates the roofing repairs and replacements should be completed by the end of the calendar year.

Reservoir No. 2 Soil Cement Repair Status

The extended period of high wave action during Hurricane Ian caused some damage to the interior soil cement flat-plate and stair-steps of Reservoir 2. These soil cement installations serve as erosion control for the interior of the reservoir. Efforts to assess the nature and extent of the damage (both above and below water) were completed in coordination with Underwater Engineering Services, Inc. (UESI) and with Stantec, the Engineer of Record for Reservoir No. 2. UESI performed extensive explorations of damages both above and below the reservoir water line. While the embankment structure was not compromised by the damage, the design engineer for Reservoir No. 2 (Stantec) recommended expedited repair of the de-

laminations to avoid further damage that might be associated with 2023 hurricane season storms. On May 4, 2023, in accordance with the Authority's Procurement Policy, Chapter 3.1.6 (Emergency Procurements), the Authority's Executive Director authorized Emergency Procurement of services related to the necessary concrete repairs for Reservoir 2 to Ballard Marine for $1,434,857.80, which was ratified by the Board on June 7, 2023. As of September 5, 2023, the repairs are complete with the final invoice pending (outstanding PO balance of $637,448.12, which includes $400,000 of contingency allowances).

Re-Dredging in Front of the Intake on the Peace River

The historic flooding and flows from Hurricane Ian on the Peace River caused significant sedimentation in front of the intake structure, which was last dredged in 2019. A hydrographic survey was completed by Johnson Engineering, Inc. after the hurricane to document and quantify the extent of the sedimentation since completion of the 2019 dredging. In order to support operation and reliability of the Peace River Facility, the storm related accumulation of sediment (roughly 1,800 cubic yards) needed to be removed. On June 7, 2023, the Board approved a contract with Westra Construction to complete the recommended mechanical dredging for $189,400. As of September 5, 2023, the contractor has completed the dredging and final invoicing has been received.

Cost Recovery Efforts

The Authority currently has two outstanding claims, one with the property insurance providers, Starr Tech, as well as one with FEMA. Staff have been working closely with insurance adjusters and FEMA staff to ensure all damage has been recorded and that invoices, reports and other required documentation is timely submitted to support reimbursement. As of September 5, 2023, the Authority has received an interim insurance claim payment of $1,007,694 and expects additional insurance payments of roughly $500,000. Additional reimbursement payment from the insurance claim will not occur until after the final repairs are completed and potentially inspected by the adjusters.

On the FEMA claim, the list of damages and projects were submitted through the grant portal prior to the May 16, 2023 deadline. Staff have been working closely with the assigned FEMA project manager to ensure the process continues to move smoothly and all documentation and site visits occur on a timely basis. The majority of the FEMA reimbursements will occur after the insurance claim has closed as FEMA will only reimburse a percentage (75%) of amounts eligible and those not previously reimbursed by the insurance claim. It is important to note that debris cleanup (vegetation), erosion, and the intake dredging are not reimbursable by insurance coverage, however, are included and expected to be reimbursed by FEMA.

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

CONSENT AGENDA
ITEM 4

Disbursement of Funds for FY 2023 Debt Service Coverage Payments

---

Recommended Action - **Motion** to approve Fund Disbursements in accordance with the FY 2024 Budget.

Funds were collected for debt service coverage to meet bond covenants in the base rate charge from Authority Customers in FY 2023. The FY 2024 Budget includes the disbursement of these funds back to the respective Customers. The disbursements of funds as approved in the FY 2024 Budget are shown below.

Customer	Fund Disbursement
Charlotte County	$336,727
DeSoto County	$35,681
Sarasota County	$999,771
City of North Port	$147,298
Total	$1,519,477

Budget Action: No action needed.

Attachments:
FY 2024 Budget page 7

Peace River Manasota Regional Water Supply Authority
FY 2024 Approved Budget

EXPENDITURES	Administrative Office	Facilities	Total Enterprise Fund
NON-RATE RELATED EXPENDITURES			
Projects			
CIP Projects		87,373,849	87,373,849
Renewal & Replacement Projects		4,250,000	4,250,000
Management & Planning Projects		475,000	475,000
Subtotal		92,098,849	92,098,849
Fund Disbursements (Debt Coverage Payment FY2023)			
Charlotte County		336,727	336,727
DeSoto County		35,681	35,681
Sarasota County		999,771	999,771
North Port		147,298	147,298
Subtotal		1,519,477	1,519,477
Total Non-Rate Related Expenditures		**93,618,326**	**93,618,326**
Total Expenditures	**$ 561,245**	**$ 140,961,334**	**$ 141,522,579**

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

REGULAR AGENDA
ITEM 1

Water Supply Conditions Report

Presenter - Richard Anderson, Director of Operations

Recommended Action - **Status Report**. This item is presented for the Board's information and no action is required.

Water Supply Conditions at the Peace River Facility as of September 17, 2023.

- Water Supply Quantity: Excellent
- Treated Water Quality: Excellent

September Water Demand	29.61 MGD
September River Withdrawals	32.37 MGD
Storage Volume:	
Reservoirs	6.39 BG
ASR	8.36 BG
Total	14.75 BG

Attachments:
Presentation Materials

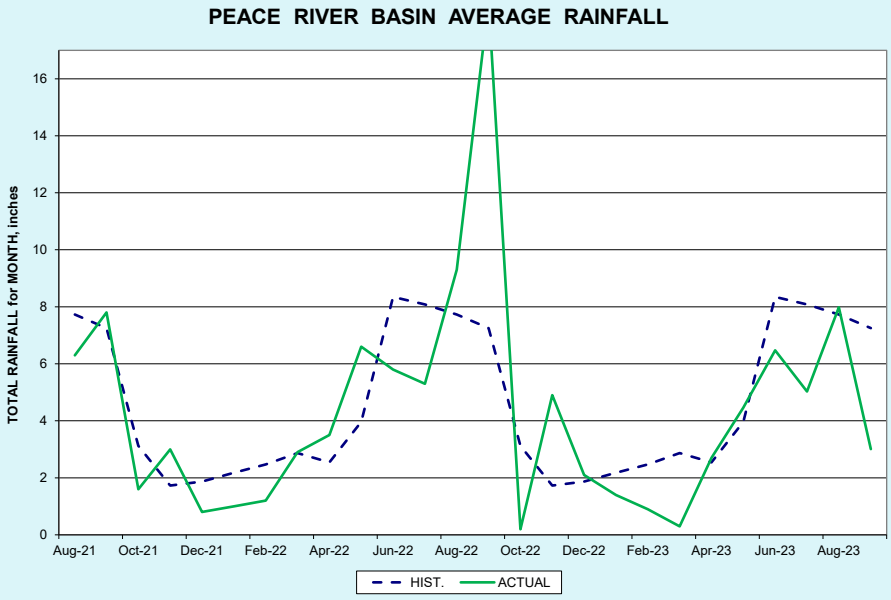
Water Supply Conditions

Regular Item 1

October 04, 2023

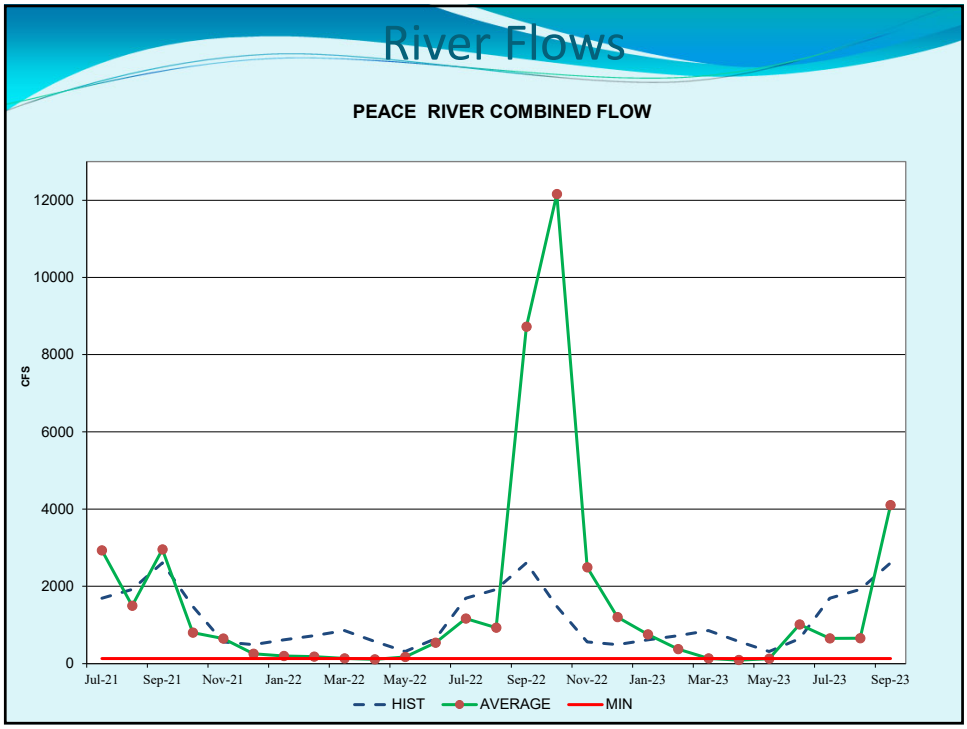
1

Current Conditions



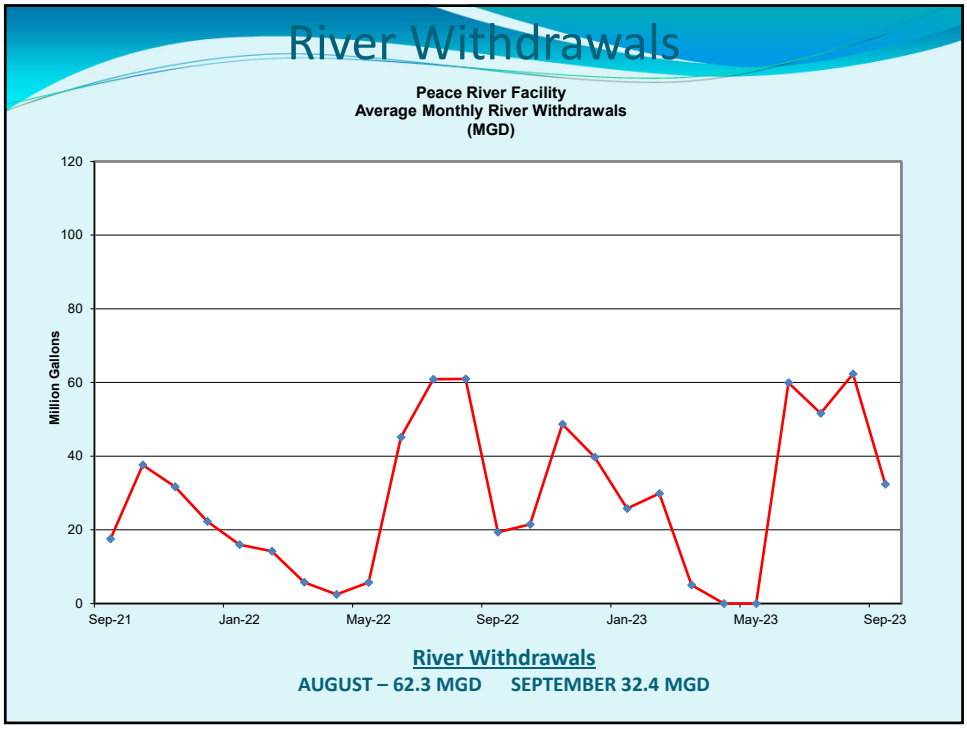
2

River Flows



3

River Withdrawals

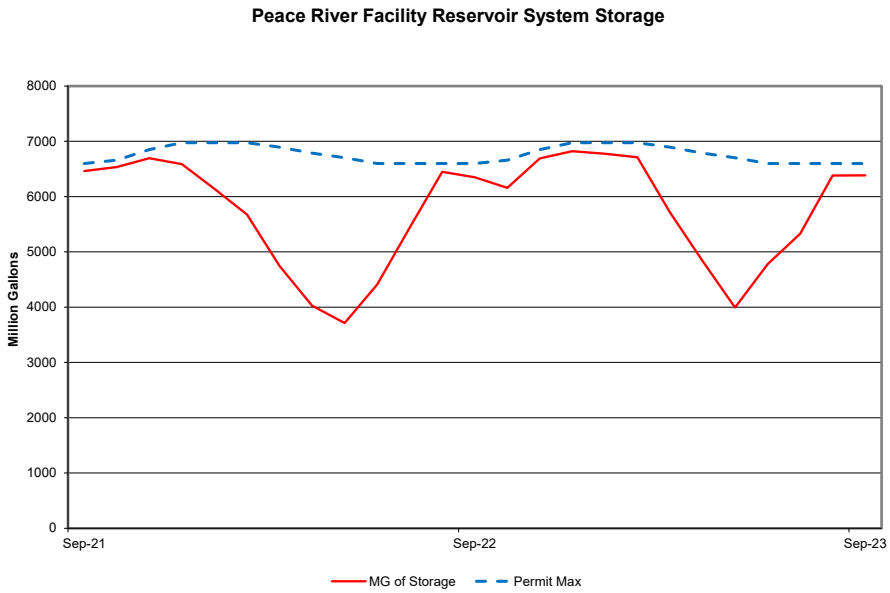


River Withdrawals

AUGUST – 62.3 MGD SEPTEMBER 32.4 MGD

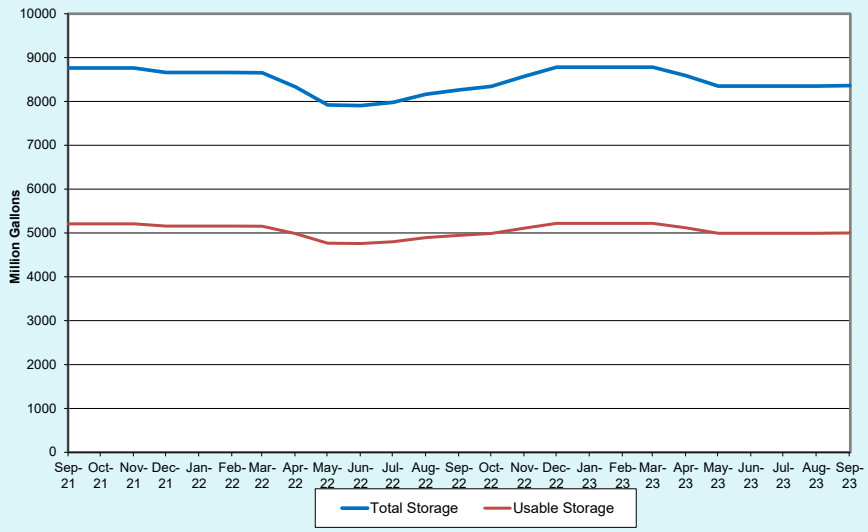
4

Surface Water Storage



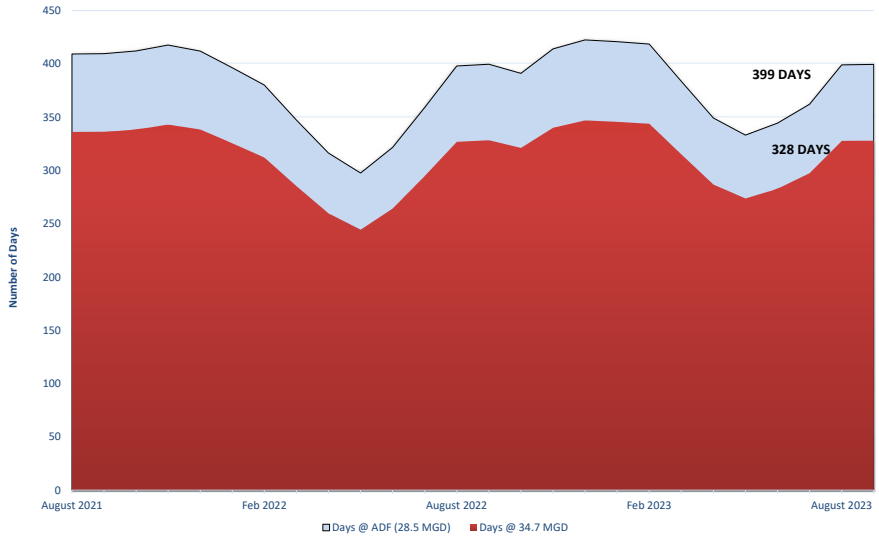
5

ASR Storage



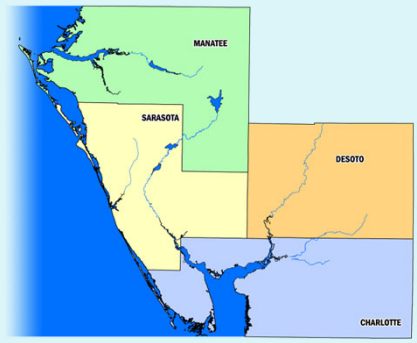
6

Estimated Days of Supply



7

Regional Water Production and Use August 2023

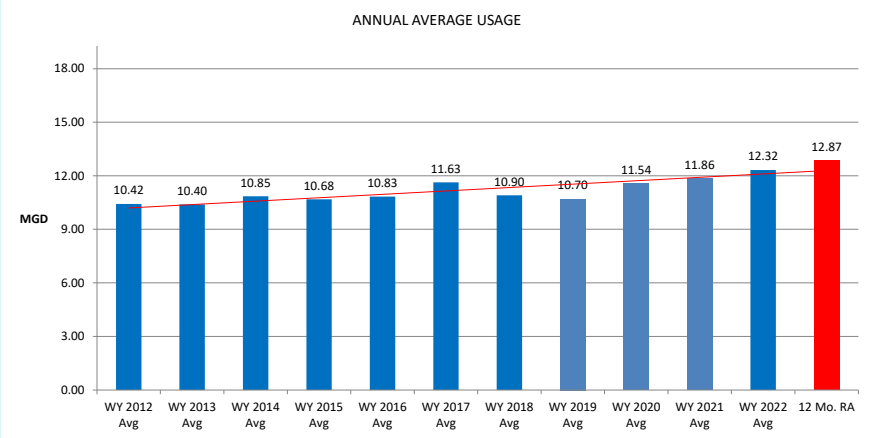


Source	Capacity [MGD]	AUGUST 2023 [MGD]
Authority System	34.70	32.23
County & City Facilities	69.97	51.72
Total Capacity & Production	107.3	**83.95**
Export to Non Authority Customers	NA	3.32
Authority Customer Total Water Use	107.3	**80.63**

8

Charlotte County

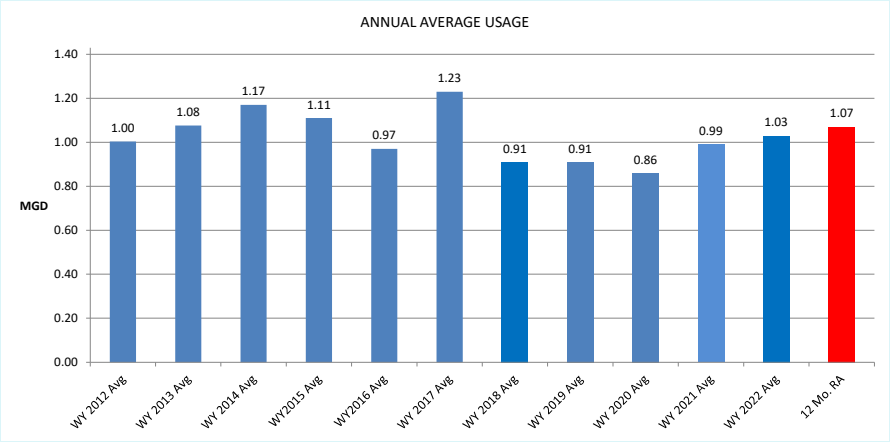
SOURCE	CAPACITY [MGD]	AUGUST 2023 [MGD]	% UTILIZED
Peace River Facilities	16.10	11.71	73%
Charlotte Self Supply	3.17	.70	22%
TOTAL	**19.27**	**12.41**	**64%**



9

Desoto County

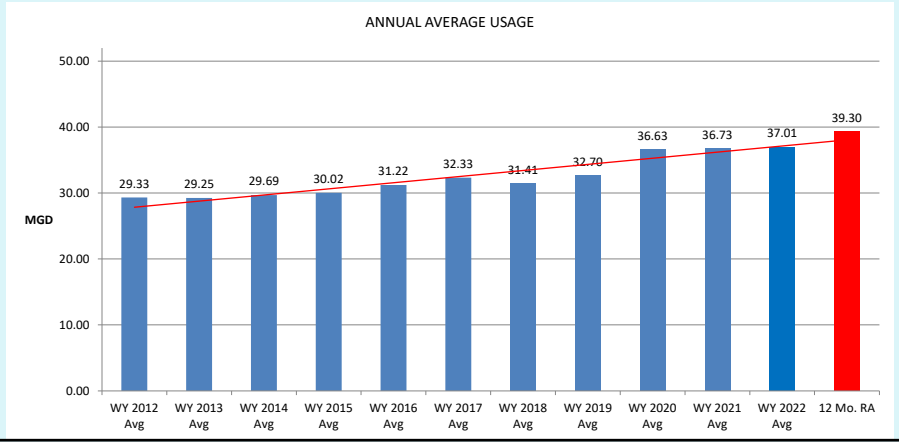
SOURCE	CAPACITY [MGD]	AUGUST 2023 [MGD]	% UTILIZED
Peace River Facilities	0.695	0.79	112%
Desoto Self Supply	0.75	0.34	45%
TOTAL	**1.425**	**1.13**	**79%**



10

Manatee County

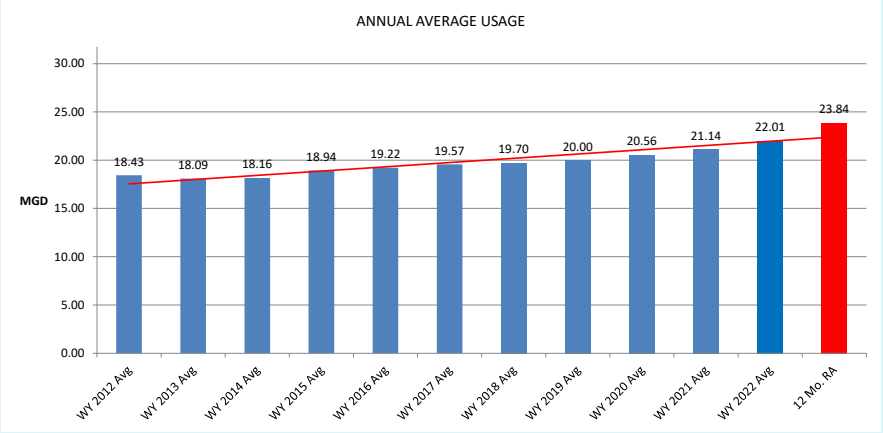
SOURCE	CAPACITY [MGD]	AUGUST 2023 [MGD]	% UTILIZED
Manatee Self Supply	52.00	40.50	78%
Export to Sarasota Co.	NA	3.66	
Export to Others	NA	3.32	
TOTAL	**52.00**	**47.48**	**91%**



11

Sarasota County

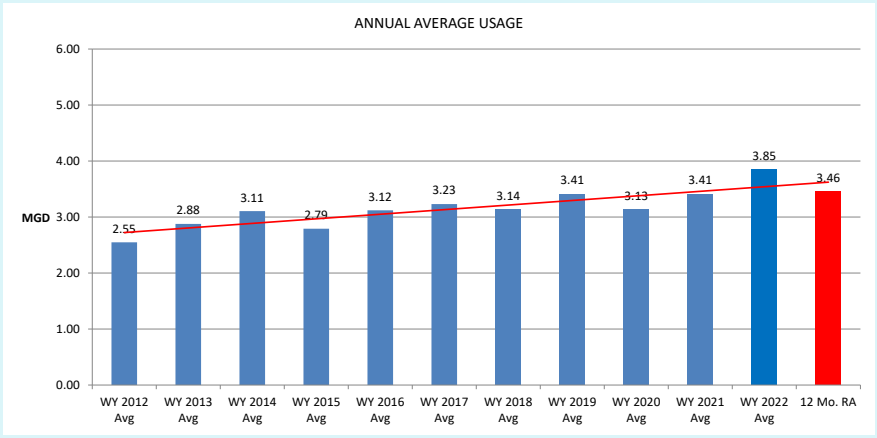
SOURCE	CAPACITY [MGD]	AUGUST 2023 [MGD]	% UTILIZED
Peace River Facilities	15.06	19.64	130%
Import from Others	5.00	3.71	74%
County Self Supply	10.52	0.00	0%
TOTAL	**33.58**	**23.35**	**69.5%**



12

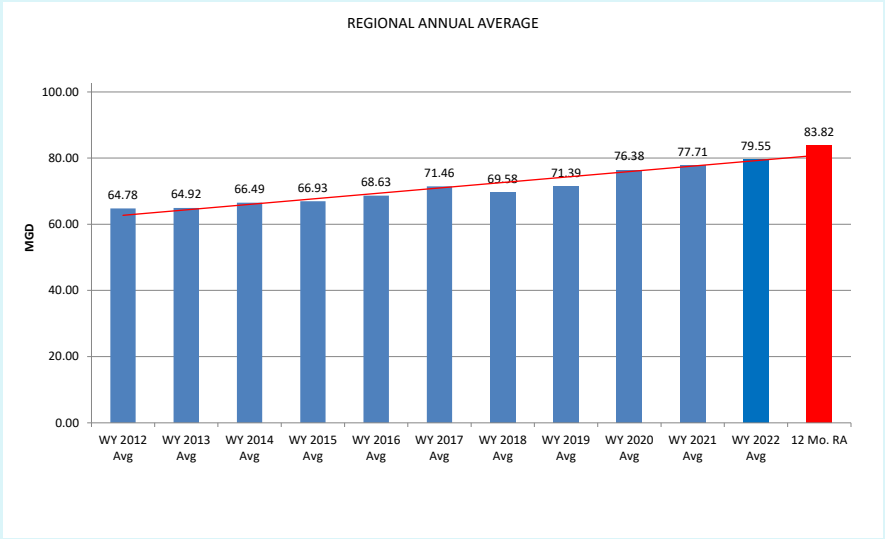
North Port

SOURCE	CAPACITY [MGD]	AUGUST 2023 (MGD)	% UTILIZED
Peace River Facilities	2.865	0.09	3%
North Port Self Supply	6.40	3.19	50%
Water Exchanged	N/A	(.05)	
TOTAL	**9.265**	**3.23**	**35%**



13

Regional Delivery



14

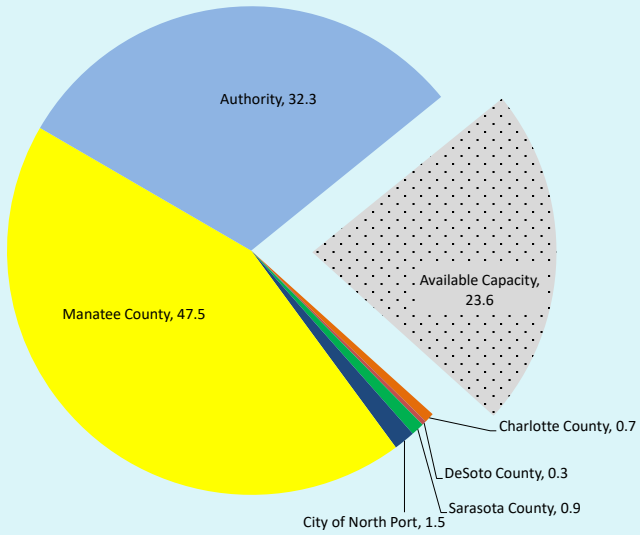
Regional Utilization August 2023

107.54 MGD Available

83.95 MGD Used

23.6 MGD Available

78% Utilized



15

Questions?

16

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

REGULAR AGENDA
ITEM 2

Peace River Regional Reservoir No. 3 Project (PR3) – Final Design and Permitting

---

Presenter - **Terri Holcomb, PE** - Director of Engineering

Recommended Action - **Motion** to approve and authorize the Executive Director to execute Work Order No. 3 - 'Peace River Regional Reservoir (PR3) Project Final Design and Permitting' in the amount of $8,408,449.

The Peace River Reservoir No. 3 (PR3) – Final Design Phase will develop the Final Construction Documents and obtain the regulatory permits for the construction of the PR3 Project components, including a new 9 BG off- stream reservoir on the RV Griffin Reserve, an intake and pump station on the Peace River, a new Reservoir Pump Station and large diameter conveyance piping.

PR3 Project Final Design Services – Work Order No. 3:

The Siting and Feasibility Phase Study (Work Order No. 1) for the Peace River Regional Reservoir (PR3) was complete, and the Consultant, HDR presented their findings and recommendations for the sizing, siting, and configuration of the project components to the Board at the December 1, 2021, meeting. Work Order No. 2 'Peace River Regional Reservoir (PR3) Project Preliminary Design, Permitting, and Third-Party Review' advanced the project through the preliminary design phase and included geotechnical, surveying, and bathymetry investigations to inform the development of the design documents and the Environmental Resource Permit (ERP) Permit application. The 30% Design Documents were completed in June 2023, and the Environmental Resource Permit (ERP) Application submittal was completed on September 15, 2023.

The Final Design and Permitting Phase (Work Order No. 3) will include design progression for construction document development, permitting activities associated with permits submitted as part of Work Order No. 2, and coordination with Authority contractors and owner's representatives as needed. This phase of the project contemplates design considerations for components of the project being constructed by different contractors under different contract procurement methods, potentially on parallel or sequential timelines. The proposed Fee for the Final Design and Permitting Phase is $8,408,449. The schedule for completion of this phase is 16 months.

Budget Action: No Action Needed for FY 2024

Attachments:
Tab A Presentation Materials
Tab B Work Order No. 3 – Final Design and Permitting Scope of Services

TAB A
PR3 – Final Design Presentation Materials

Peace River Regional Reservoir No. 3 (PR3) Work Order No. 3 – Final Design and Permitting

Regular Item 2

October 4, 2023

Peace River Manasota Regional Water Supply Authority

1

Agenda

- Project Update
- Review of Proposed Delivery Methods
- Proposed Scope and Fee
- Review of Funding Opportunities
- Proposed Delivery Schedule

Peace River Manasota Regional Water Supply Authority

2

Agenda

- **Project Update**
- **Review of Proposed Delivery Methods**
- **Proposed Scope and Fee**
- **Review of Funding Opportunities**
- **Proposed Delivery Schedule**

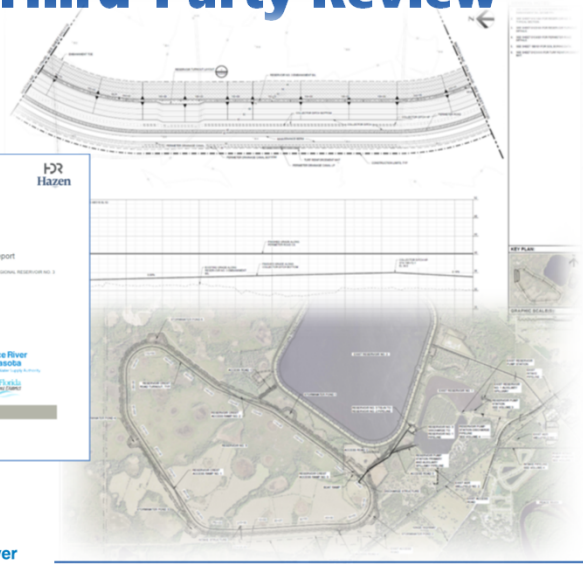
Peace River Manasota Regional Water Supply Authority

3

Preliminary Design & Third-Party Review

Received 30% Design Documents

- Basis of Design Report
- Design Volume I – Reservoir
- Design Volume II – River Pump Station
- Design Volume III – Reservoir Pump Station
- Design Volume IV – Conveyance Piping
- Construction Considerations/Cost & Schedule



Peace River Manasota Regional Water Supply Authority

4

Preliminary Design & Third-Party Review

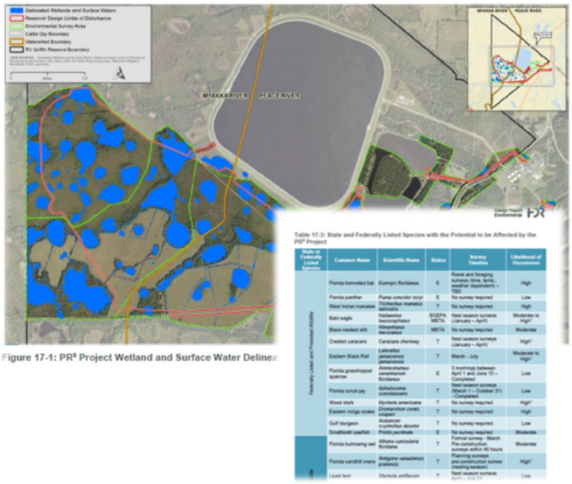


Figure 17-1: PR³ Project Wetland and Surface Water Delinea

Permitting

- Wetland Impacts Identified by type; basin; quantity (acres/FL)
- Mitigation Options Identified
  - ✓ Bank Credits
  - ✓ On-site Permittee-Responsible Mitigation
- Threatened & Endangered Species Surveys
- Preapplication Meetings
  - ✓ ACOE – Section 10/404 Dredge and Fill
  - ✓ FDEP – Section 10/404 Dredge and Fill (Delegation)
  - ✓ SWFWMD - State ERP
- Environmental Resource Permit submitted September 15, 2023

Peace River Manasota Regional Water Supply Authority

5

Design & Third-Party Review Update

Third-Party Review

- Requirement of Cooperative Funding Agreement with SWFWMD
  - ✓ Appropriateness of Design assumptions and approach
  - ✓ Conformance with Industry Standards
  - ✓ Constructability assumptions and means/methods
  - ✓ Appropriate basis of cost estimate and schedule
- Draft Independent Review Report
  - ✓ General concurrence with design assumptions and approach
  - ✓ Costs were within the industry accuracy range

Peace River Manasota Regional Water Supply Authority

6

Agenda

- Project Update
- **Review of Proposed Delivery Methods**
- Proposed Scope and Fee
- Review of Funding Opportunities
- Proposed Delivery Schedule

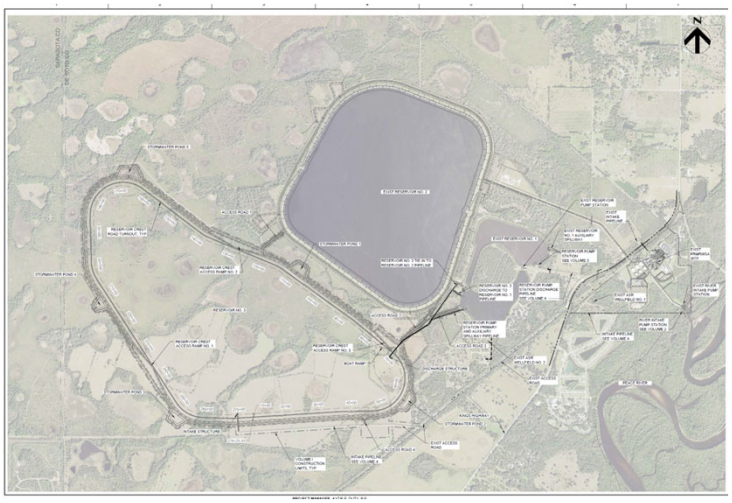
Peace River Manasota Regional Water Supply Authority

7

Procurement Strategy

PR3 Components

- Reservoir No. 3
- River Intake Pump Station
- Reservoir Pump Station
- Conveyance Pipelines



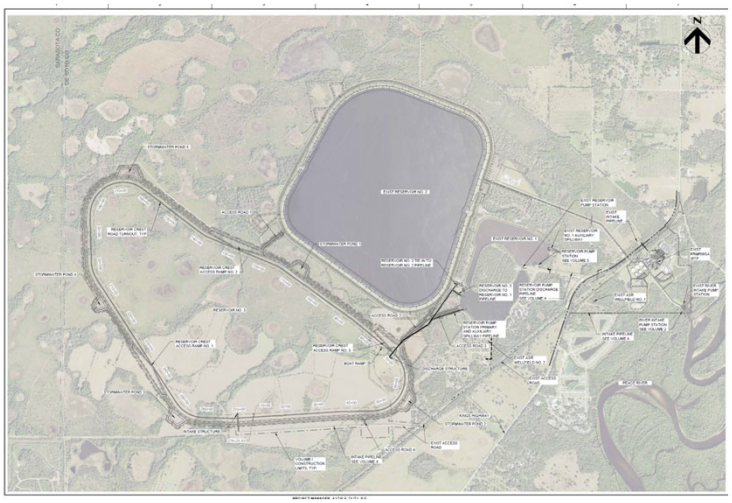
Peace River Manasota Regional Water Supply Authority

8

Procurement Strategy

PR3 Components

- Reservoir No. 3
- River Intake Pump Station
- Reservoir Pump Station
- Conveyance Pipelines



Peace River Manasota Regional Water Supply Authority

9

Procurement Strategy

Construction Management at Risk

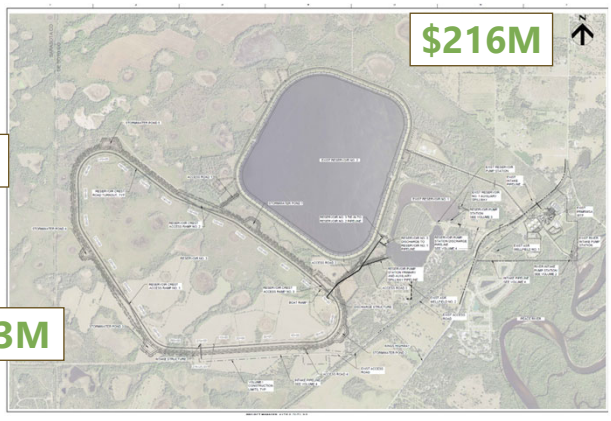
Design-Bid-Build

PR3 Components

- Reservoir No. 3
- Reservoir Pump Station
- River Intake Pump Station
- Large Diameter Pipelines

$46M

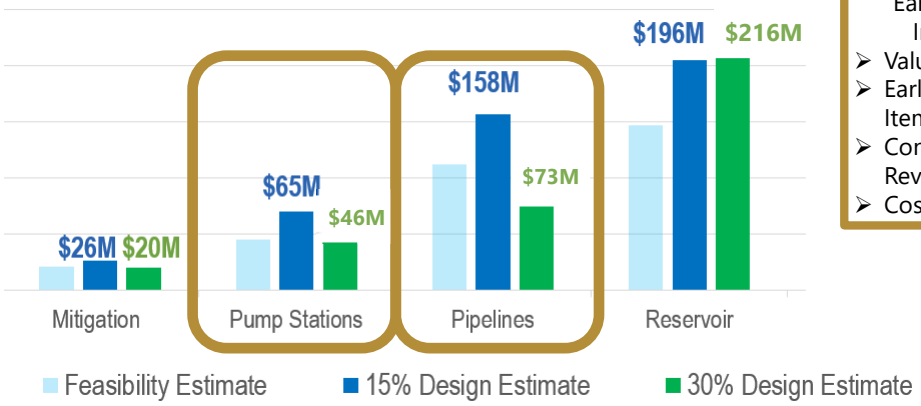
$73M



Peace River Manasota Regional Water Supply Authority

10

PR3 Cost Estimations



Best Opportunity for Early Contractor Involvement

- Value Engineering
- Early Procurement Items
- Constructability Reviews
- Cost Estimates

Peace River Manasota Regional Water Supply Authority

11

Agenda

- Project Update
- Review of Proposed Delivery Methods
- **Proposed Scope and Fee**
- Review of Funding Opportunities
- Proposed Delivery Schedule

Peace River Manasota Regional Water Supply Authority

12

Final Design - Work Order No. 3
Key Components

TASK	COMPONENT	FEE
1	Project Management, Communication and Coordination	$ 662,452
2	Field Work (Geotechnical & Surveying)	$ 1,099,543
3	Environmental and Permitting	$ 1,199,845
4	Intermediate Design - 60% Design Milestone	$ 2,287,955
5	Final Design - 90% Design Milestone	$ 1,784,387
6	Final Design – 100% Design Milestone + RTA Package	$ 1,080,427
7	Emergency Action Plan (EAP)	$ 193,840
8	Owners Allowance	$100,000
		$ 8,408,449

Peace River Manasota Regional Water Supply Authority

13

Agenda

- Project Update
- Review of Proposed Delivery Methods
- Proposed Scope and Fee
- **Review of Funding Opportunities**
- Proposed Delivery Schedule

Peace River Manasota Regional Water Supply Authority

14

PR3 Project Funding Opportunities

Phase	Resilient Florida Program	SWFWMD Cooperative Funding		State Funds FY24	Total Grant Funding	Estimated Cost	Customer Share
	FY24	FY24	Future				
Final Design	$7.5M	$2.5M	$3M		$13M	$13M	$0
CMAR 1st Package ECI	-	$3M			$3M	$3M	$0
CMAR Construction		$9.5M	$47M	$10M	$66.5	$119M	$52.5M
Reservoir Construction	-	-	$50.7M		$50.7M	$216M	$162.3M
					$133.2M	**$351M***	**$217.8M**

***Does not include mitigation costs**

15

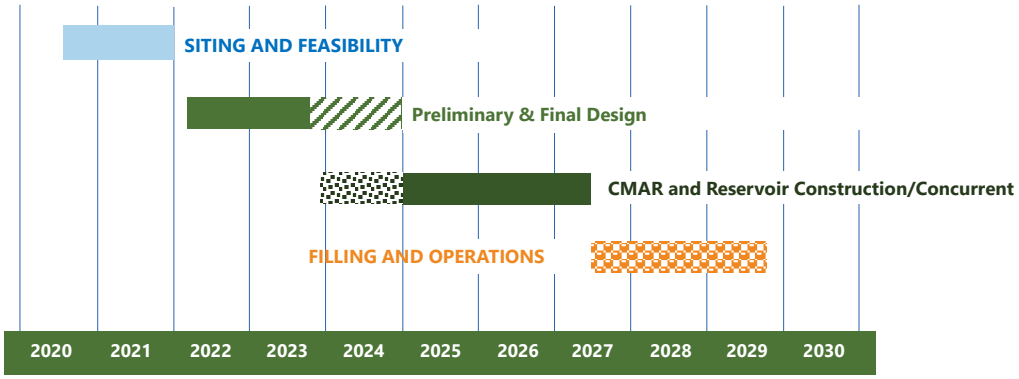
Agenda

- Project Update
- Review of Proposed Delivery Methods
- Proposed Scope and Fee
- Review of Funding Opportunities
- **Proposed Delivery Schedule**

Peace River Manasota Regional Water Supply Authority

16

Project Scheduled to be Online for the 2027 Wet Season



- Preliminary Design Phase began March 2022, and concluded September 2023
- Final Design Proposed to begin October 2023 – Finish December 2024
- Bring CMAR on December 2023 – Early Contractor Involvement – ROM April 2024
- Bring Reservoir Contractor on January 2025 – Begin Filling by summer 2027

Peace River Manasota Regional Water Supply Authority

17

Motion to approve and authorize the Executive Director to execute Work Order No. 3 - 'Peace River Regional Reservoir (PR^3) Project Final Design and Permitting' in the amount of $8,408,449.

Peace River Manasota Regional Water Supply Authority

18

Peace River Regional Reservoir No. 3 (PR3) Work Order No. 3 – Final Design and Permitting

Regular Item 2

October 4, 2023

Peace River Manasota
Regional Water Supply Authority

19

TAB B
PR3 – Final Design Scope and Fee

WORK ORDER NO. 03

PEACE RIVER REGIONAL RESERVOIR No. 3 (PR^3) PROJECT

SCOPE OF SERVICES – Final Design and Permitting

October 2023

1 Introduction

The Peace River Manasota Regional Water Supply Authority's (Authority) Water Resiliency Assurance Plan is a continuing program of infrastructure improvements to support regional water supply resiliency and meet growing drinking water needs across a 4-county area by interconnecting major water supplies and developing additional alternative water supply (AWS) capacity. As part of the Water Resiliency Assurance Plan, the Authority will develop additional drinking water supply capacity through expanding surface water supply facilities at the Peace River Facility. This additional AWS capacity development will require increased withdrawal capacity on the Peace River, increased water treatment capacity, and an additional off-stream raw water storage reservoir.

The Authority's existing off-stream reservoir system includes two reservoirs with a combined storage capacity of 6.5 billion gallons. Water withdrawn from the Peace River is stored in the reservoir system and supplies the Peace River Water Treatment Facility that currently provides an average 26 million gallons per day (MGD) drinking water supply to Charlotte, DeSoto, and Sarasota Counties and the City of North Port. Reservoir No.1 is primarily a below-grade reservoir completed in 1980 with approximately 500 million gallons of usable storage. Reservoir No. 2 is an above-ground reservoir completed in 2009 that provides 6.0 billion gallons of normal operating raw water storage. The reservoirs are located on lands owned by the Authority and/or the Southwest Florida Water Management District (SWFWMD).

Water is withdrawn from the Peace River at a 120 MGD pump station adjacent to the Peace River Water Treatment Facility. Withdrawals are made in accordance with a flow-based withdrawal schedule included in the Authority's Water Use Permit (WUP). The WUP was modified in February 2019, authorizing an increase in maximum withdrawal rate from the river from 120 MGD to 258 MGD. The Authority's permitted withdrawal schedule enables the harvest of a small percentage of high flow from the river for off-stream storage and supply to the Authority's Peace River Water Treatment Facility. While the withdrawal schedule preserves the majority of river flow supporting the Charlotte Harbor estuary, the reliability of this supply depends on the ability to harvest water quickly when that resource is available, and the availability of large volume off-stream reservoirs to store that resource.

The Authority has decided to construct a new 9 billion gallon reservoir supplied by a new river pump station, which will operate in parallel with existing reservoir No. 2. The new raw water pump station will be located in the vicinity of the existing raw water pump station with new transmission pipelines to convey water from the intake to the new reservoir. A new reservoir pumping station will be required to transfer water from the reservoir to the WTP.

The Authority has entered into a contract with HDR Engineering, Inc. (HDR) to provide professional services for planning, design, permitting, bidding, construction and other related services associated with the Peace River Regional Reservoir (PR^3) Project (Project) to support the Authority's development of additional drinking water supply. There have been 2 work orders associated with the PR^3 contract, WO1 was for Feasibility and Conceptual Design and WO2 was for Preliminary Design and Permitting.

This Work Order is for services associated with the Final Design and Permitting Phase of the PR^3 Project. HDR will administer the PR^3 Project as the prime consultant with multiple subconsultants supporting the HDR team.

2 Definitions and Acronyms

The following terms and acronyms are used in this scope of services:

- "HDR" refers to HDR Engineering, Inc.
- "HDR Team" refers to HDR as the prime consultant and the subconsultants or subcontractors working with HDR on the project.
- "Authority" means the Peace River Manasota Regional Water Supply Authority.
- "PR^3" or "PR^3 Project" refers to the Peace River Regional Reservoir No. 3 Project which includes Reservoir No. 3 as well as other related pumping and conveyance infrastructure.
- "Phase" refers to the Final Design and Permitting phase of the PR^3 Project.
- "SUE" refers to sub-surface utility engineering.
- "SWFWMD" refers to the Southwest Florida Water Management District or District.
- "Technical Memorandum" means an intermediate or summary document that contains or reports information developed through an interim task.
- "WUP" refers to the Authority's water use permit.
- "Reserve" refers to the RV Griffin Reserve
- Day as used for scheduling is a workday.
- Week as used for scheduling means 5 working days.
- Month as used for scheduling generally means 20 working days.

3 Scope of Services

This scope of services describes the professional services to be provided by the HDR team on behalf of the Authority for the Final Design and Permitting phase of the PR^3 Project. This phase will include design progression for construction document development, permitting activities associated with permits submitted as part of other work orders, and coordination with Authority contractors and owner's representatives as needed. This phase of the project contemplates design considerations for components of the project being constructed by different contractors under different contract procurement methods potentially on parallel or sequential timelines. This scope of work will be complete prior to construction commencing on the project.

3.1 TASK 1 - PROJECT MANAGEMENT, COMMUNICATION AND COORDINATION

HDR will be responsible for project administration, coordination of subconsultants, communication amongst the consultant project team, Authority staff, Construction Management at Risk (CMAR) Team and regulatory agencies, and adherence to schedule and budget, development and quality control of deliverables, and invoicing. This phase of the project is anticipated to have a 16-month duration with notice to proceed (NTP) in October 2023.

3.1.1 Project Management and Progress Reporting

HDR will prepare and distribute a monthly progress report regarding project status. The report will be a summary in nature and focus on documentation of key decisions rather than presenting detail. HDR's project manager will be the primary point of contact for the Authority, will make staffing assignments, review work progress, manage budgets and schedules, and oversee quality assurance and review procedures.

This task includes establishment of project controls and the development of a Project Management Plan that includes internal project procedures, filing system, communications plan, a work breakdown structure, and assignments for HDR and subconsultants, quality plan, safety plan, and other project specific information. Project management includes oversight, management, and accounting of consultant activities on the project; this includes HDR and subconsultant staff management.

As part of the quality assurance for the project, the HDR team will develop a Quality Assurance Manual (QAM) for the project that is specific to the tasks being performed. All deliverables will be reviewed in accordance with the QAM prior to submittal to the Authority. The QAM will include procedures for review of deliverables and work products as well as reviewers assigned for various tasks and disciplines. Subconsultants and subcontractors will provide HDR with their QAMs or will provide written confirmation that they will follow the HDR-developed QAM.

A high-level schedule is included with this work order. An early deliverable as part of this scope of work will be a more detailed schedule for the Final Design and Permitting Phase. This more detailed schedule will include information related to the potential parallel paths for progressing the reservoir and conveyance feature design, as well as consideration to CMAR coordination for the conveyance vs an independent bidding process for the reservoir construction.

3.1.2 Meetings and Coordination

The project manager and team members will meet regularly with the Authority staff, the Authority Board, and project stakeholders to keep them informed of the project status and discuss upcoming activities and deliverables; details of planned meetings are presented below. HDR will prepare meeting agendas and meeting summaries to document key discussions and track progress. HDR will also develop and maintain a project decision log, documenting project decisions over the course of the project.

In addition to ongoing, routine coordination calls between HDR and the Authority, HDR will participate in the following meetings associated with this task:

- Final Design and Permitting Phase Kickoff Meeting– held within 1 month of NTP
- Monthly Progress Meetings – up to 15
- Bi-Weekly Permitting Meetings – These meetings will be held every other week to discuss the ongoing permitting process and responses to RAI comments with Authority staff.
- Professional Staff (Members/Customers) Meetings – HDR will participate in, and may present at, meetings held between the Authority and Customer staff (up to 3)
- Board Meetings – HDR may prepare and deliver presentations to the Board on such topics as project progress or design and permitting advancement (up to 5 meetings, as requested).
- Design-Phase CMAR Coordination – in addition to workshops described below, HDR will participate in periodic calls with the Authority and their CMAR to coordinate between design, construction, operations, permitting, etc. It is anticipated these calls will be less than an hour in length and occur no more frequently than monthly. This coordination will likely occur in conjunction with Monthly Progress Meetings.
- Workshops
    - Intermediate Design Workshop – This workshop will be held after the kickoff meeting and will focus on development of the intermediate design and Authority input on design decisions and preferences. This workshop is anticipated to be held through a series of four (4) half-day sessions (may be scheduled sequentially) and will include the following design disciplines; civil site, electrical, instrumentation and controls, pump stations, structural and conveyance pipelines. Attendees to this workshop are design team staff, Authority staff, and other project stakeholders as necessary including the CMAR.
    - Final Design Workshop - This workshop is anticipated to be held through a series of four (4) half-day sessions (may be scheduled sequentially) and will include the following design disciplines; civil site design, electrical design, instrumentation and controls, pump stations, structural, and conveyance pipelines. Attendees to this

workshop are design team staff, Authority staff, and other project stakeholders as necessary including the CMAR.

- CMAR Coordination Workshops and Partnering Meetings – HDR will participate in design coordination workshops with the Authority's CMAR contractor to discuss design progress at each milestone for a total of (6) half-day workshops scheduled throughout the duration of this phase. Additionally, up to three (3) in-person Partnering Meetings will be held to establish communication, goals and coordination. Participants will include the design team responsible for relevant project features, Authority staff, the CMAR and other project stakeholders as necessary.

All meetings and workshop are planned to be held at the Peace River Facility, with an option for remote participation as needed.

The HDR team will conduct internal weekly progress meetings for coordination between task leads, schedule and progress updates, and early identification of any issues to resolve or bring to the Authority's attention for input and resolution.

Other than workshops or meetings described separately other discussions/meetings regarding project tasks will be conducted as part of monthly progress meetings on the Project between HDR and the Authority.

Authority and stakeholder review comments on initial drafts of work products will be discussed during Monthly Progress Meetings rather than scheduling separate comment resolution meetings.

Task 1 Deliverables - Deliverables for Task 1 include (all deliverables will be PDF format unless noted):

- Progress report, schedule update and invoice – monthly (up to 16)
- Kick-off Meeting agenda, materials, summary notes and decision log
- Detailed Final Design and Permitting Schedule – developed in MS Project
- Monthly Progress Meeting agenda, materials, summary notes and decision log updates – monthly (up to 14)
- Workshop agenda, materials, summary notes – as needed (up to 17)
- Permitting Meeting summary notes – as needed (up to 9)
- Authority Customer Staff Meeting presentation materials – as needed (up to 3)
- Board Meeting presentation materials – as needed (up to 5)

Task 1 Schedule – Schedule for Task 1:

- This Task will run the duration of the Final Design and Permitting Phase, starting with NTP, through completion of this Work Order.

- Kick-off Meeting to be scheduled within 1 month of NTP;
- Monthly Progress Meetings will begin a month after the kick-off meeting and will be scheduled as a reoccurring appointment each month with schedule adjustments as needed to accommodate availability of participants.
- Presentations to Staff or Board Meetings will occur as needed and at the request of the Authority, up to a total of 5 meetings each.
- Workshops will be scheduled between design deliverable milestones as necessary.

3.2 TASK 2 – FIELD WORK

The field work for this phase of the project will continue previous site investigations for the project features to support the final design and permitting efforts to complete construction document development. This portion of the scope of work will be paid on a time and materials basis to allow for flexibility and responsiveness to field work and data collection as design progresses.

3.2.1 Geotechnical

3.2.1.1 GEOTECHNICAL EXPLORATION AND FIELD PROGRAM

The continuation of the geotechnical exploration program will include foundation exploration for the reservoir, pipeline routes (specifically the proposed trenchless crossings), and the pump stations. Drilling contractor activities will be performed by HDR's subcontractor, H2R, with oversight provided by HDR staff. Work associated with this task will be summarized and presented in an update to the Preliminary Design Phase Site Characterization Report at the conclusion of the field and lab exploration efforts.

3.2.1.2 RESERVOIR NO. 3 GEOTECHNICAL EXPLORATION AND FIELD PROGRAM

The continuation of the field exploration program for the embankment design will include exploratory standard penetration test (SPT) borings drilled using conventional rotary-wash drilling equipment. Most sampling for the final design will be to obtain samples for additional bench scale testing. Additional piezometers (up to three) will be installed to further define the shallow groundwater flow at Reservoir No. 3. The geotechnical exploration and in situ testing program for Reservoir No. 3 will include:

- Exploratory borings, soil sampling
- Test Pits
- Piezometers
- In-situ permeability testing (slug testing)
- Lab testing

The Unified Soil Classification System (USCS) will be used for soil classification.

Explorations will be referenced to the survey baseline established during the preliminary design phase. Ground elevation will be surveyed for each boring.

Reservoir Interior Explorations - Within the reservoir interior, explorations will be performed to provide soil material for bench testing of the soil bentonite cutoff wall. Borings will be drilled to a maximum depth of 75 feet below land surface.

Test Pits/Auger Soil Columns - Test pits or auger soil columns will be dug in the reservoir interior to further characterize the surficial soils to assess soil cement mix properties. Up to fifteen (15) test pits will be dug throughout the reservoir interior.

Piezometers - Piezometers will be installed to assess in-situ permeability of the saturated surficial sands that are present in the uppermost soil section at the proposed reservoir site and to further refine surficial aquifer flow conditions at the Reservoir No. 3 site. Shallow piezometers (up to three) will be installed.

Reservoir Laboratory Testing Program - Laboratory testing will be performed on collected samples from the explorations for use in design development. Tests will be performed in accordance with the applicable ASTM standards. The following laboratory testing is planned:

- Soil Cement Mix Design
- Cutoff Wall mix
- Soil Amended Core testing

Piezometer Data Download and Organization - Piezometers are outfitted with automatic water level recorders. The data will be downloaded monthly and organized into a spreadsheet database so that the data can be analyzed.

3.2.1.3 PIPELINE GEOTECHNICAL EXPLORATION AND FIELD PROGRAM

Geotechnical engineering services are required to support the design of the steel raw water transmission pipelines associated with the project. The pipelines are anticipated to be large diameter, ranging between 54 inches to 84 inches in diameter with a total cumulative length approximated at over 32,000 linear feet. These services consist of investigations, testing, consultation, advice and recommendations relating to earth support, excavations, thrust restraint, soil corrosion potential, unsuitable materials, bedding and backfill requirements, groundwater, trenchless construction, and other geotechnical issues affecting the design and construction of a long-term, reliable water transmission pipe. New exploration data will supplement data collected during the preliminary design phase.

Within new pipeline corridors or areas not explored during the preliminary design phase, borings will generally be spaced at 400-foot spacings and will average 25 feet in depth. The boring spacing may be greater or less based upon reconnaissance and aerial photo geological interpretation of near-surface conditions. Borings will be drilled to a depth of 40 feet at roadway, river, or stream crossings where tunneling will be required. Borings will be referenced to the survey baseline established for the pipeline route. The following laboratory testing is planned:

- Sieve Analysis
- Fines Content
- Hydrometer
- Atterberg Limits
- Specific Gravity
- Modified Proctors
- Triaxial Tests (CU with pore pressure) – 5 tests
- Corrosion Series
- Moisture Content

The corrosion series testing will include the following analyses: pH, Chloride (ppm), Sulfate (ppm), Moisture Content (% weight), Redox Potential and Conductivity (as received and saturated resistivity). Piezometers (two piezometers) will be installed at the proposed tunnel zone at King's Highway to assess groundwater conditions and hydraulic conductivity of the shallow surficial soils.

3.2.1.4 PUMP STATION FOUNDATION GEOTECHNICAL EXPLORATION AND FIELD PROGRAM

There are two pump stations associated with the Project; one for the new intake at the Peace River and the other in the vicinity of the reservoirs for conveyance back to the WRF. Borings have been completed for the reservoir pump station but are needed at the intake river pump station. A total of three (3) soil borings will be taken to a depth of 100 feet to allow for foundation design recommendations for the pump station. Borings will be referenced to the survey baseline established for the pipeline route. The following laboratory tests are planned:

- Sieve Analysis
- Fines Content
- Hydrometer
- Atterberg Limits
- Specific Gravity
- Percent Organics
- Corrosion Series
- Moisture Content –

3.2.1.5 PIEZOMETERS- WETLAND MITIGATION AREAS

Piezometers have been installed at the proposed mitigation areas and the data will be downloaded monthly and organized for evaluation and permitting support.

3.2.2 Site Characterization Report

A draft Site Characterization Report was prepared during earlier project phases to summarize the field investigation of the PR^3 Project and includes geotechnical report(s) prepared by the geotechnical subcontractor. The preliminary design phase Site Characterization Report will be updated for the final design phase of the project, including the following sections:

- Project information
- Results of the sinkhole evaluation
- Results of the field explorations and laboratory tests, including logs of borings, boring locations and elevations (per survey), boring and piezometer elevations
- Results of the geophysical surveys
- Discussion of surface and subsurface conditions
- Maps and cross-sections showing general site conditions and geologic features including but not limited to suspected sinkhole activity, relic sinkholes, lineaments, and lateral discontinuities of impervious strata (if present)
- General location and description of potentially deleterious materials encountered in the borings that may interfere with construction progress or embankment performance, including subsurface organics.
- Suitability of the on-site soils for use as embankment fill materials, including maps delineating potential borrow areas
- Presentation of measured groundwater level/elevation data for shallow and deep piezometers
- Discussion of geologic, hydrogeologic, and geotechnical conditions
- Dewatering considerations for foundation construction, including utilizing Modflow DWRM4 model.
- Recommendations for any deep ground improvement that may be necessary prior to construction
- Utilizing Modflow DWRM4 model to assess off-site impacts.

A draft of the Final Site Characterization Report will be submitted and after receipt of comments from the Authority, the Final Site Characterization Report will be submitted to the Authority.

3.2.3 Surveying

Previously collected survey data will be augmented with additional data collected in this phase. Surveying data will be obtained to establish horizontal and vertical control for areas within the project footprint. Vertical project controls and survey elevations will be referenced to NGVD29. Horizontal project controls will be referenced to NAD83-2011. The coordinate system for surveys will be the Florida State Plane Coordinate System West Zone. Data will be provided in

AutoCAD Civil 3D 2020 and the surveying subconsultant will provide signed survey reports in either electronic (PDF) or hard copy formats.

For all surveying field efforts, it is assumed that clearing will not be required. If locations requiring data collection are inaccessible, the HDR team will coordinate with the Authority for access, clearing or to develop solutions. Surveying will be completed in phases concurrent with other field work and design development as detailed in the subsections that follow.

Pipeline Corridors - Topographic cross sections will be collected every 250 feet along the length of the proposed pipeline corridors for the new intake route(s). Data will include elevations at grade breaks, structures, utilities, pavements, and other physical features. Water levels in ditches, canals, or depressions will also be collected. Cross sections will extend 25 feet from both sides of the conceptual pipeline. A total of 12 cross-sections are budgeted.

Kings Highway Access Road – Topographical and Planimetric shots will be taken in the areas of the Kings Highway access road and proposed driveway. Data will include elevations at grade breaks, structures, utilities, pavements, and other physical features. Water levels in ditches, canals, or depressions will also be collected.

Wetland Mitigation Areas - The survey team will coordinate closely with the environmental team to survey the flag locations of the wetland mitigation areas; 4,700 ground survey points will be taken in the south area containing 948 acres, and up to 275 ground survey points will be taken in the north area containing 226 acres. This will be performed on an as-needed basis. Seasonal High-Water Levels (SHWL) and top of bank will be captured at each wetland.

Wetland Delineation Areas - The survey team will coordinate closely with the environmental team to survey the flag locations relocated during the delineation verification efforts of the impact areas. Seasonal High-Water Levels (SHWL) and top of bank will be captured at each wetland.

Geotechnical Borings and Wells - The locations of the borings and piezometers conducted as part of task 2.1 will be surveyed. Up to 35 ground survey points will be taken of staked locations. GPS locations of the borings, and piezometers will be collected by the driller and provided to the survey team prior to performance of this subtask. This will be performed on an as-needed basis.

SUE – SUE will be conducted with this phase of the project. Existing and known utilities in the vicinity of the project infrastructure will be collected with the final design phase. Areas for investigation include the two Kings Highway, existing utility force mains and near the reservoir pump station. Thirty (30) quality level A SUE points are budgeted.

RV Griffin Boundary Survey

A boundary survey of the RV Griffin Reserve Property will be performed to provide a digital boundary for the design team to use.

Additional Topographic and Planimetric Survey

Additional topographic and planimetric survey data is anticipated to be required during the final design phase to capture areas of the project not previously identified during the preliminary design phase, such as existing drainage features, utilities, and fencing. This work will proceed on an as-needed basis in coordination with the Authority.

Task 2 Deliverables - Deliverables for Task 2 include (all deliverables will be PDF format unless noted):

- Final Site Characterization Report
- Signed Survey Reports for topographic data – PDF, DTM, and dwg formats, as applicable
- Signed Survey Report for bathymetric data – PDF, DTM, and dwg formats, as applicable
- SUE summary report
- Signed Boundary survey

Task 2 Schedule – Schedule for Task 2:

- Geotechnical field efforts will be performed throughout the 60% and 90% design tasks, with schedule prioritized for final design needs.
- Topographic surveys will be performed throughout the 60% and 90% design tasks with schedule prioritized for final design needs.
- Wetland Delineation Surveys will be performed throughout the 60%, and 90% design tasks as necessary.

3.3 TASK 3 – ENVIRONMENTAL AND PERMITTING

Permits for this project were submitted to agencies as part of WO2 for the PR^3 project. Due to the recent Sackett ruling by the Supreme Court, it has been preliminary determined that there will be no impacts to 404 jurisdictional wetlands as part of this project and due to the lack of the federal nexus a Section 10 consultation will be required with the U.S. Fish and Wildlife Service (USFWS). This task includes agency coordination and preparation of responses to Requests for Additional Information (RAI) from Southwest Florida Water Management District (SWFWMD) Environmental Resource Permit (ERP) and providing additional information to the U.S. Fish and Wildlife Service.

As part of WO2 the following permitting and regulatory actions were taken:

- June 16th, 2023, a conceptual ERP application, authorizing the UMAM scoring, was submitted to the SWFWMD.
- May 12th, 2023 a Formal Jurisdictional Determination request was additionally submitted.
- Jurisdictional verifications took place in July and August, 2023.

- To initiate and support the Section 10 consultation, a Technical Assistance request was submitted to the USFWS through their online portal on July 21, 2023.

- A construction ERP was submitted to authorize the construction of the entire project in September 2023. The September submittal included a conceptual mitigation plan which will require refinement and finalization during the RAI process.

3.3.1 Southwest Florida Water Management District Permitting

The state regulatory authority for this project will be the SWFWMD. It is expected SWFWMD issued RAIs from the ERP application will include requests to update environmental and engineering data such as the previously submitted UMAM scoring to reflect the results of the Jurisdictional Determination verification, agency UMAM scoring adjustments, clarifications on mitigation design and strategy (including onsite permittee responsible mitigation and/or Mitigation Bank credits), clarifications on stormwater design, clarifications on floodplain analysis, and questions from Florida Fish and Wildlife Commission (FWC) pertaining to State listed species. HDR will provide responses for up to two (2) formal RAIs and additional informal requests for information from SWFWMD.

Additional work will include completion of Gopher Tortoise and Florida Burrowing owls surveys, and results will be forwarded to FWC. It is anticipated that Florida Burrowing owls and/or gopher tortoises will be discovered onsite, so additional coordination with FWC is planned and an Incidental Take permit for burrowing owls and a relocation permit for gopher tortoises are expected. The Gopher Tortoise Relocation application will be submitted to FWC within 90 days of survey competition.

Additional tasks to be completed in this task include:

- Preparation of responses to two (2) requests for additional information
- Ongoing agency coordination
- Preparation of final mitigation plan
- Coordination meetings
- Preparation of Gopher Tortoise Relocation Application and/or Incidental Take permit for burrowing owls

3.3.2 USFWS Section 10

The Section 10 Listed species consultation will require ongoing coordination with the USFWS assigned biologist for the project. A Habitat Conservation Plan will be required, at minimum for the Crested Caracara, and potentially for other species the service determines may be affected by the project.

Tasks to be completed in this task include:

- Completion of Gopher Tortoise surveys and generation of a report of findings

- Preparation of Gopher Tortoise Relocation Permit application
- Completion of Burrowing Owl surveys and generation of a report of findings
- Conducting Florida Bonneted Bat surveys and generation of a report of findings
- Ongoing Section 10 Consultation
- Preparation of the USFWS Incidental Take permit application
- Preparation of Habitat Conservation Plan.

3.3.3 Dam Safety Coordination for ERP

A dam safety review will be performed in conjunction with the review of the ERP application. It is expected that RAI comment on the embankment design will be received and may include subjects such as geotechnical design and analysis, hydrologic and hydraulic analysis and design, and instrumentation program. HDR will provide responses for up to two (2) RAIs related to the dam safety review.

3.3.4 River Pump Station Permitting

Current permitting applications for the PR^3 project do not include construction of the river pump station. Construction of the river pump station will require a state ERP authorization, a USACE 404 permit and potentially a FDEP Sovereign Submerged Lands proprietary authorization. State ERP authorization is expected to be accomplished through a modification of the SWFWMD for the PR^3 project. Due to the proximity of the proposed river pump station to the Peace River, 404 permitting will be retained by the USACE. USACE 404 permitting the proposed station would be limited to wetland impacts associated with construction of the pump station and would not include the pipeline portions of the overall PR^3 project. Changes to the currently permitted dredge footprint or changes in use of submerged lands associated with the pump station may require an FDEP issued Sovereign Submerged Lands proprietary authorization. HDR will prepare and submit the 404 permitting application as well as an application for an FDEP Sovereign Submerged Lands proprietary authorization, as necessary.

3.3.5 Additional Regulatory Coordination and Permitting

The permitting approach has been coordinated with the Authority and with regulators through pre-application meetings. However, this is a large project and permitting and agency coordination, particularly considering recent state and federal actions, may result in additional RAIs, changes in permitting approach and/or applications to be filed with additional agencies. To allow the HDR team to continue to advance the project, a Time and Materials budget to be used with the Authority's approval for additional permitting and regulatory coordination efforts.

Task 3 Deliverables - Deliverables for Task 3 include (all deliverables will be PDF format unless noted):

- RAI Responses for Wetland Mitigation
- Final Mitigation Plan
- Gopher Tortoise surveys report of findings
- Gopher Tortoise Relocation Permit Application
- Burrowing Owl surveys report of findings
- Florida Bonneted Bat surveys report of findings
- 404 Clean Water Act Permit Application (River Intake Pump Station)
- FDEP Sovereign Submerged Land Authorization application (if necessary)
- RAI on Dam Safety Review
- RAI on stormwater management related issues

Task 3 Schedule – Schedule for Task 3:

- Permitting efforts will be performed throughout the 60% and 100% design tasks.
- Environmental field efforts will be performed on an as-needed basis throughout the 60% and 90% design tasks.

3.4 TASK 4 - INTERMEDIATE DESIGN – 60% DESIGN MILESTONE

3.4.1 60% Design Documents

The project design will be advanced from the Permit Application Design to a true 60% design milestone. The engineering design will include calculations and drawings to support the stated milestone objectives. Design calculations, drawings, technical specifications and reports will be developed to update the details of the project features based on comments from the Authority and permitting agencies. Draft technical specifications will be developed as two specification books, one for the pump station and conveyance pipelines and one for the reservoir to accommodate the Authority's procurement approach.

Design drawings will be developed in AutoCAD Civil 3D and will be submitted to the Authority in PDF. The 60% Design package will include four volumes focusing on the following project elements;

- Volume I - Reservoir No. 3
- Volume II - River Intake Pump Station
- Volume III - Reservoir Pump Station

- Volume IV - Conveyance Pipelines.

The 60% Design milestone documents will be submitted to the Authority for review and comment. Comments, questions, feedback and questions will be covered during a monthly progress meeting and input will be incorporated in the 90% Design submittal. Comments and input will be tracked in an Excel table to document resolution and verify comments have been addressed.

A Design Documentation Report (DDR) will be updated for the project in conjunction with the development of the 60% Design. The purpose of the DDR is to present design methodology, criteria and calculations supporting the development of the design for the project features. The report will document goals and objectives, project components, design criteria, and configuration details.

An opinion of probable construction cost (OPCC) will be developed for the Reservoir No. 3 design (Volume I), in conjunction with the 60% Design. This estimate will be an AACE Class 3 estimate, which includes a level of detail commensurate with an intermediate design. The estimate will be based on quantity takeoffs from the 60% Design drawings, assumptions on equipment and production rates, quotes from vendors and/or manufacturers, and costs for recent similar work. It is assumed the Authority's CMAR will develop cost estimates for the conveyance features of the project as part of their work.

The primary objectives of the 60% Design are:

- Progress the reservoir embankment design
- Progress design of embankment cross-section details including seepage, drainage and site access features
- Progress design of reservoir intake and discharge structures
- Progress river intake and pipeline design
- Prepare mitigation wetland design
- Progress reservoir and river pump station design
- Evaluating the ultimate power requirements for the Peace River expansion projects.
- Prepare 60% Cost Estimate for Reservoir No. 3
- Provide assessment of the sheet piles at the intake structure
- Progress on-site yard piping, valves, instrumentation, and appurtenances
- Progress electrical facilities and appurtenances
- Begin Reservoir No. 3 aeration system or other water quality improvement strategies,
- Begin instrumentation and controls and network integration design

3.4.2 Independent Reviews

Independent reviews will be conducted by technical subject matter experts outside of the design team to evaluate the embankment dam and pump station designs with a focus on industry standards, risk, constructability, and costs. The HDR team will conduct an Independent Expert Peer Review (IEPR) utilizing HDR experts outside of the design team, as well as experts from peers in the dam and pump station industry. The IEPR will be conducted prior to the completion of the 60% design milestone with sufficient time to incorporate feedback into the 90% design milestone documents. Review comments and feedback will be documented into a TM and provided to the Authority as part of the 90% design deliverable.

3.4.3 Embankment Performance Monitoring Plan

The embankment performance monitoring plan (EPMP) developed in the Preliminary Design Phase will be updated for the 60% Design Milestone. The plan will reference similar efforts being performed at Reservoir No. 2. The scope of the EPMP is limited to the dam embankment, drainage system, and surface movement monuments, and does not include instruments for monitoring inflow and outflow control and discharges. A draft EPMP will be submitted to the Authority for comment with the 60% Design Milestone.

Task 4 Deliverables - Deliverables for Task 4 include (all deliverables will be in PDF format unless noted):

- 60% Design Drawings
- 60% Technical Specifications
- 60% DDR
- Demand Projection Update TM
- Opinion of Probable Construction Costs (Reservoir No. 3 only)
- Revised Embankment Performance Monitoring Plan
- Cumulative Comment Tracking Table – Excel format
- Independent Review Summary (to be included with 90% design milestone)

Task 4 Schedule – Schedule for Task 4:

- The 60% Design milestone and all components will be submitted 22 weeks after NTP
- The comment tracking table will be completed with HDR responses within 2 weeks of final receipt of Authority comments.

3.5 TASK 5 - FINAL DESIGN - 90% DESIGN MILESTONE

3.5.1 90% Design Documents

This design advancement will finalize details of project features, operations considerations, and will include calculations to support the final design. At this stage, the level of design is such that no additional project conceptual decisions or assumptions will be required with a minimal risk of changes in features that could affect the scope and schedule.

Drawings will be developed in AutoCAD Civil 3D and will be submitted to the Authority in PDF. The 90% Design package will include four volumes consistent with previous deliverables.

The technical specifications will be finalized.

The 90% Design milestone documents will be submitted to the Authority for review and comment. Comments, questions, feedback and questions will be covered during a monthly progress meeting and input will be incorporated in the 100% Design submittal. Comments and input will be tracked in an Excel table to document resolution and verify comments have been addressed.

The DDR will be revised for the project in conjunction with the development of the 90% Design. The report will document goals and objectives, project components, design criteria, calculations, and configuration details.

The OPCC will be updated with the 90% Design. This estimate will be an AACE Class 2 estimate including additional level of detail for a 90% design. The estimate will be based on quantity takeoffs from the 90% Design drawings, assumptions on equipment and production rates, quotes from vendors and/or manufacturers, and costs for recent similar work.

3.5.2 Physical Modeling

A physical model of the river pump station and reservoir pump station will be constructed and used to determine optimal pump configurations and building arrangement. A maximum of three (3) model adjustments will be made. Results of the physical model will be incorporated into the final design documents.

3.5.3 Embankment Performance Monitoring Plan

The EPMP submitted with Task 5 will be updated for the 90% Design Milestone. The plan will reference similar effort being performed at Reservoir No. 2. A final EPMP will be submitted to the Authority for comment with the 90% Design Milestone.

Task 5 Deliverables - Deliverables for Task 5 include (all deliverables will be submitted in PDF format unless noted):

- 90% Design Drawings
- 90% Technical Specifications

- 90% DDR
- Physical Model Report
- Final Embankment Performance Monitoring Plan
- Opinion of Probable Construction Costs
- Comment Tracking Table – Excel format

Task 5 Schedule – Schedule for Task 5:

- The 90% Design milestone and all components will be submitted 39 weeks after NTP
- The comment tracking table will be completed with HDR responses within 2 weeks of final receipt of Authority comments.

3.6 TASK 6 – FINAL DESIGN - 100% DESIGN MILESTONE + READY TO ADVERTISE PACKAGE

The 100% Design efforts will advance the documents developed for the 90% Design milestone and incorporate feedback and comments from the Authority staff on that submittal.

3.6.1 100% Design Package

This design advancement will finalize the project features. The Draft Bid Package will be submitted to the Authority for review and comment. Comments, questions, feedback and questions will be covered during a monthly progress meeting and input will be incorporated into a Ready to Advertise (RTA) submittal package for the Reservoir and a Ready for Construction (RFC) package for the conveyance features. Comments and input will be tracked in an Excel table to document resolution and verify comments have been addressed.

At this stage, the level of design is such that the design package is prepared for bidding.

The technical specifications will be finalized for bidding.

The wetland mitigation design will be finalized with this milestone.

The DDR from the 90% Design milestone will be updated to include the advancement project details for the 100% design milestone.

The reservoir package OPCC will be updated with the 100% Design. This estimate will be an AACE Class 1 estimate including additional level of detail for a 100% design. The estimate will be based on quantity takeoffs from the 100% Design drawings, assumptions on equipment and production rates, quotes from vendors and/or manufacturers, and costs for recent similar work.

Task 6 Deliverables - Deliverables for Task 6 include (all deliverables will be submitted PDF format unless noted):

- Draft Bid / Construction Packages

- Ready to Advertise and Ready for Construction Packages
- 100% DDR
- Opinion of Probable Construction Costs

Task 6 Schedule – Schedule for Task 6:

- The 100% Design milestone and all components will be submitted 48 weeks after NTP.
- The RTA and RFC set of documents will be submitted 57 weeks after NTP.

3.7 TASK 7 – EMERGENCY ACTION PLAN (EAP) AND OPERATIONS AND MAINTENANCE (O&M) MANUAL

An emergency action plan (EAP) will be developed to document incidents that can lead to potential emergency conditions at a dam, areas that can be affected by the damage of the reservoir, and specific pre-planned actions that can be followed to minimize property damage, potential loss of infrastructure, resources and life. The emergency action plan will be submitted as a draft to the Authority for preliminary review and comment.

Authority comments will be incorporated into a final EAP.

An operations and maintenance manual will be drafted to document the recommended operational limits and procedures for the Reservoir No. 3 facility and project features, including maximum reservoir draw down, spillway gate operations, pump stations, valve operations, and other relevant considerations. Additionally recommended maintenance procedures and frequency of maintenance activities will be provided. The O&M manual will anticipate inclusion of future O&M manuals for construction contractor procured and installed materials and equipment.

Task 7 Deliverables - Deliverables for Task 6 include (all deliverables will be submitted PDF format unless noted):

- Draft EAP
- Final EAP
- Draft O&M Manual

Task 7 Schedule – Schedule for Task 7:

- Draft EAP will be completed 61 weeks after NTP.
- Final EAP will be completed 65 weeks after NTP
- Draft O&M Manual will be completed 65 weeks after NTP.

3.8 TASK 8 - OWNER'S ALLOWANCE

An Owner's Allowance of $100,000 is included in this Scope of Work to allow for currently unidentified efforts associated with this Phase of the PR^3 Project to be added on an as-needed basis. This allowance will not be utilized by HDR without written direction from the Authority following an agreed scope and fee for the work to be included under the allowance.

4 Authority Responsibilities

This Phase requires close coordination with Authority staff, with regular and frequent meetings and discussions to successfully complete deliverables associated with this Phase. The Authority staff will participate in workshops and meetings and will review work products and promptly provide comments, as needed.

Significant information that will inform and guide PR^3 Project decisions exists in the Authority's files. Much of this has already been provided to the HDR team. The Authority will work with HDR to identify available materials, information and provide copies in either PDF or hard copy format for use by HDR.

5 Schedule

The Scope of Services for the Final Design and Permitting will be delivered over the course of 16 months after being given the notice to proceed. A summary schedule is shown in Exhibit A and a detailed project schedule with the planned dates for distribution of deliverables will be developed early in the initiation of this scope of work.

6 Assumptions

1. The Authority and stakeholders will provide timely review and input of requests and deliverables.
2. HDR will coordinate with the Authority's CMAR, Owner's Rep and other partners as requested by the Authority and with the Authority's participation.
3. The RAI effort and coordination with the agencies for permitting will include 2 RAI cycles.
4. A Federal 404 permit will not be prepared for any offset Federal wetland impacts for the reservoir footprint or pipeline routes, based on guidance provided by the Authority and the Authority's legal counsel.
5. Gopher Tortoise Relocation Permitting will not include onsite recipient survey.
6. 100% Gopher Tortoise survey will be the responsibility of the construction contractor.
7. The Authority will be responsible for FWC Gopher Tortoise relocation fees and any fees associated with recipient sites.

8. This Work Order does not include any procurement or Construction phase services.
9. The Authority's CMAR will develop cost estimates for the conveyance features of the project as part of their work.
10. For all surveying field efforts, it is assumed that clearing will not be required. If clearing is required, additional coordination with the Authority will need to occur.
11. The Draft EAP and Draft O&M Manual will be completed after the construction documents are ready for bidding and/or construction. These two documents are not finalized until construction is complete.

7 Fee

The Authority agrees to compensate HDR for this scope of services on a Lump Sum and/or Time and Materials basis as shown on the Fee Schedule in Exhibit B and the Fee Summary Table below. The compensation for all tasks, except Task 2 and Task 3.5, will be a Lump Sum basis. Task 2 and Task 3.5 will be paid on a Time and Materials not-to-exceed basis and is based on rates in the master contract for the PR^3 Project and actual costs incurred by our subconsultants.

Fee Summary Table – Compensation by Task

Description	Fee
Task 1 – Project Management, Communication and Coordination	$662,452.00
Task 2 – Field Work	$1,009,543.00
Task 3 – Environmental and Permitting	$1,199,845.00
Task 4 – Intermediate Design - 60% Design Milestone	$2,287,955.00
Task 5 – Final Design - 90% Design Milestone	$1,784,387.00
Task 6 – Final Design - 100% Design Milestone + RTA Package	$1,080,427.00
Task 7 – Emergency Action Plan (EAP)	$193,840.00
Task 10 – Owners Allowance	$100,000.00
TOTAL:	**$8,408,449.00**

EXHIBIT A

SCHEDULE FOR SCOPE OF WORK

PR^3 – Final Design and Permitting

Work Order	WO02	WO 03																
Calendar Year	2023				2024												2025	
Month/Duration	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Month	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb
Species Surveys																		
Geotech																		
60% Design																		
90% Design																		
100% Design																		
RTA Documents																		
EAP and O&M																		
Permitting and RAIs																		

EXHIBIT B

FEE SCHEDULE AND FEE SUMMARY FOR FINAL DESIGN

PR^3 – Final Design and Permitting

			Total Fee Summary	
			By Subtask	Task Subtotal
Task 1: Project Management, Communication and Coordination				**$ 662,452.00**
	1.1	Project Management and Progress Reporting	$ 343,105	
	1.2	Meetings and Coordination	$ 319,347	
Task 2: Field Work				**$ 1,099,543.00**
	2.1	**Geotechnical**		
	2.1.1	Geotechnical Exploration and Field Program	$ 623,648	
	2.1.2	Site Charaterization Report	$ 39,880	
	2.2	**Surveying**	$ 436,015	
Task 3: Environmental and Permitting				**$ 1,199,845.00**
	3.1	SWFWMD Permitting	$ 312,940	
	3.2	USFWS Section 10	$ 380,425	
	3.3	FDEP Dam Safety	$ 41,585	
	3.4	River Pump Station Permitting	$ 164,895	
	3.5	Additional Regulatory Coordination and Permitting	$ 300,000	
Task 4: Intermediate Design - 60% Design Milestone				**$ 2,287,955.00**
	4.1	60% Design Documents	$ 2,158,215	
	4.2	Independent Reviews	$ 62,420	
	4.3	Embankment Performance Monitoring Plan	$ 67,320	
Task 5: Final Design - 90% Design Milestone				**$ 1,784,387.00**
	5.1	90% Design Documents	$ 1,492,147	
	5.2	Physical Modeling	$ 238,600	
	5.3	Embankment Performance Monitoring Plan	$ 53,640	
Task 6: Final Design - 100% Design Milestone + RTA Package				**$ 1,080,427.00**
	6.1	100% Design Package	$ 1,080,427	
Task 7: Emergency Action Plan (EAP)				**$ 193,840.00**
	7.1	Emergency Action Plan	$ 94,340	
	7.2	Operations and Maintenace Manual	$ 99,500.00	
Task 8: Owner's Allowance				**$ 100,000.00**
	8.1	Allowance (only used with written direction from Authority)	$ 100,000	
			Work Order Total:	**$8,408,449.00**

Peace River Regional Reservoir (PR3) Project

Work Order No. 3 – Final Design

		Summary of all Firms												
Task and Subtask	Task Description	HDR	Hazen and Sawyer	EarthBalance	GreenSource	H2R	Suau	Ecogenesis	Hyatt	Clemson	Diving Company	WIRX	Schnabel	Grand Total
Task 1: Project Management, Communic		**$466,120**	**$196,332**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$662,452.00**
1.1	Project Management and Progress Reporting	$249,105	$94,000											$343,105.00
1.2	Meetings and Coordination	$217,015	$102,332											$319,347.00
Task 2: Field Work		**$84,400**	**$14,510**	**$0**	**$0**	**$571,568**	**$0**	**$0**	**$429,065**	**$0**	**$0**	**$0**	**$0**	**$1,099,543.00**
2.1	**Geotechnical**													$0.00
2.1.1	Geotechnical Exploration and Field Program	$44,520	$7,560			$571,568								$623,648.00
2.1.2	Site Characterization Report	$39,880												$39,880.00
2.2	**Surveying**	$0	$6,950						$429,065					$436,015.00
Task 3: Environmental and Permitting		**$922,225**	**$35,620**	**$40,000**	**$102,000**	**$0**	**$15,000**	**$85,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,199,845.00**
3.1	SWFWMD Permitting	$181,080	$11,860	$5,000	$55,000		$15,000	$45,000						$312,940.00
3.2	USFWS Section 10	$318,425	$0	$35,000	$12,000			$15,000						$380,425.00
3.3	FDEP Dam Safety	$41,585						$0						$41,585.00
3.4	River Pump Station Permitting	$81,135	$23,760	$0	$35,000			$25,000						$164,895.00
3.5	Additional Regulatory Coordination and Permitting *	$300,000												$300,000.00
Task 4: Intermediate Design - 60% Desig		**$1,918,935**	**$319,020**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$5,000**	**$10,000**	**$35,000**	**$2,287,955.00**
4.1	60% Design Documents	$1,789,195	$319,020								$5,000	$10,000	$35,000	$2,158,215.00
4.2	Independent Reviews	$62,420	$0											$62,420.00
4.3	Embankment Performance Monitoring Plan	$67,320	$0											$67,320.00
Task 5: Final Design - 90% Design Miles		**$1,317,105**	**$237,282**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$200,000**	**$0**	**$10,000**	**$20,000**	**$1,784,387.00**
5.1	90% Design Documents	$1,245,765	$216,382									$10,000	$20,000	$1,492,147.00
5.2	Physical Modeling	$17,700	$20,900							$200,000				$238,600.00
5.3	Embankment Performance Monitoring Plan	$53,640	$0											$53,640.00
Task 6: Corrected Final Design - 100% D		**$894,347**	**$173,080**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$8,000**	**$5,000**	**$1,080,427.00**
6.1	100% Design Package	$894,347	$173,080									$8,000	$5,000	$1,080,427.00
		$0												
Task 7: Emergency Action Plan (EAP)		**$163,920**	**$29,920**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$193,840.00**
7.1	Emergency Action Plan	$94,340												$94,340.00
7.2	Operations and Maintenance	$69,580	$29,920											$99,500
Task 8: Owner's Allowance		**$100,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$100,000**
8.1	Allowance (only used with written direction from Authority)	$100,000												$100,000
		$5,867,052.00	**$1,005,764.00**	**$40,000.00**	**$102,000.00**	**$571,568.00**	**$15,000.00**	**$85,000.00**	**$429,065.00**	**$200,000.00**	**$5,000.00**	**$28,000.00**	**$60,000.00**	**$8,408,449.00**

* Task 3.5 will be allocated to sub-consultant team members as needed

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

REGULAR AGENDA
ITEM 3

Professional Construction Manager At Risk (CMAR) Services for the PR3 Pumping and Conveyance Facilities

---

Presenter - Mike Knowles, Engineering & Projects Sr. Manager

Recommended Action - **Motion** to approve Professional Services Evaluation Committee recommendation and authorize the Executive Director to negotiate a contract, scope, and fee with Archer Western for Professional CMAR Services for the 'PR3 Pumping and Conveyance Facilities Project'.

In accordance with the Authority's Procurement Policy, Statements of Qualifications (SOQ) were requested from respondents interested in providing professional Construction Management at Risk (CMAR) services for the 'PR3 Pumping and Conveyance Facilities Project'. Four (4) SOQs were timely received by the August 17, 2023, submittal deadline, and all four (4) SOQs were deemed responsive and were evaluated in accordance with the Authority Procurement Policy.

On August 29, 2023, the Authority's Professional Services Evaluation Committee (PSEC) held a Public Meeting and reviewed the SOQs based upon the 1st Stage Evaluation Criteria. At the conclusion of this meeting, the PSEC elected to invite all respondents to move on to the 2nd Stage -Technical Presentations held on September 12, 2023. Following the 2nd Stage – Technical Presentations, the PSEC ranked Respondents with the results shown in the table below.

Staff recommends that the Authority Board of Directors approve the PSEC ranking below and authorize the Executive Director to negotiate a contract, scope, and fee with for Professional CMAR Services for the 'PR3 Pumping and Conveyance Facilities Project' with Archer Western Construction, LLC for consideration at a future Board meeting.

Rank	Firm	Location
1	Archer Western Construction, LLC	Tampa
2	PCL Construction, Inc.	Tampa
3	Garney Companies, Inc	Sarasota
4	Kiewit Infrastructure South Co.	Tampa

Budget Action: No action needed.

Attachments:
Tab A Presentation Materials
Tab B SOQ Information Package
Tab C Statements of Qualifications (electronic)
Tab D Notice of Intended Decision and Committee Ranking Sheet

TAB A
PR3 Pumping and Conveyance Facilities CMAR
Presentation Materials

Contractor Selection – Peace River Reservoir No. 3 Construction Manager at Risk

Regular Item 3

Peace River Manasota Regional Water Supply Authority

1

Agenda

- Recap of Proposed Delivery Methods
- Solicitation & Recommendation
- Schedule
- Motion

Peace River Manasota Regional Water Supply Authority

2

Agenda

- **Recap of Proposed Delivery Methods**
- **Solicitation & Recommendation**
- **Schedule**
- **Motion**

Peace River Manasota Regional Water Supply Authority

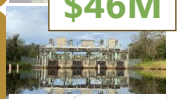
3

Procurement Strategy

Construction Management at Risk

- Reservoir Pump Station
- River Intake Pump Station
- Large Diameter Pipelines

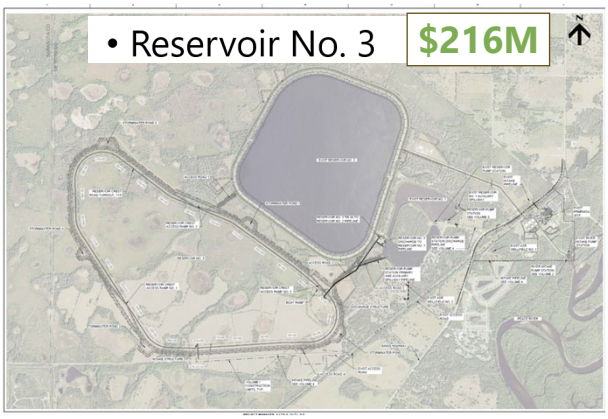
$46M



$73M

Design-Bid-Build

- Reservoir No. 3 $216M



Peace River Manasota Regional Water Supply Authority

4

Agenda

- Recap of Proposed Delivery Methods
- **Solicitation & Recommendation**
- Schedule
- Motion

Peace River Manasota Regional Water Supply Authority

5

PR3 Construction Management at Risk

September 12, 2023
2nd Stage – Technical Presentations, the PSEC ranked Respondents

August 29, 2023, Professional Services Evaluation Committee (PSEC) Shortlist

August 17, 2023, submittal deadline

June 30, 2023, Advertisement for Statements of Qualifications

Rank	Shortlisted Firm	Location
1	Archer Western Construction, LLC	Tampa
2	PCL Construction, Inc.	Tampa
3	Garney Companies, Inc	Sarasota
4	Kiewit Infrastructure South Co.	Tampa

ARCHER WESTERN

PCL

Garney CONSTRUCTION

100% EMPLOYEE OWNED

Kiewit

6

PR3 Construction Management at Risk

September 12, 2023
2nd Stage – Technical Presentations, the PSEC ranked Respondents

Rank	Shortlisted Firm	Location
1	Archer Western Construction, LLC	Tampa

ARCHER WESTERN

Exhibit 14: Leadership Team

Bob Bruner, PE, ENV SP, DBIA

PROJECT DIRECTOR

Bob will be the single point of contact for the Archer Western CMAR team. His leadership, decision-making, and commitment to teamwork make him ideally suited to lead this project.

PROFESSIONAL BACKGROUND:
30+ Years in the construction Industry
100+ Collaborative Delivery Projects

CERTIFICATION:
Professional Engineer (PE)
DBIA
ENV SP
OSHA 30

Peace River Manasota Regional Water Supply Authority

7

PR3 Construction Management at Risk

Phase	Resilient Florida Program	SWFWMD Cooperative Funding		State Funds FY24	Total Grant Funding	Estimated Cost	Customer Share
	FY24	FY24	Future				
Final Design	$7.5M	$2.5M	$3M		$13M	$13M	$0
CMAR 1st Package ECI	-	**$3M**			$3M	$3M	$0
CMAR Construction		$9.5M	$47M	$10M	$66.5	$119M	$52.5M
Reservoir Construction	-	-	$50.7M		$50.7M	$216M	$162.3M
					$133.2M	**$351M***	**$217.8M**

***Does not include mitigation costs**

8

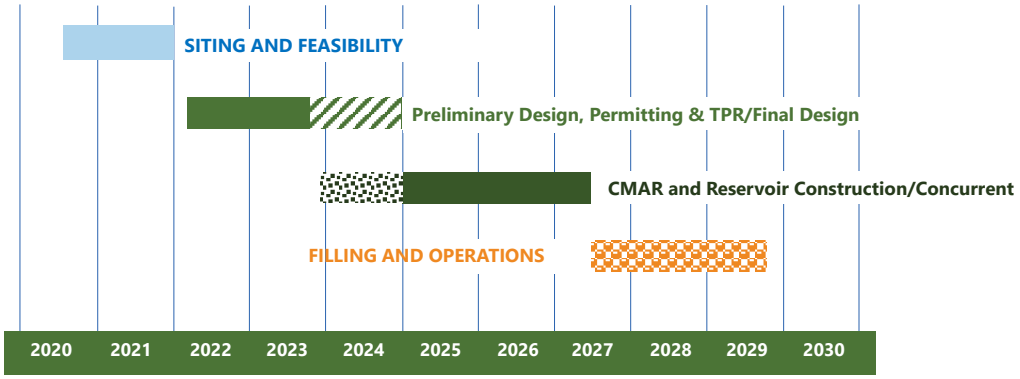
Agenda

- Review of Proposed Delivery Methods
- Solicitation & Recommendation
- **Schedule**
- Motion

Peace River Manasota Regional Water Supply Authority

9

Project Anticipated to be Online for the 2027 Wet Season



- Preliminary Design Phase began March 2022, and concludes September 2023
- Final Design Proposed October 2023
- **Bring CMAR on December 2023** – Early Contractor Involvement – ROM April 2024
- Bring Reservoir Contractor on January 2025 – Begin Filling by summer 2027

Peace River Manasota Regional Water Supply Authority

10

Agenda

- Review of Proposed Delivery Methods
- Solicitation & Recommendation
- Schedule
- **Motion**

Peace River Manasota Regional Water Supply Authority

11

Motion

Motion to approve Professional Services Evaluation Committee recommendation and authorize the Executive Director to negotiate a contract, scope, and fee with Archer Western for Professional CMAR Services for the 'PR3 Pumping and Conveyance Facilities' Project.

Peace River Manasota Regional Water Supply Authority

12

TAB B
SOQ Information Package

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

INFORMATION PACKAGE
REQUEST FOR STATEMENTS OF QUALIFICATIONS
CONSTRUCTION MANAGEMENT AT-RISK SERVICES
for the
PR3 PUMPING AND CONVEYANCE FACILITIES

The Peace River Manasota Regional Water Supply Authority ("Authority") is requesting Statements of Qualifications (SOQ) from experienced Construction Management at-Risk ("CMAR") firms ("Respondent") for Phase I Preconstruction Services and Phase II Construction Services of a river intake pump station, reservoir pump station, and conveyance pipelines providing flexibility to the Peace River Facility (PRF) treatment and conveyance systems. The project is the Peace River Regional Reservoir No. 3 (PR3) Pumping and Conveyance Facilities ("Project").

ADDITIONAL DOCUMENTS

The following documents are included in this Information Package.

A. PR3 Project 30% Design Plans
    a. Basis of Design Report
    b. Construction Cost & Considerations Document (Cost Estimate)
    c. Volume I – Reservoir No. 3
    d. Volume II – River Pump Station
    e. Volume III – Reservoir Pump Station
    f. Volume IV – Conveyance Pipelines
B. Authority 5-Year Capital Improvement Plan & 20-Year Capital Needs Assessment (Approved June 7, 2023)
C. CMAR Agreement ("Agreement")
    a. Exhibits A, B, and D to be developed by the selected CMAR with approval by the Authority.
D. Peace River Water Treatment Plant Conceptual Entrance Layouts (Johnson Engineering)

AUTHORITY BACKGROUND

The Authority is an independent special district of the State of Florida, created and existing under Sections 163.01, and 373.713, Florida Statutes. The Authority is comprised of Charlotte, DeSoto, Manatee and Sarasota Counties. The Authority was created for the purpose of developing, storing, and supplying water for county and municipal purposes in such a manner as will give priority to reducing adverse environmental effects of excessive or improper withdrawals from concentrated areas. The Authority is required to acquire, design, secure permits, construct, operate and maintain facilities in locations and at the times necessary to ensure that an adequate water supply will be available to all citizens within the Authority's boundaries.

The Authority owns and operates the Peace River Facility, a 51 million gallon per day ("MGD") conventional surface water treatment facility on Kings Highway in DeSoto County. The treatment plant is supported by a 120 MGD river intake pump station on the Peace River, a 6.5 billion gallon off-stream raw water storage system, and 21 aquifer storage and recovery wells. The Authority's regional system also includes approximately eighty (80) miles of large diameter potable water transmission system pipelines and associated remote pumping stations and potable water storage tanks in Charlotte, DeSoto, and Sarasota counties.

The following firms are precluded from responding to this solicitation: the Authority's Owner's Agent (OA), Brown and Caldwell, and the Engineers of Record (EOR) for the PR3 Project, HDR Inc. and Hazen and Sawyer.

Definitions

- *PR3 Project* means the Peace River Regional Reservoir No. 3 Volumes I, II, III, and IV
- *PR3* means Peace River Regional Reservoir No. 3 Volume I
- *Project* means the Peace River Regional Reservoir No. 3 Volumes II, III, and IV
- *PRF Expansion Project* means the Peace River Facility Expansion
- *OA* means the Authority's Owner's Agent, Brown and Caldwell
- *EOR* means the PR3 Project Engineer's of Record, HDR, Inc. and Hazen and Sawyer
- *SWEP* means the Surface Water Expansion Project which includes the PR3 Project and the PRF Expansion
- *Water Supply Projects* means Authority water supply projects defined in the Authority 5-Year Capital Improvement Plan & 20-Year Capital Needs Assessment

SCOPE OF WORK

General Information

The current Board-approved project to meet member demands is the Surface Water Expansion Project (SWEP) consisting of the PR3 Project and the PRF Expansion Project. The PR3 Project is comprised of the PR3 shown on PR3 30% Design Volume I and the PR3 Pumping and Conveyance Facilities shown on PR3 30% Design Volumes II, III, and IV. This solicitation will be used to select a CMAR to provide (1) Phase I Preconstruction Services, and (2) Phase II Construction Services for the PR3 Pumping and Conveyance Facilities (Project). The Authority may determine at any time to modify the scope of the Project or the Project components.

The Authority's water use permit (WUP) was modified in February 2019, authorizing an increase in the river maximum withdrawal rate from the current rate of 120 MGD to 258 MGD. The WUP preserves minimum river flows supporting environmental conditions in the Charlotte Harbor estuary. The reliability of the Authority's water supply requires quickly adjusting withdrawals of excess river flows and storing those flows in the off-stream reservoir system as permitted by the WUP. The PR3 will provide additional storage to allow the Authority to accomplish its goal of meeting growing drinking water needs in the region as projected by its four member governments.

The PR3 Project is at approximately 30% design stage and current design plans are included in this solicitation. The Authority plans to award a contract to its EOR to complete the final design for the PR3 Project at its board meeting in October 2023. The PR3 Project design is anticipated to consist of a new 9-billion-gallon reservoir, new 258 MGD river intake pump station, new 79

MGD reservoir pump station, new large diameter pipelines (See 30% Design pipeline lengths in Table 1), and associated improvements.

Table 1 – PR3 Project 30% Design Pipeline Quantity Table

PR3 30% Design Plan	84-inch Diameter	66-inch Diameter	54-inch Diameter	48/36/30-inch Diameter
Volume I Reservoir No. 3	476 lf		5,833 lf	219 lf
Volume II River Pump Station	130 lf			160 lf
Volume III Reservoir Pump Station		120 lf	15 lf	37 lf
Volume IV Conveyance Pipelines	14,678 lf		3,957 lf	218 lf

Upon final determination by the Authority to continue with all components of the SWEP, that include the PR3 Project and PRF Expansion Project, to meet member needs, the Authority must construct the new PR3 with a substantial completion date on or before June 1, 2027, to begin filling the new reservoir. The PR3 river intake pump station and 84-inch diameter pipeline need to be substantially complete by June 1, 2027, to take full advantage of the available withdrawals from the Peace River to the PR3 Storage Facilities. The PRF Expansion Project substantial completion will be June 1, 2028, to begin meeting member demands. The PR3 reservoir pump station and 54-inch diameter pipeline need to be substantially complete by June 1, 2028, to supply flows to the PRF Expansion Project. The Project may include construction of temporary and/or permanent office facilities for Respondent, Owner's Agent, and Authority staff.

The successful Respondent will enter into a contract with the Authority for Phase I Preconstruction Services, including the furnishing of a Phase II Construction Price Proposal which may be either a Guaranteed Maximum Price (GMP) or a Lump Sum price proposal as described in the Agreement. Phase II Construction Phase Services are not guaranteed and are subject to the review and negotiation process set forth in the Agreement and Board approval. If the Board accepts the Phase II Construction Price Proposal, the Authority will amend the Agreement to include Phase II Construction Services. Under the Agreement the Respondent must self-perform at least twenty five percent (25%) of the Phase II Construction Services for the Project.

The Respondent will perform the following tasks, at a minimum, during Phase I Preconstruction Services:

1. Coordination and Project Management
    a. Coordination with Authority staff, Authority's EOR, OA, and Respondent's staff including subcontractors and subconsultants as applicable.
    b. Review the 30% Design Plans for the PR3 Project Volumes I, II, III, and IV, to review engineer's cost estimates, develop a rough order of magnitude (ROM) construction cost estimate using an Authority-approved cost model, provide constructability review feedback, and identify value engineering opportunities.
    c. Provide an updated ROM, constructability reviews, and value engineering concepts with each subsequent design milestone for PR3 Volumes II, III, and IV.
    d. Maintain a Project Action and Decision Log showing the status and outcome from meeting action items.
    e. Submit monthly invoicing and summary of activity reports.
2. Scheduling
    a. Develop and maintain a master Project schedule that includes an updated forecast

of expenditures delivered monthly to the Authority from Phase I Preconstruction Services through Phase II Construction and Final Completion for the Project.

b. The schedule should highlight anticipated long lead items, opportunities for owner direct purchases and/or early out packages for long-lead items, the design milestone schedule and coordination activities, with consideration for regularly scheduled Authority Board meetings.

3. Risk Management
    a. Develop and maintain a Project risk register.
    b. Develop and maintain a safety plan that includes pertinent contacts.
4. Phase II Construction Price Proposal (GMP or Lump Sum)
    a. Develop proposal based on design plan set percent complete agreed to by the Authority utilizing the same cost model used for the ROMs developed for the earlier design milestones on the Project.
    b. Identify and prepare bid packages for the GMP, Early Procurement opportunities, or Early Work opportunities, respond to bidder questions, and prepare an analysis and summary of bids received.
    c. Provide proposed risk mitigation plans and associated contingency and allowance budgets.
    d. Details of the proposal contents are included in Exhibit C of the CMAR Agreement.
5. Third-Party Review
    a. Third-Party review of design plans, engineer's cost estimates, develop a ROM construction cost estimate using an Authority-approved cost model, provide constructability review feedback, and identify value engineering opportunities for Water Supply Projects listed in the 5-year CIP/20 -year CNA. This effort is strictly a review of documents and will not include any coordination or meetings with the EORs.

Potential for Federal Funds on Projects

Respondents are hereby placed on notice that the Authority may seek Federal funds for this Project; and therefore, all Respondents must be in compliance with the Federal Requirements listed in 2 C.F.R Part 200 (Uniform Guidance), including the required contract clauses detailed in 2 C.F.R. Part 200, Appendix II and Federal Labor Standards Provisions (Davis-Bacon and Related Acts 29 C.F.R Parts1, 3 and 5). See Exhibit G of the attached CMAR Agreement.

GENERAL PROJECT SCHEDULE

Milestone	Expected Date of Completion
(1) Advertise for Statements of Qualifications	06/30/2023
(2) Mandatory Pre-SOQ Meeting	07/14/2023
(3) Final Date for Questions	07/21/2023
(4) SOQ Submittals Due to the Authority	08/17/2023
(5) PSEC[(a)] Meeting	08/29/2023
(6) PSEC Presentations and Meeting/Ranking	09/12/2023
(7) Respondent's Selection by the Authority Board of Directors	10/04/2023
(8) Board approval of Phase I services contract w/ selected Respondent	12/06/2023

(a) PSEC = Professional Services Evaluation Committee. All PSEC meetings are publicly noticed.

The Authority reserves the right to delay scheduled dates if it determines that it is in the best interest of the Authority.

RESPONDENT SELECTION PROCESS

Respondent selection will be in accordance with Section 3 of the Authority's Procurement Policy (adopted December 2022, or latest revision). The Authority's Procurement Policy can be viewed in its entirety on the Authority's website at www.regionalwater.org. A copy of the Authority's CMAR Agreement is included in this information package.

The selection process for the Project includes two stages of review and ranking by the PSEC. The first stage includes the Respondents' submittal of the SOQ, followed by review and then scoring by the PSEC to shortlist the Respondents. The second stage includes the shortlisted Respondents' presentation and submittal of the technical presentation for the PSEC to rank. The PSEC will recommend for Board approval the award to the Respondent ranked first.

The CMAR Agreement contains minimum insurance requirements that must be satisfied for the contract to be executed by the Authority. The contents of the SOQ of the successful Respondent will be incorporated into a written agreement in terms acceptable to the Authority in its absolute discretion. **By submitting an SOQ, Respondent agrees to all the terms and conditions of this Request for Statements of Qualifications and those included in the CMAR Agreement.** Questions and clarifications related to this Request for Statements of Qualifications or the Authority's CMAR Agreement, must be submitted to the Authority as described below.

After issuance of this Request for Statements of Qualifications, prospective Respondents or their agents, representatives, or persons acting at the request of such Respondent are prohibited from contacting members of the Authority's Board of Directors and Executive Director or any member of a selection or negotiation committee, EOR, and OA concerning these issues until after the Board of Directors has made awards or when the solicitation has been canceled or terminated. Any questions concerning this Request for Statements of Qualifications must be presented in writing via email to **procurement@regionalwater.org** no later than 5:00 p.m. Eastern Standard Time on **July 21, 2023**, using "**SOQ Question: CMAR Services for PR3**" as the subject line. **Respondents are responsible for reviewing the Authority's website for any Addenda including the Authority's responses to any questions timely submitted.**

SOQ REQUIREMENTS

SOQs must include documentation to satisfactorily demonstrate all required information and may include supplemental information, as needed, to appropriately address any point or issue, provided that the submittal complies with all requirements of this Request for SOQs, including any page limit(s). The SOQ needs to only cover the Respondent's qualifications and general approach with respect to similar CMAR projects. Any Project-specific information in the SOQ will not be considered in the first stage scoring of the SOQ. The Project-specific technical approach will be considered in the second stage of the evaluation process with the shortlisted Respondents.

Submitted Statements of Qualifications must not exceed forty (40) pages in total and must include the following sections.

1. Letter of Transmittal & Delegation of Authority

   Letter of Transmittal (2-page limit does not count towards maximum page limit): Respondents must provide a letter of transmittal from the Primary Respondent firm submitting the SOQ, which must include the following:

   a. Full legal company name and Company type (i.e., Corporation, Partnership, Joint Venture (JV), etc.). Firm should be registered as a legal entity in the State of Florida.;
   b. Physical and mailing addresses (if different) and include any other location(s) which may perform portion(s) of the work;
   c. Primary company point-of-contact information (name, phone and email), and any secondary or supplemental point(s)-of-contact information;
   d. Names and titles of principals, partners, or owners as applicable;
   e. Brief statement of company history (date of establishment, number of years in business, number of employees, etc.);
   f. Brief description of business philosophy; and
   g. Brief statement regarding the Respondent's interest in this project.
   h. Brief statement regarding compliance with provisions as detailed in 2 C.F.R. Part 200 (Uniform Guidance), including the required contract clauses detailed in 2 C.F.R. Part 200, Appendix II and Federal Labor Standards Provisions (Davis-Bacon and Related Acts 29 C.F.R Parts1, 3 and 5).

   Delegation of Authority letter (Does not count towards maximum page limit): The Delegation of Authority letter is required for any representative(s) signing on behalf of the Respondent who are not principals, owners, partners, etc., for the Respondent firm. The Delegation of Authority must state the levels of authority delegated to each representative, must be on company letterhead, and must be signed by a principal/owner/partner (as applicable) of the Respondent firm.

2. General Approach and Safety

   Describe the Respondent Firm's **general approach** to delivering a similar CMAR project – from Phase I Preconstruction and GMP Proposal development through Phase II Construction, to startup and commissioning, acceptance testing, training, and close out.

   Describe the CMAR's collaborative approach to working with the Authority and EOR to provide input to the design development relating to constructability, facilitating workshops and project meetings participation, operation and maintenance of constructed facilities, equipment and materials availability, and procurement considerations.

   Provide the following safety metrics for the CMAR and its key subcontracting partners, if any, over the past three years:

   a. Experience Modification Rate (EMR)
   b. OSHA Total Recordable Incident Rate (TRIR)
   c. OSHA Lost-Time Incident Rate (LTIR)

3. Relevant Experience and Qualifications

Provide a brief overview of qualifications and relevant experience. At a minimum, the Respondent must possess an active Certified General Contractor (CGC) or a Certified Building Contractor (CBC) license from the State of Florida, Department of Business and Professional Regulation at the time of submittal. Further, the bidder's license may not have been suspended or revoked in the last five (5) years. Preference will be given to reference projects showing collaborative delivery methods (i.e., CMAR, Design-Build, or Progressive Design-Build), large diameter pressure pipelines (≥42-inch diameter), dewatering in high groundwater conditions (i.e., typical Florida conditions), and/or pump stations (≥200 HP pump motors, or ≥50 MGD pumping capacity) experience.

Complete the Reference Project Details portion of the Key Personnel and Reference Project Table (11"x17" size sheet allowed) showing reference projects performed by the Respondent Firm that are currently ongoing or completed in the last ten (10) years. Preference will be given to reference projects that are completed. Reference projects may include up to two (2) reference projects performed in the last ten (10) years from key subcontractors. The table should reflect projects of similar scope and/or value of the Project. **This table shall include five (5) reference projects**. In the table, also indicate which key proposed personnel participated on the reference project and in what capacity/role they served on the reference project, if any. Submit a Reference Form for each of the reference projects included in the table.

4. Key Personnel

Identify all Key Personnel and their current firm affiliations on the proposed CMAR team and describe their specific responsibilities / role during the Phase I Preconstruction and Phase II Construction phase of the Project. Provide both preconstruction-phase and construction-phase organizational charts (11"x17" sheets allowed for organizational charts) showing the reporting relationships and responsibilities of all Key Personnel along with their firm affiliations and describe the Respondent's approach to the management of such Key Personnel. Provide resumes for all Key Personnel (attached resumes shall not exceed two (2) pages each and will not count toward the overall page limit).

Qualifications Attachments (Do not count towards maximum page limit): Complete the following attachments:

a. Attachment A (11"x17" Sheet Allowed) – Key Personnel and Reference Project Table. Include all reference projects listed within this SOQ on the table and only Key Personnel. Key Personnel and Reference Project Table will also be utilized to evaluate the Respondent Team Location & Collaboration criteria as well as evaluate the Relevant Experience and Qualifications criteria.

5. Financial Capability and Legal

Financial Capability and Legal (Does not count towards maximum page limit): Respondents shall submit the following information in this section:

a. Complete the following attachments:
    i. Attachment B – Claims, Liens, and Litigation History
    ii. Attachment C – Affidavit of Solvency

b. Respondents shall demonstrate their financial strength and stability to successfully execute this project. The Respondent shall submit along with other information requested the **most recently audited, stamped, and embossed company balance sheet**
c. If the Respondent is a JV, the managing partner must be identified. All parties to the JV must submit an audited balance sheet and meet the financial ratios. The Respondent shall demonstrate that it is not subject to material adverse litigation and has sufficient liquidity in terms of cash flow and balance sheet strength. It is the responsibility of the Respondents to provide these financial indicators as part of their statement of qualifications as calculated from their most recently audited balance sheet (included). Minimum acceptable levels for these financial indicators are as follows:
    i. Times Interest Earned > 10.0
    ii. Revenue to Equity ≤ 18
    iii. Current Ratio ≥ 1.0
d. The selected firm will be required to provide a Performance Bond and Payment Bond as specified in Exhibit F of the Agreement. In the SOQ, Respondents shall provide evidence of their ability to maintain a Performance and Payment Bond in the amount of at least $150 million as well as evidence of the insurance limits stated in the standard contract.
e. Disclosure of whether Respondent previously represented or currently represents Charlotte, DeSoto, Manatee or Sarasota Counties, and/or the City of North Port ("Customers"), in any capacity, and description of such representation, if applicable.
f. Disclosure of any current litigation the Respondent is a) a party to, or b) directly or indirectly involved (e.g., retained for testimony and expertise on behalf of any other entity; subpoenaed; etc.) that is against the Authority or any of the Customers, and a description of such litigation, if applicable.
g. Summary and disposition of any individual cases of litigation, judgments and/or legal actions, entered against Contractor or sub-contractor(s) for breach of contract for work performed for any local, state, federal, public or private entity, by any state or federal court, within the last five (5) years.
h. Disclose if the Respondent is involved in an ongoing bankruptcy as a debtor, or in a reorganization, liquidation, or dissolution proceeding, or if a trustee or receiver has been appointed over all or a substantial portion of the property of the Respondent under federal bankruptcy law or any state insolvency law.

Required Forms (see copies attached below):

- Signed Sworn Statement under Section 287.133(3)(a), Florida Statutes, on Public Entity Crimes
- E-Verify Affidavit and Required Evidence
- Reference Forms
- Key Personnel and Reference Project Table
- Claims, Liens, Litigation History

The submission shall be limited to the page number maximums as listed in the SOQ requirements above. Front and back covers, table of contents, section dividers, Resumes, Section 1 contents, and Required Forms are excluded from the page limit. All pages shall be standardized 8 ½ x 11 inches in size, margins not less than 1-inch, standard black text and minimum 12-point font size unless section indicated that pages 11 x 17 inches in size are allowed. Font on graphics may be reduced

to 10-point font size. Overall SOQ will be formatted for printing from the submitted PDF.

Respondents desiring to provide these services to the Authority must submit a single electronic file in searchable PDF format of their statement of qualifications in accordance with the requirements contained in the information package via email to procurement@regionalwater.org, using "Response to SOQ: CMAR Services for PR3 Pumping and Conveyance" as the subject line.

As a courtesy, the Authority will endeavor to provide an email acknowledgement usually sent within a few days after submission receipt (submissions received on the day of the deadline may not be acknowledged before the deadline or at all). It is the Respondent's responsibility to confirm its submission (PDF file) has been received. The Authority can receive files up to 100 MB in size.

A Respondent's SOQ must be received no later than **10:00 a.m. Eastern Standard Time on August 17, 2023,** at the above referenced email address. The Authority will not be responsible for any lost or late arriving statement of qualifications sent electronically. Late submittals will not be opened or considered. SOQs that are incomplete, conditional, obscure, or do not conform to the requirements contained in this Request for Statements of Qualifications may be rejected as nonresponsive at the sole discretion of the Authority. The Authority reserves the right to reject all responses and not grant any award resulting from this Request for Statements of Qualifications. The Authority also reserves the right to waive nonmaterial irregularities and technicalities and to re-advertise for additional statement of qualifications. If awarded, no contract will be formed between the Respondent and the Authority until an agreement is executed by both parties.

Upon submittal of its SOQ, the Respondent agrees to be bound by all terms and conditions of the Request for Statements of Qualifications. Neither the Authority nor its representatives will be liable for any expenses incurred in connection with preparation of a response to this Request of Statement of Qualifications. By submitting on this SOQ, the Respondents acknowledge their team is willing and capable to perform the work required for the Project.

Pre-SOQ Meeting

A Mandatory Pre-SOQ Meeting will be held on July 14, 2023, beginning at 10 a.m. EST at the Peace River Facility, located at 8998 SW County Road 769 Arcadia, Florida 34269. Respondents are required to attend the meeting; however, subconsultants to Respondents are not required to attend. Prospective Respondents are responsible for ensuring their presence is reflected on the Official Sign-In/Sign-Out Sheet at the Mandatory Pre-SOQ Meeting. A representative of the Respondent does not include a subcontractor of the Respondent. **SOQS RECEIVED FROM FIRMS NOT REPRESENTED ON THE OFFICIAL SIGN-IN/SIGN-OUT SHEET FROM THE MANDATORY PRE-SOQ MEETING WILL BE REJECTED.** A non-mandatory site visit will be held immediately after the conference. Failure of a Respondent to attend the mandatory Pre-SOQ Meeting in its entirety will result in a disqualification. No questions will be addressed at this meeting or site visit and Respondents are required to submit questions via email as described in this SOQ.

FIRST STAGE - SOQ EVALUATION CRITERIA

The following criteria, with the maximum scores indicated, will be used to evaluate qualifications:

First Stage Criteria	Maximum score
1. Safety, Collaboration, & Location (Section 2 and Key Personnel and Reference Project Table)	25 points
2. Relevant Experience & Qualifications (Section 3 and Key Personnel and Reference Project Table)	40 points
3. CMAR Team & Staff Qualifications (Section 4 and Key Personnel and Reference Project Table)	40 points
4. Financial Capability and Legal	Pass/Fail
TOTAL	105 points

All Respondents (with a Pass on the Financial Capability and Legal section) and completed qualifications will be evaluated by the PSEC to determine a shortlist of Respondents to submit on the Second Stage Technical Presentations.

SECOND STAGE – TECHNICAL PRESENTATION

The Respondents shortlisted by the Authority through the evaluation of qualifications will submit and present their technical presentation for ranking by the PSEC as provided herein. The presentations will be submitted by the Respondents to the Authority on a USB Drive at the conclusion of their formal, in-person presentation. At the conclusion of all presentations, the PSEC members will each rank the Respondents (i.e., 1st Place, 2nd Place, 3rd Place, etc.) based on the Second Stage Components. After the rankings by each PSEC member are averaged, the top Respondent will be recommended to the Board for selection on the Project. The rankings from the PSEC will be recorded; however, the PSEC scoring from the first stage will not be recorded and will not affect the Technical Presentation ranking. The Technical Presentation will provide a Project-specific approach for the items listed below. **The Respondents will have up to 30 minutes for their Technical Presentations with a question-and-answer period to follow.**

Technical Presentation Components

1. CMAR Schedule: Present a Project-specific schedule with key milestones to meet the timeframes in this SOQ. Identify any critical path items for the Project and any approach to ensuring the timeframes are adhered to.

2. CMAR Technical Approach: Present the most critical aspects of the milestone design reviews, value engineering input, constructability, cost model, meeting Envision verification requirements, and construction of the Project, and the approach to addressing them (including previous history of addressing similar project aspects).

3. CMAR Innovative Ideas: Present any design or construction related innovative ideas the CMAR team has for the Project. This could include but it is not limited to ideas related to cost savings, pipeline alignment, facility placement, reducing impacts to the public or the environment, material selection considerations, sequencing of construction, startup and commissioning, ease of future maintenance, etc.

Handouts or other displays (of any dimension) are permitted at the presentation; however, the digital version of the handouts must be included on the USB Drive submitted at the conclusion of the presentation.

SCRUTINIZED COMPANIES

A company that, at the time of bidding or submitting a SOQ for a new contract or renewal of an existing contract, is on the Scrutinized Companies that Boycott Israel List, or is engaged in a boycott of Israel, shall be ineligible for, and may not bid on, submit a SOQ for, or enter into or renew a contract with an agency or local governmental entity for goods or services of any amount.

Similarly, a company that, at the time of bidding or submitting a SOQ for a new contract or renewal of an existing contract, is on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or has been engaged in business operations in Cuba or Syria, shall be ineligible for, and may not bid on, submit a SOQ for, or enter into or renew a contract with an agency or local governmental entity for goods or services of one million dollars or more. By submitting a SOQ, Respondent must certify that it is not on the aforementioned lists.

PUBLIC ENTITY CRIMES

A person or an affiliate who has been placed on the convicted vendor list following a conviction for public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of public building or public work, may not submit bids, statements of qualifications, proposals, or replies on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or Respondent under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, Florida Statutes, for category two for a period of thirty-six (36) months from the date of being placed on the convicted vendors list. Respondent shall submit with its SOQ a properly executed and notarized Public Entity Crimes Statement, attached hereto.

DISCRIMINATORY VENDOR LIST

An entity who has been placed on the discriminatory vendor list may not submit a bid, statement of qualifications, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, statement of qualifications, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, statement of qualifications, proposals, or replies on leases or real property to a public entity;

may not be awarded or perform work as a contractor, supplier, subcontractor, or Respondent under a contract with any public entity; and may not transact business with any public entity. By submitting a SOQ to this solicitation, Respondent certifies that it is not on the discriminatory vender list.

CONFLICT OF INTEREST

All Respondents must disclose in their SOQ the name of any officer, director, or agent who is also an employee of the Authority. Further, all Respondents must disclose the name of any employee of the Authority who owns, directly or indirectly, an interest in the Respondent's firm or any of its subsidiaries.

PARTICIPATION IN E-VERIFY SYSTEM

Every public employer, Respondent/contractor, and sub-Respondent/contractor shall register with and use the E-Verify System to verify the work authorization status of all newly hired employees. By submitting a SOQ, Respondent certifies that it has registered for and will use the E-Verify System.

PROCUREMENT POLICY AND BID PROTESTS

Respondent is hereby placed on notice of the existence of the Authority Procurement Policy, December 2022 (or latest revision) ("Procurement Policy") and is considered to be on constructive notice of all provisions contained therein. A copy is available at the Authority's Administrative Office at 9415 Town Center Parkway, Lakewood Ranch, Florida 34202 and on the Authority's website at www.regionalwater.org. The Authority shall post the intended decision or Board decision on the Authority's website at www.regionalwater.org. Notwithstanding the Procurement Policy, disputes regarding the bidding process shall be resolved in accordance with Section 120.57(3), Florida Statutes. Failure to file a protest within the time prescribed in Section 120.57(3), Florida Statutes, or failure to post the bond or other security required by law within the time allowed for filing a bond shall constitute a waiver of proceedings under Chapter 120, Florida Statutes.

PUBLIC AVAILABILITY OF RECORDS

Once opened, all SOQs will become the property of the Authority and, at the sole discretion of the Authority, may not be returned to Respondent. Any information, reports, or other materials given to, prepared, or submitted in response to this Request for Statements of Qualifications will be subject to the provisions of the Public Records Act, Chapter 119, Florida Statutes. If Respondent believes any information provided to the Authority is exempt from public records disclosure under Florida laws including Chapter 119, Florida Statutes, Respondent must clearly mark the record as exempt (for example, "Trade Secret – Exempt from Public Disclosure.") Respondent must also provide the Authority with the specific statutory citation for such exemption. In the event a dispute arises regarding a public records request, Respondent has sole responsibility to take all legal measures necessary to protect the record from disclosure. Section 119.071(1)(b), Florida Statutes, exempts sealed SOQ from inspection, examination, and

duplication until such time as the Authority issues a notice of intended decision pursuant to Section 120.57(3)(a), Florida Statutes, or within thirty (30) days after the SOQ opening, whichever comes first. This exemption is not waived by the public opening of the SOQ. **ANY QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THIS REQUEST FOR STATEMENT OF QUALIFICATIONS CAN BE DIRECTED TO THE AUTHORITY'S PUBLIC RECORDS CUSTODIAN BY TELEPHONE AT (941) 316-1776, OR BY EMAIL AT PEACERIVER@REGIONALWATER.ORG, OR 9415 TOWN CENTER PARKWAY, LAKEWOOD RANCH, FLORIDA 34202.**

SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1) This sworn statement is submitted to PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY by _____
(Print individual's name and title)

for _____
(Print name of entity submitting sworn statement)

whose business address is _____

and (if applicable) its Federal Employer Identification Number (FEIN) is _____
(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____).

2) I understand that a "public entity crime" as defined in Section 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid, statement of qualifications, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Section 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an "affiliate" as defined in Section 287.133(1)(a), Florida Statutes, means:

a) A predecessor or successor of a person convicted of a public entity crime; OR

b) An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Section 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. **(Indicate which statement applies.)**

____ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives,

partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list**. (Attach a copy of the Final Order.)**

I UNDERSTAND THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES, FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

_____
(Signature) (Date)

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this ____ day of _____, 20____ by _____ as _____ of _____, a _____ company organized under the laws of the State of _____, on behalf of the company, who is personally known to me or has produced _____ as identification.

_____
Notary Public

_____
Name typed, printed or stamped

My Commission Expires: _____

REFERENCE FORM
PROJECT NO. *X*, (*PROJECT NAME)*

Respondent:_____

Role on Reference Project (Prime, Sub-Contractor, Engineer of Record, etc.)_____

Reference Entity:_____

Reference Contact Person:_____

Reference Address:_____

Reference Email Address:_____

Reference Phone No.:_____

Project Delivery Method: _____

Project Location:_____

Respondent Project Manager:_____

Project Engineer of Record:_____

Date Project Commenced:_____

Date of Final Completion or Status:_____

Project Budget at NTP ($ million not including contingency and allowance): _____

Project Cost at Final Completion ($ million including contingency and allowance):_____

Preference Satisfied: ☐ 3.a. ≥42-inch Pipeline ☐ 3.b. ≥50-MGD Capacity or ≥200 HP Pump Station

☐3.c. Alternative Project Delivery ☐3.d High Groundwater Conditions

Description of Work Performed and Explanation of Differences in Budget and Final Cost:_____

Contract Holder E-Verify Registration and Affidavit

As provided in Section 33 of the Agreement, pursuant to Section 448.095, Florida Statutes, beginning January 1, 2021, Contract Holder shall register with and use the U.S. Department of Homeland Security's E-Verify system, (https://e-verify.uscis.gov/emp) to verify the work authorization status of all Contract Holder employees hired on and after January 1, 2021. Additionally, Contract Holder shall require all sub-Contract Holders performing work under this Agreement to use the E-Verify system for any employees hired on and after January 1, 2021. Contract Holder must provide evidence to the Authority of compliance with Section 448.095, Florida Statutes, prior to entering the Agreement.

Affidavit

I hereby certify that _____(Contract Holder) does not employ, contract with, or subcontract with any unauthorized aliens, and is otherwise in full compliance with Section 448.095, Florida Statutes.

All employees hired on or ager January 1, 2021, have had their work authorization status verified through the E-Verify system.

A true and correct copy of _____(Contract Holder) proof of registration in the E-Verify system is attached to this Affidavit.

_____
Signature Date

_____
Print Name

STATE OF _____

COUNTY OF_____

The foregoing instrument was acknowledged before me by means of □ physical presence or □ online notarization, this _____ day of _____, 20___ by _____ (name of officer or agent, title of officer or agent) of _____(name of Contract Holder company acknowledging), a _____ (state or place of incorporation) corporation, on behalf of the corporation. He/she is personally known to me or has produced
_____ (type of identification) as identification.

_____
Notary Public

_____
Name typed, printed or stamped

My Commission Expires: _____

ATTACHMENT A

KEY PERSONNEL AND REFERENCE PROJECT TABLE

ATTACHMENT B

CLAIMS, LIENS, LITIGATION HISTORY

1. Within the past 5 years, has your organization filed suit or a formal claim against a project owner (as a prime or subcontractor) or been sued by or had a formal claim filed by an owner, subcontractor or supplier resulting from a construction dispute? Yes ____ No ____
   If yes, please attach additional sheet(s) to include:
   Description of every action Captions of the Litigation or Arbitration
   Amount at issue: _____ Name (s) of the attorneys representing all parties:
   _____
   Amount actually recovered, if any: _____
   Name(s) of the project owner(s)/manager(s) to include address and phone number:
   _____
2. List all pending litigation and or arbitration.
3. List and explain all litigation and arbitration within the past five (5) years - pending, resolved, dismissed, etc.
4. Within the past 5 years, please list all Liens, including Federal, State and Local, which have been filed against your Company. List in detail the type of Lien, date, amount and current status of each Lien.
   _____
   _____
   _____
5. Have you ever abandoned a job, been terminated or had a performance/surety bond called to complete a job? Yes_____ No _____ If yes, please explain in detail:
   _____
   _____
   _____
6. For all claims filed against your company within the past five-(5) years, have all been resolved satisfactorily with final judgment in favor of your company within 90 days of the date the judgment became final? Yes_____ No _____ If no, please explain why?
   _____
   _____
7. List the status of all pending claims currently filed against your company:
   _____

Liquidated Damages

1. Has a project owner ever withheld retainage, issued liquidated damages or made a claim against any Performance and Payment Bonds? Yes_____ No _____ If yes, please explain in detail:
   _____
   _____

(Use additional or supplemental pages as needed)

ATTACHMENT C

AFFIDAVIT OF SOLVENCY

PERTAINING TO THE SOLVENCY OF _____ (Respondent), being of lawful age and being duly sworn I, _____ (Affiant), as

_____(Title) *(ex: CEO, officer, president, duly authorized representative, etc.)* hereby certify under penalty of perjury that:

1. I have reviewed and am familiar with the financial status of above stated entity.

2. The above stated entity possesses adequate capital in relation to its business operations or any contemplated or undertaken transaction to timely pay its debts and liabilities (including, but not limited to, unliquidated liabilities, unmatured liabilities and contingent liabilities) as they become absolute and due.

3. The above stated entity has not, nor intends to, incur any debts and/or liabilities beyond its ability to timely pay such debts and/or liabilities as they become due.

4. I fully understand failure to make truthful disclosure of any fact or item of information contained herein may result in denial of the application, revocation of the Certificate of Public Necessity if granted and/or other action authorized by law.

The undersigned has executed this Affidavit of Solvency, in his/her capacity as a duly authorized representative of the above stated entity, and not individually, as of this _____ day of _____, 20_____.

_____
Signature of Affiant

STATE OF_____
COUNTY OF_____

Sworn to (or affirmed) and subscribed before me by means of ☐ physical presence or ☐ online notarization, this ____ day of _____, 20___, by Affiant. who is personally known to me or has produced_____ as identification.

_____
Notary Public

_____
Name typed, printed or stamped

My Commission Expires: _____

TAB C
Statements of Qualifications

PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY

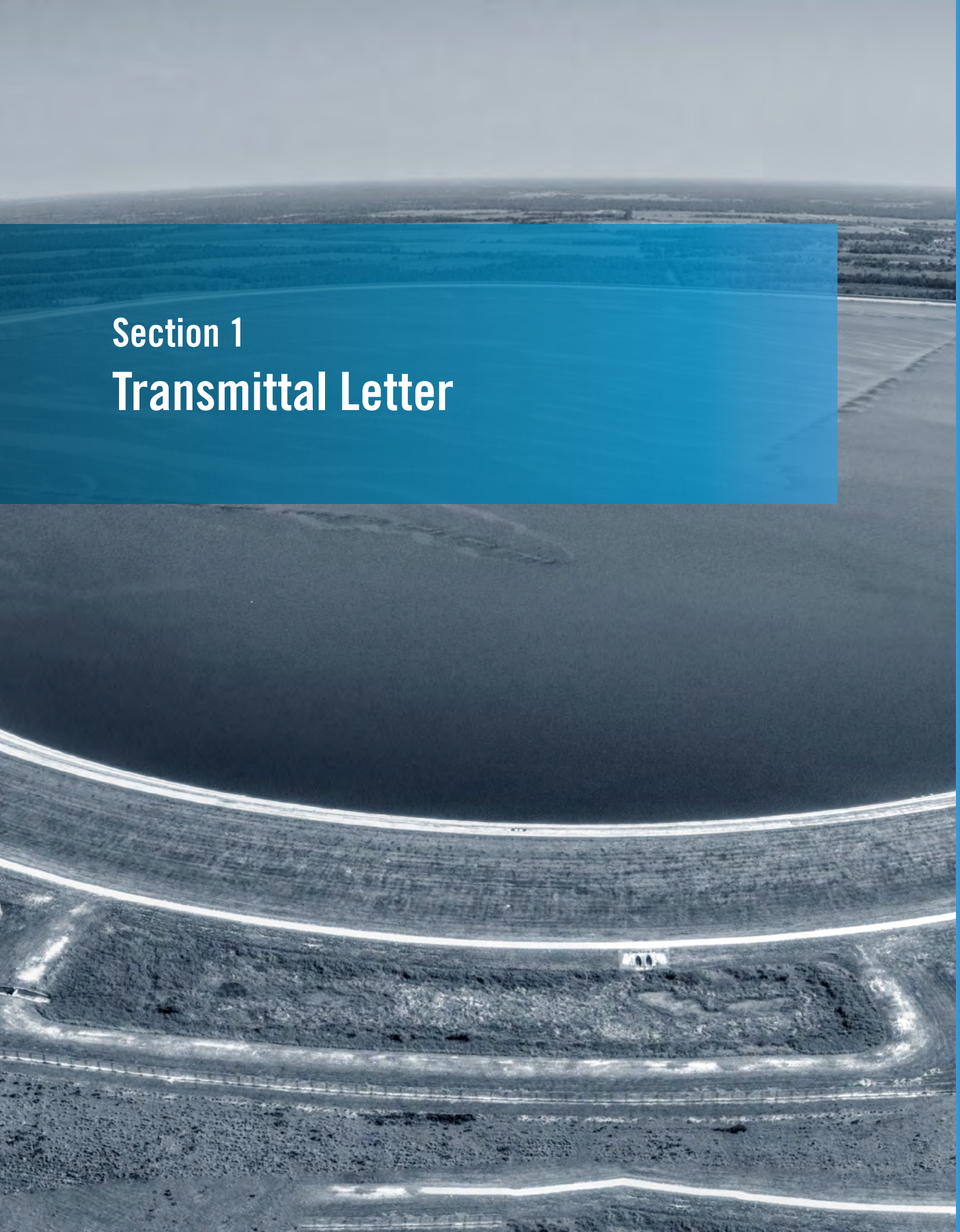
CMAR SOQ

PR3 PUMPING AND CONVEYANCE FACILITIES

RESPONDENT: Archer Western
4343 Anchor Plaza Pkwy
Suite 155
Tampa, FL 33634
P: 813.849.7500

DATE SUBMITTED: August 17, 2023

TABLE OF CONTENTS



Section 1
Transmittal Letter

August 17, 2023

Peace River Manasota Regional Water Supply Authority
Attn: Professional Services Evaluation Committee
9415 Town Center Parkway
Lakewood Ranch, FL 34202

RE: Response to SOQ - CMAR Services for PR3 Pumping and Conveyance

Dear Members of the Selection Committee:

We commend the Peace River Manasota Regional Water Supply Authority (Authority) in choosing to use the CMAR delivery method for the PR3 Pumping and Conveyance (PR3) Project. CMAR is perfectly suited for reducing project schedule, budget, risk, and to deliver a cost-effective solution in this challenging market.

As the trusted entity for supplying water to the four County service area, the Authority continues to deliver on it's mission with the Peace River Regional Reservoir No. 3 (PR3) program. This visionary project will continue to ensure a sustainable and economically responsible water supply to a growing region. **Archer Western Construction, LLC (Archer Western)** is excited at the opportunity to be a part of this vision.

THE ARCHER WESTERN ADVANTAGE

- A team of local leaders and national experts 100% available to manage this large CMAR program.
- A hands on dedicated Project Executive in Bob Bruner who has been a part of more than 100 collaborative delivery projects and successfully managed large CMAR programs.
- Over 500 local craft labor force who have delivered projects including pipelines and pump stations in similar Florida groundwater conditions.
- A trusted partner who will work side by side with the Authority, EOR, and OA with an open book cost model and honest risk and schedule discussion.
- Quality, Safety and Value dedication at each step.

Constructing a large integrated program requires a team with a world-class resume and experience as a CMAR on similar large, complex collaborations. We take our commitments seriously and have assembled a project team specializing in large diameter pipelines, large pump stations, high groundwater conditions, and managing self-perform scopes of work.

We thank you for the opportunity to present our qualifications and look forward to discussing our approach to accelerate the project schedule, establish price certainty while maintaining tight control over quality and risk. We are excited to serve the Authority and exceed your expectations as your chosen CMAR team.

Sincerely,

David Walker
Vice President

4343 Anchor Plaza Parkway, Suite 155, Tampa Florida 33634
P: 813.849.7500 F: 813.849.7581 www.walshgroup.com
An Equal Opportunity Employer, Disability/Veteran

A. LEGAL COMPANY NAME AND COMPANY TYPE

Archer Western Construction, LLC

B. PHYSICAL/MAILING ADDRESS

4343 Anchor Plaza Parkway, Suite 155,
Tampa, FL 33634

C. POINT OF CONTACT

Bob Bruner, Project Executive
Tel: 317.790.9239
rbruner@walshgroup.com

D. PRINCIPALS

Archer Western Construction, LLC

Daniel P Walsh President
Matthew M. Walsh, IV Corporate Secretary
Timothy S. Gerken Treasurer

WATER GROUP

Roy Epps President
Duane Petersen COO

We acknowledge receipt of Addendum No. 1.

E. COMPANY HISTORY

Our story began with Matthew Myles Walsh's small carpentry business in 1898. Since then, our company has evolved through four generations of family ownership to become the nations largest water resource contractor with more than 8,000 skilled tradespeople and professional staff.

F. BUSINESS PHILOSOPHY

As a family owned company, we have built our reputation over 125 years on a dedication to customer service, while upholding the highest standards of ethics, quality, and safety.

G. STATEMENT OF INTEREST

Archer Western has a shared interest with the Authority, in contributing to the success of the PR3 Pumping and Conveyance Project. Our pursuit of the PR3 Project is an opportunity to apply the recent success of our Lower Bois d'Arc team's performance to a project of similar size and scope, and combine it with our substantial knowledge of local conditions, to provide the Authority with a high quality product serving as a legacy for future generations in this thriving community.

We have the local capacity, expertise, and enthusiasm to work cohesively with all stakeholders, and will be a complimentary addition to the Authority's strong team of Engineers and Advisors.

H. COMPLIANCE WITH PROVISIONS

Archer Western has extensive experience complying with Federal regulations including Federal Acquisition Regulation (FAR) and the Code of Federal Regulations (CFR) including Title 2 - Grants and Agreements the required contract clauses detailed in 2 C.F.R. Part 200, Appendix II and Federal Labor Standards Provisions (Davis-Bacon and Related Acts 29 C.F.R Parts1, 3 and 5). Archer Western agrees to fully comply with all these regulations and codes required as part of this solicitation and any contracts that result from it.

2022 ENR INDUSTRY RANKINGS

#1 Wastewater Treatment Plant Contractor

#2 Water Treatment PlantContractor

#5 Water Supply Builder

$10 Billion in Water Collaborative Delivery Contracts Delivered

Resolution of the Members of
Walsh Construction Group, LLC Granting Signature
Authority for Archer Western Construction, LLC

I hereby certify that I am the Managing Director of Walsh Construction Group, LLC, a limited liability company formed under the laws of the State of Illinois ("Company"), and that the following is a correct and true copy of a resolution duly and unanimously adopted by the Members of Walsh Construction Group, LLC, Manager of Archer Western Construction, LLC, at a meeting held the 25th day of July, 2022, at which time the following resolutions were duly adopted in accordance with the procedures set forth in the limited liability agreement of the Company and that said resolutions have not been amended, rescinded or revoked, and are in no way in conflict with any of the provisions of the Company's limited liability agreement.

BE IT RESOLVED by this Board of Directors that the following individuals, in addition to any other individuals previously authorized by resolution, are and shall hereinafter be duly authorized to execute legal documents that bind Archer Western Construction, LLC regarding all matters, including but not limited to bonds, bid proposal documents and contracts:

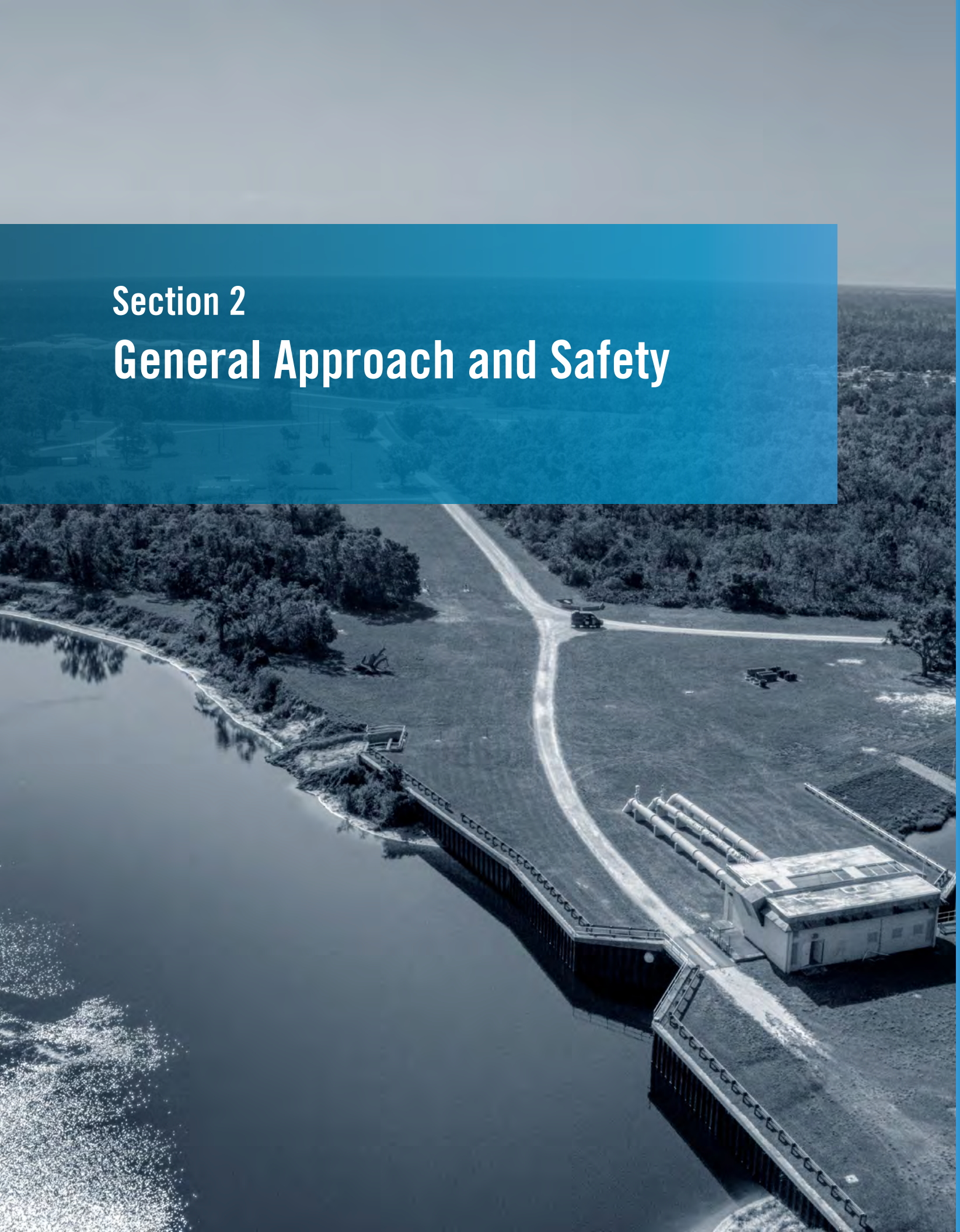
David Walker

BE IT FURTHER RESOLVED that the foregoing resolution shall continue in force until express written notice of its rescission or modification has been received.

IN WITNESS WHEREOF, I have hereunto set my hand and the Seal of the Walsh Construction Group, LLC this 25th day of July, 2022.

Matthew M. Walsh IV
Secretary
Walsh Construction Group, LLC

Section 2
General Approach and Safety



COLLABORATIVE GENERAL PROJECT APPROACH

Since 2002, Archer Western has pioneered the use of CMAR on water infrastructure projects, we are regarded as the industry expert on CMAR and collaborative delivery project execution.

The Authority is proactively investing in the Surface Water Expansion Project (SWEP) to provide additional, reliable water capacity to member constituents. We understand the goals of the project and the desire to construct a system to serve the region for the next century. To achieve your goals and objectives, a construction manager must be selected who fully understands these objectives and offers proven approaches, along with a local reputation of collaborating with clients. Archer Western is uniquely positioned to deliver on the Authority's objectives of:

- Public Health and Safety
- Good Stewards of Member Governments Investments
- Provide a Reliable Sustainable Resource
- Provide for Future Economic Growth

This section details our general approach utilizing each of our five selected projects, detailed in Section 3, with a focus on the Lower Bois d'Arc Program, to showcase our proven similar and relevant CMAR success. Archer Western's CMAR approach begins and ends with the people. ***Bob Bruner, Project Director,*** brings the experience and know-how on large CMAR programs with multiple parties to create true collaboration and trust. ***Jeff Polak, Preconstruction Manager,*** brings his first-hand knowledge obtained from the Lower Bois d'Arc Program, to set up the PR3 program to meet the Authority's vision of success. The Lower Bois d'Arc project is discussed frequently, as it was nearly identical to the Authority's goals and scope for the PR3 Project.

ROADMAP FOR SUCCESSFUL PROJECT DELIVERY

Our unique processes, systems, and tactics follow a project plan, which begins by listening carefully to our clients and ends by delivering on our promises to meet your expectations. We use tactics described herein to successfully accomplish hundreds of collaborative delivery water infrastructure projects. We judge the success of a project by an Owner getting the best value for their investment. *Exhibit 1*, depicts our "roadmap", which aligns our core activities, for successful project delivery, with the draft preconstruction scope of services provided by the Authority, forming the foundation of our CMAR approach.

> *Archer Western was a key part of the [Bois d'Arc] team...Their team's collaborative approach and integration with the various program and design teams during the CMAR preconstruction phase set the project on the right course towards completion. Ultimately, AW's experienced team in the field, execution of the work, and exceptional management of their subcontractors got the job done at some critical components of the overall program in the dam, reservoir, intake, raw water pump station and terminal storage reservoir.*
>
> — **ADAM PAYNE, PE, CCM,** *Vice President, Freese & Nichols*

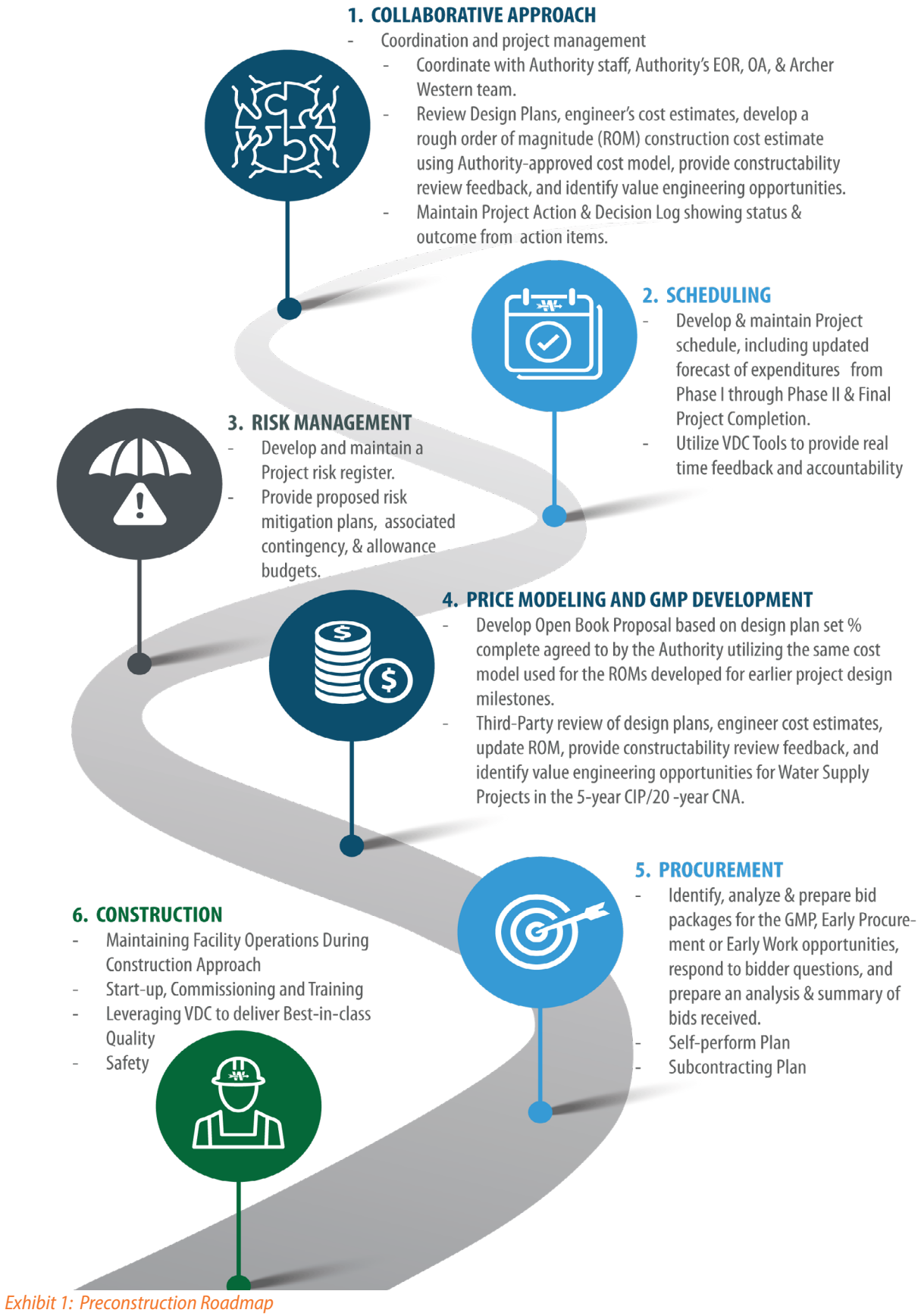


Exhibit 1: Preconstruction Roadmap

1. COLLABORATIVE APPROACH

A collaborative relationship ensures all parties are working together to achieve common goals, and any issues arising can be resolved in a timely and effective manner with our core team within an hour from the jobsite.

Establishing a collaborative relationship between the Authority, HDR, Hazen, B&C, and Archer Western is imperative for project success. At our first Kickoff meeting, we set the tone for the project with a Partnering Charter, committing to upholding a collaborative atmosphere among all team members, which we have done on all our CMAR projects. The charter is reviewed on a quarterly basis through Executive Meetings, which are held quarterly with project leaders to discuss overall project health. These open and candid meetings focus on overall team collaboration and identifying potential issues before they escalate. *Exhibit 2* highlights the essential concepts and commitments required by the charter.

Exhibit 2: Essential Collaboration Concepts

A recent example of our effective collaboration: The City of St. Petersburg faced a difficult schedule challenge for a consent order project. Our team delivered a functional pump station and force main within 13 months of Notice-to-Proceed due to our open, honest, and collaborative environment established early on.

> The Lift Station 87 project was a great success for the City of St. Petersburg. The Archer Western team formed a true partnership with the City from the very beginning. This partnership allowed our team to work collaboratively to overcome supply chain issues, budget constraints, and schedule demands to meet a critical completion milestone for the City.
>
> — **SCOTT KEDDY**, City of St. Petersburg

Recipient of three 2023 Awards:

- *DBIA National Award of Merit in Water/Wastewater*
- *DBIA Florida Region, Honor Award - Small Project*
- *ENR Southeast Award of Merit, Water/Environment*

Preconstruction Management and Facilitating Workshops

Our kick-off meeting includes a partnering session to ensure all individuals involved in the project establish a personal connection to each other and the project goals are clearly defined. The partnering session is an in-person event including all influential stakeholders from Owner's advisors, engineers and operational staff, the EOR design team, subconsultants, preconstruction and construction teams, subcontractors and other engaged entities, such as member governments, regulators, power utility and public outreach staff.

Our preconstruction process for design progression, support, constructability reviews and project team communication includes establishing regular bi-weekly update meetings, where invitees attend in-person or virtually, to increase stakeholder participation. Regular meetings support the design development more effectively and allow teams to respond to potential concerns in a timely manner. On our Lower Bois d'Arc project, ***Preconstruction Manager, Jeff Polak:***

- Led all coordination of design and constructability reviews
- Facilitated CMAR support to the EOR
- Maintained an action list for each meeting
- Delegated deliverables, with attainable time frames working within the schedule
- Maintained an updated cost model for the entire program, which was reviewed at bi-weekly meetings, and as design options were discussed
- Presented real-time estimating impacts to allow appropriate decisions to be made by the NTMWD, EOR and CMAR team jointly.
- Led the CMAR team in identifying and presenting value engineering ideas, allowing ample time for NTMWD and the EOR to provide feedback to construction-related concerns, feasibility, or conditions mitigating potential project challenges.

Archer Western coordinated with the entire project team to establish a schedule for anticipated workshops during the preconstruction phase. These in-person workshops are critical to remain on schedule and for involvement of project stakeholders. Example workshops we used during the Lower Bois d'Arc project include:

Workshop	Goal
Partnering	Scheduled immediately after contract execution and included all project stakeholders to establish project goals, team communication protocols, and build relationships within team structure.
Initial 30% Design Review	Reviewed design and anticipated scope work, program schedule, and current estimated costs developed by NTMWD staff.
30% Estimate, Schedule, VE	Scheduled three weeks after initial workshop. Presented CMAR detailed cost model as compared to NTMWD budget, updated program schedule and value engineering or constructability improvements. Began development of Risk Register.
Risk Management	Presented a detailed list of program risks and mitigation options. Developed alignment on mitigation strategies which were incorporated moving forward.
60% Design Review	Scheduled three weeks after 60% design deliverable. Reviewed 60% design documents and stakeholder comments, 60% cost model updates, schedule updates and Risk Register review.
GMP Development	Scheduled one month before GMP submission workshop. Established parameters around organization of GMP, contingencies to manage risks, bid tabs and documentation requirements, level of details anticipated for approval, and reviewed workshop preparation.
GMP and Schedule Submission	Presented all GMP details to project team for discussion. Determined any changes or updates needed before moving to the approval phase.

2. SCHEDULING

A fundamentally sound schedule serves as the backbone for critical infrastructure projects to ensure a coordinated, efficient and timely delivery.

Informed by our recent successful timely delivery of the similar Lower Bois d'Arc program for NTMWD, our team is uniquely positioned to utilize a similar, highly successful scheduling approach for the PR3 Project and overall SWEP implementation. Central to our scheduling approach is the recognition of the close collaboration between all stakeholders to develop a robust sequence of activities to meet the program goals. Our approach recognizes the critical importance of developing the preliminary project schedule within the first 100 days, ensuring all time related risks and opportunities are captured.

Vernon Perdue, Construction Manager, J.D. Gillespie, Pipeline Project Manager, and ***Justin Hale, Pump Station Project Manager***, are experienced construction veterans and consistently deliver projects safely, and ahead of time, as they did on the Award Winning Lift Station 87 project for the City of St. Petersburg. With any project, the schedule is essential and we begin the process during the procurement phase. Working closely with ***Jeff Polak, Preconstruction Manager,*** our team has already generated a **724** activity sample gantt chart for the PR3 project, utilizing Jeff's expertise from the Lower Bois d'Arc project. This prework positions the team to collaborate with the project stakeholders beginning

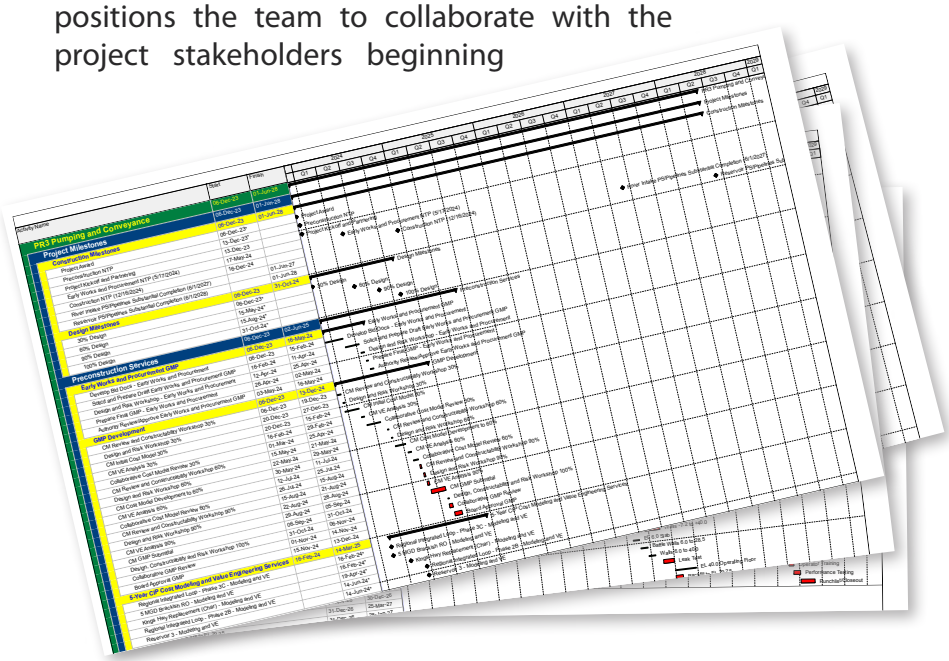
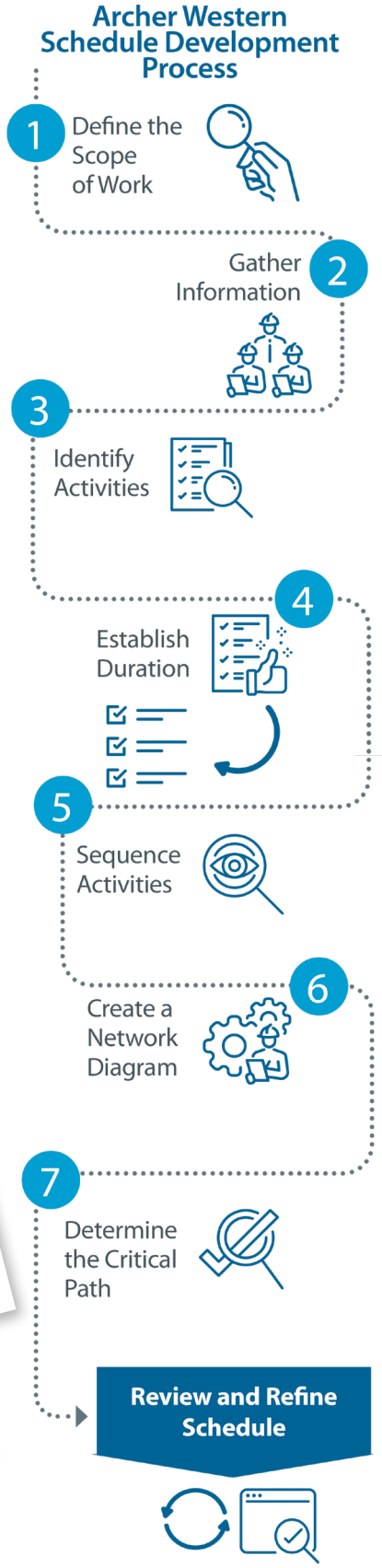


Exhibit 3: Photo of PR3 Sample Schedule



on day one with a goal of providing a finalized preliminary baseline schedule **within 45 days** of project award.

Utilizing VDC Tools for Real Time Tracking and Accountability

We make full utilization of Virtual Design and Construction (VDC) tools, which synchronize schedule, design, and cost data. Incorporating the schedule into the virtual environment enables real time tracking and accountability. "What if" scenarios are presented for side-by-side comparison to facilitate an informed decision-making process and facilitate advancements in development of MOPO strategies. The result of these efforts are a realistic construction schedule based on solid technical and commercial decisions, representing the best overall value, while providing a balanced approach to risk, cost, and construction schedule duration. The real time visual offered by the virtual environment enables all stakeholders to be fully accountable to the schedule from Preconstruction through Construction.

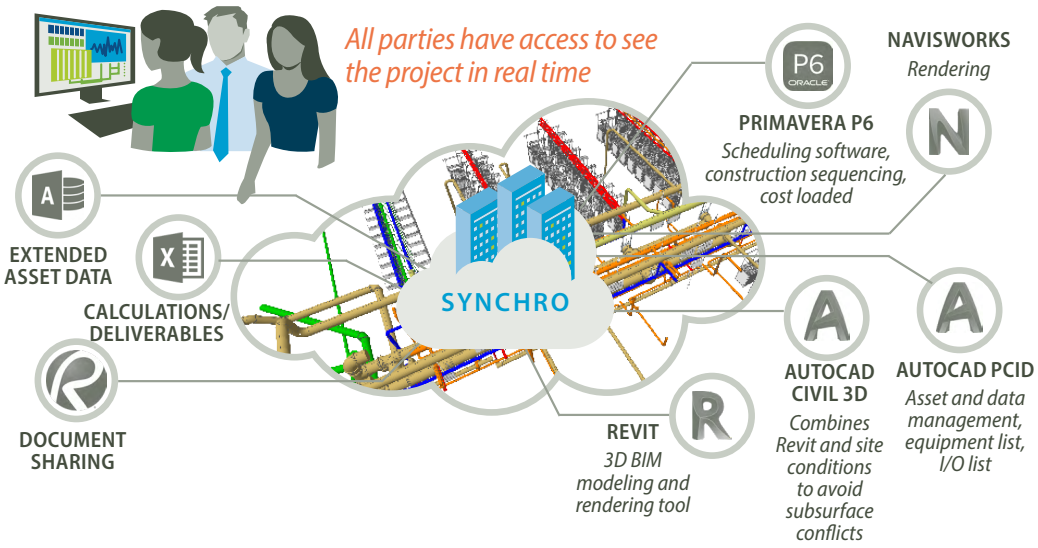


Exhibit 4: Connecting Design with Related Cost and Schedule Information, in a 5D VDC Environment

3. RISK MANAGEMENT

A Risk Register is a living document tracking and mitigating risks throughout the project.

The CMAR process allows Archer Western, the Authority, OA and EOR staff to work collaboratively at an early stage of the project to identify key risk factors. We identify potential risks and mitigation strategies. Each risk item is quantified with a risk rating, which is calculated on the probability of occurrence and the impact of each risk event. At project commencement, mitigation strategies are evaluated to include a cost/benefit analysis to prioritize resources. We review the Risk Register during Risk Management Workshops, using it as a guide for establishing actions and to help develop a realistic level of cost contingency, which is carried at each cost model interval and GMP. Risks realized on Lower Bois d'Arc are shown in *Exhibit 5, Page 7-8*.

Risk | Impact	Mitigation
Supply chain issues & skilled labor shortages 	Archer Western provided a proactive procurement strategy during Phase I, engaging the market frequently and through schedule analysis, identifying long lead items of concern and addressing with early procurement, minimizing escalation risk, and ensuring on-time delivery. Prefabrication of eligible components enabled us to run tasks concurrently, providing a buffer for delays and reducing labor requirement peaks and valleys. As a prominent general contractor in the region, Archer Western had the necessary local craft professionals available for timely project completion.
Electrical gear procurement & storage 	The team utilized careful supply chain management due to lead times and market conditions. One solution we used to meet staging/logistics needs was delivery and storage of our electrical gear. Electrical gear was stored off site at a facility until the pump station structure was dried in. We were able to schedule delivery to fit project needs.
Welding of Steel Pipe during cold months 	The schedule entailed a significant amount of steel pipe welding being done in cold weather months. This meant we had to prep the pipe by pre-heating it to 130ºF before any welding could be done and maintained heat to the pipe during and after the welding process. We coordinated with our welding subcontractor to monitor ambient temperature, pipe surface temperature, weld progression speed, and heat dissipation speed to ensure welds would not be compromised. The addition of heat to the pipe created safety hazards, mitigated with the use of confined space fans, adding ventilation, and protection of nearby material and personnel with welding blankets and arc flash barriers.
Inaccurate cost estimating or cost tracking 	Implemented dynamic estimating tools tracking project costs continuously during design development. We supported early design decisions with cost estimates for all design options being evaluated and developed Work Breakdown Structure (WBS), which was followed for overall cost estimates at various design milestones. Costs were benchmarked with similar projects.
Proper start-up & training 	Implemented a disciplined and structured training and commissioning plan for smooth transition to NTMWD operations staff. Our team included key personnel who have vast experience with plant commissioning. Butch Babler, master electrician and past maintenance manager, managed the process and engaged operation and maintenance staff. Butch assists with pump station start-ups, pipeline testing, and all interconnections ensuring the operations staff is comfortable in operating the new asset.
Unknown underground utilities 	Encountering unknown underground utilities can have a negative cost and time impact to the project, as well as put normal plant operations at risk through hitting existing lines, whether process lines or electrical feeds. Took a proactive approach and performed Subsurface Utility Engineering (SUE) to locate critical lines and conducted strategic potholing early in the design phase.
Deep excavation at intake pump station 	With a typical excavation in excess of 40' at intake pump stations, we provided an engineered support of the excavation system, allowing the work to be safely constructed. Worked with the EOR to ensure the best practical, yet cost efficient solution. Proper fall protection was placed around the excavation to protect the well being of our craft professionals and visitors at the site.
Environmental concerns of working Near a River 	Performing work next to and in a body of water creates environmental concerns through the disturbance of soils during the execution of the work. We are sensitive of river impacts and placed great focus on installation and maintenance of protective measures using a turbidity curtain system with the use of silt curtains and other best practices. With the intake pump station being the low point of the site, we realized the importance of proper erosion control measures taken throughout the site minimizing the effects of storm runoff.

Exhibit 5: Excerpt of Archer Western's Risk Register

Exhibit 5: Continued...

Risk | Impact	Mitigation
Tie-ins of raw water and finished water lines 	Archer Western has extensive experience in making critical piping tie-ins. We are able to leverage this experience by making proper preparations to handle any unexpected situation potentially arising during critical moments. Much pre-planning goes into the development of a MOPO and was done in conjunction with input from the O&M staff and EOR. Once a plan was developed, contingencies were put in place to handle the "what ifs". Redundant (spare) materials and equipment were on hand during all tie-ins ensuring a smooth and timely execution of this critical scope of work.
Flooding disrupts the construction of the intake 	Archer Western understands the inherent risks of working next to a river. A flooded excavation can cause weeks of project delays and the associated costs. We ensured support of the excavation system of the pump station extended to the 100-year flood elevation of the river. We also ensured the dewatering system installed was robust and able to handle the necessary flows to keep the excavation dry and secure. Earthen berms were installed uphill of the pump station excavation diverting rain run off away from the excavation.

Collaborative Contingency Development provides Responsible Budgeting

Our process for Contingency Development is supported by the project risk register and open-book cost model development. This matrix is used to establish the project contingency on a line-item basis, aggregate basis, or combination of the two. As the design proceeds and anticipated risks are not realized, contingency budgets are adjusted to reflect the lower risk profile.

As recommended by the **Water Collaborative Delivery Association**, Archer Western typically proposes three potential contingency budgets, including:

Water Collaborative Delivery Association
Better Projects, Together.

- ***Owner Contingency*** – Used exclusively for owner to cover unexpected project needs such as scope enhancements, additional processing capacity or redundancy, code or regulatory impacts to the design, unexpected site conditions, and other risks accepted by the owner.
- ***Shared Contingency*** – This budget may be established when the GMP is based on a design less than 100% complete. This budget pays for work items not included in the drawings and specifications, but are required for an owner to ensure full functionality. Examples include equipment pads, small piping, architectural selections, and other incomplete design details.
- ***Contractor Contingency*** – This budget is for the CMAR to cover costs of identified risks the contractor is responsible for mitigating. Examples may include buyout differentials on sub packages, weather impacts, and cost escalations.

The risk workshop ensures risk is allocated to the party best suited to control the risk, therefore minimizing overall project contingencies. This contingency approach is recommended and customized to fit an Owner's preference. Contingency development and budgeting is a collaborative process with input from all project stakeholders to ensure every dollar is spent and allocated responsibly.

4. PRICE MODELING AND GMP DEVELOPMENT

The Archer Western Preconstruction process provides budget assurance and no surprises.

Over the past 25 years, we identified the traditional "milestone" estimating process lacks sufficient feedback to the client, resulting in slower decision making and extended preconstruction timelines. Our approach leverages collaboration facilitating effective communication and expediting key programming and scope decisions to launch timely informed decisions. This process ensures an effective and efficient use of energy and effort culminating in meeting project goals and expectations of our clients.

The traditional approach to preconstruction typically offers client services limited to an estimate, a schedule, and a logistics plan. Archer Western developed the "Springboard" approach extending to a system of tools defining a more holistic and predictable preconstruction process achieving better results and generating greater value. *Exhibit 6* highlights the benefits of this internally-developed approach.

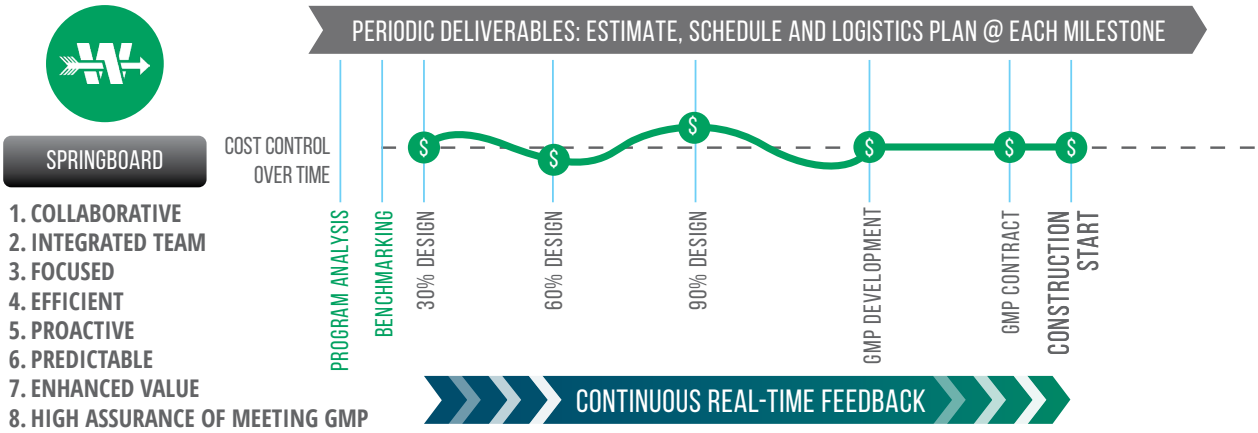


Exhibit 6: Springboard vs Traditional Process

Our Cost Model begins with a Work Breakdown Structure (WBS) followed for overall project cost estimates throughout the duration of Preconstruction. It is developed in alignment with the project scope in an easy to read tabular report. A Trend Management Program is also incorporated to quickly identify, evaluate, and resolve changes impacted by both internal (i.e. design decisions) and external (i.e. market conditions) influences. The Trend Log is reviewed as part of each design meeting ensuring the entire project team is informed of the impacts from both internal and external influences on the project costs. Trend Management includes a mitigation approach to ensure budget goals are attained – this includes constructability reviews, risk assessments, value engineering, and scope changes. Even though real-time estimating is provided to empower and drive design decisions, key milestones are required to ensure the project stays on track for both budget and schedule. Implementation of these processes follow the milestone deliverables detailed in *Exhibit 7, Page 10*.

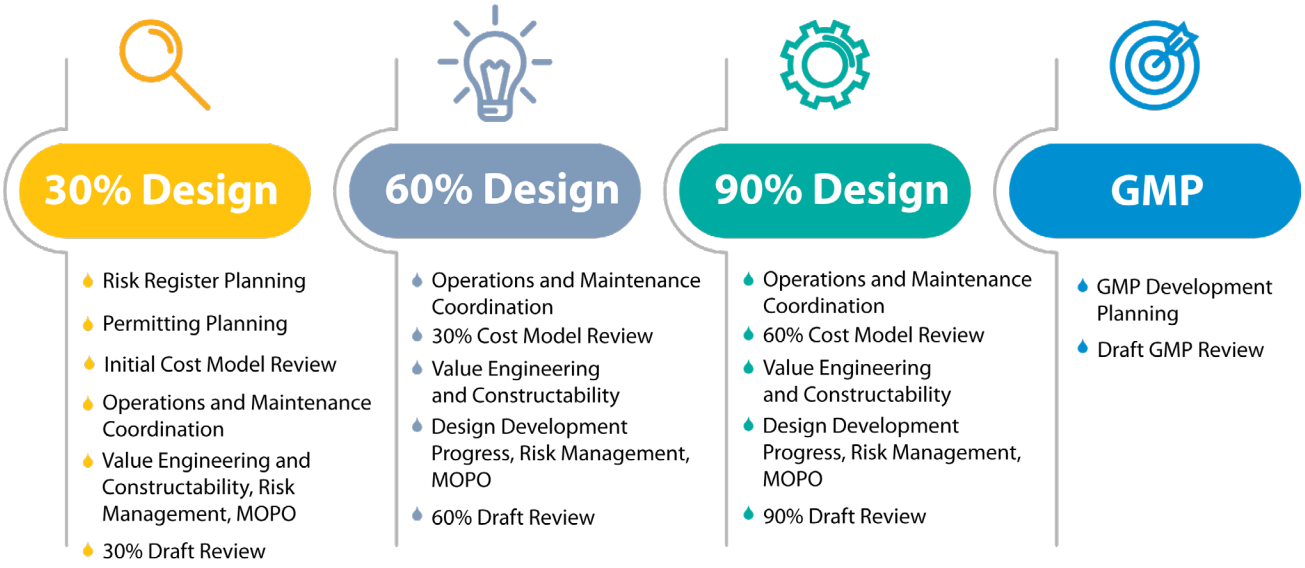


Exhibit 7: Milestone Price Model Deliverables

Open Book GMP Developments Provides Budget Assurance

Archer Western's transparent cost development process provides a collaboratively developed GMP derived from a complete, open-book cost estimate with all supporting subcontractor proposal and material quotes. Cost model development is a continuous process of refinement. The goal is to have the final GMP at, or below, the initial pricing to assure cost control.

Archer Western believes in the importance of transparency and strives to exceed expectations as a trusted partner. Each cost estimate submission represents and open-book, cost estimate breaking down labor, equipment, and material costs, as well as inclusion of constructability and value-added concepts. Our open book cost model entails the formats shown in *Exhibit 8*.

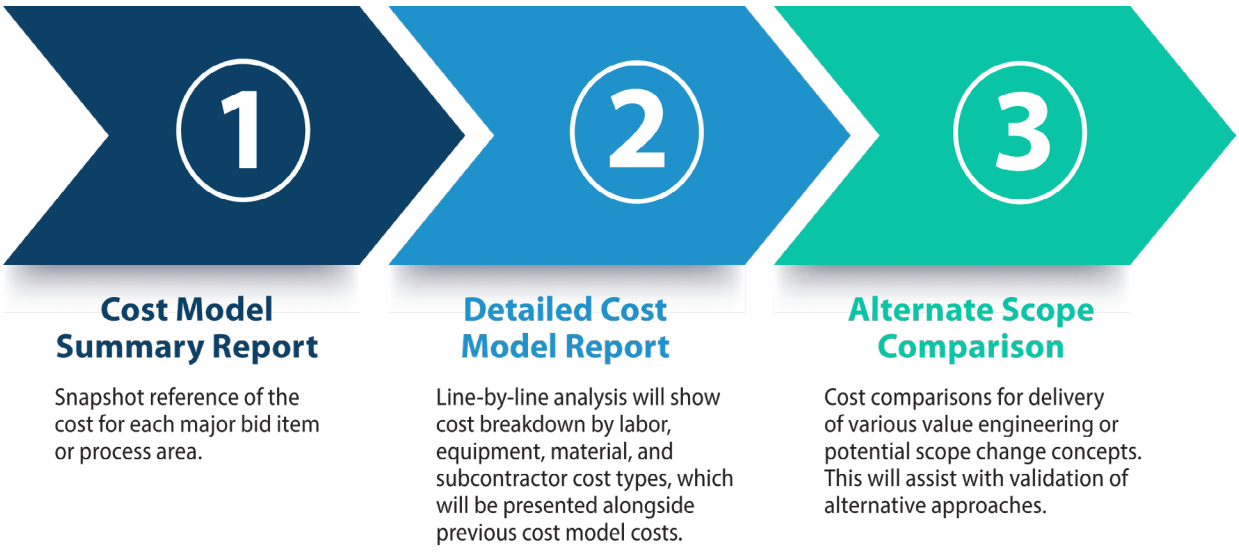


Exhibit 8: Open Book Cost Model

Subcontractor quotations, vendor proposals, and bid tabulated data are provided and discussed collaboratively. Every Owner is part of the process to review competitive subcontractor and vendor pricing, which provides an Owner with a comfort level the costs are reflective of true construction costs.

Our Springboard preconstruction approach of Real Time Estimating through PowerBI combined with our Open Book policy results in No Surprises. The Authority has a budget of approximately $120M for construction of the PR3 project. We understand, due to recent market conditions, the scope and cost may not align. This concern is addressed through decisions made collaboratively in Phase 1 focusing on alternative ideas providing cost-saving designs and constructability opportunities without sacrificing scope for the Authority's project goals.

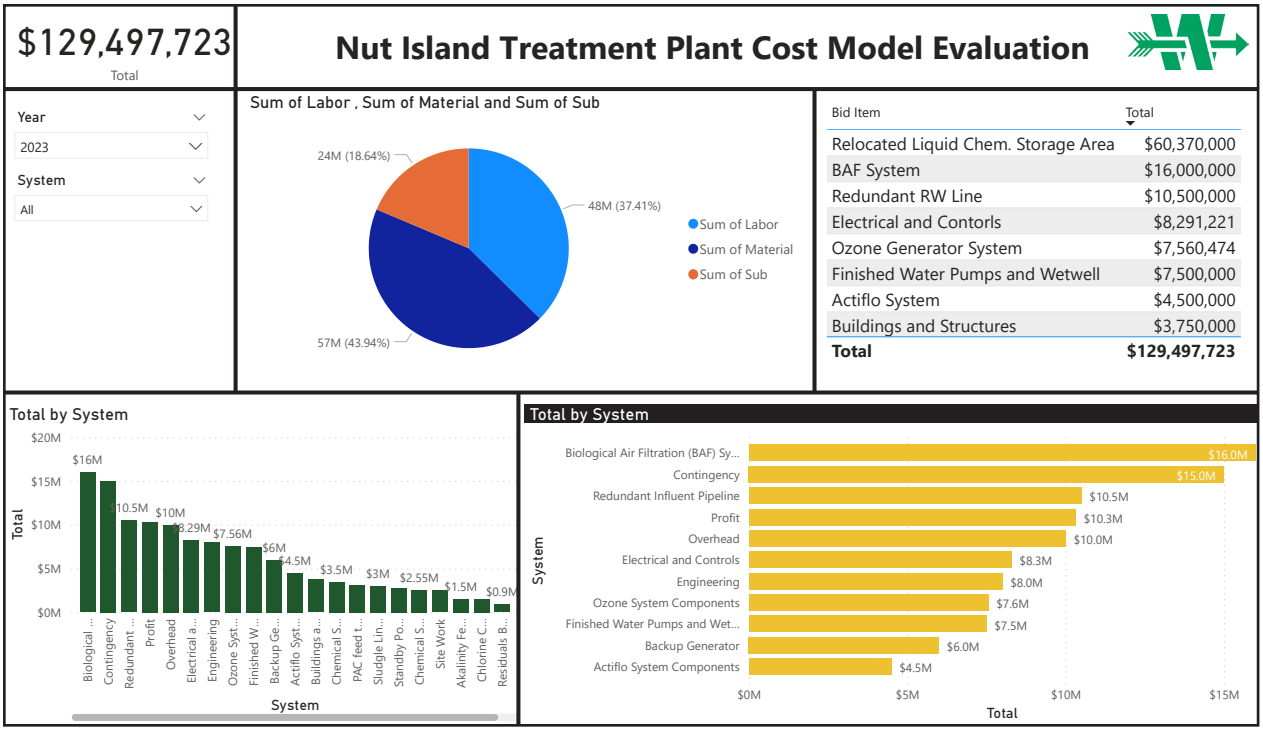


Exhibit 9: Photo of Real Time Estimate PowerBI Cost Model

5. PROCUREMENT APPROACH, INCLUDING PACKAGING AND SELF-PERFORMANCE

Our procurement process is designed to streamline the project design process while mitigating the risk of schedule and budget overruns.

As the largest water infrastructure builder in the U.S., Archer Western has successfully leveraged our best in class buying power to consistently deliver unmatched value to our clients for projects across the nation. Across the country, we found by engaging in early workshops with all stakeholders, our team is able to facilitate analysis through a coordinated decision-making process to capitalize on efficiencies in the design-phase of a project, which greatly mitigates cost and schedule impacts related to the procurement of critical components.

As an example, *Exhibit 10* outlines an approach from a similar, highly successful CMAR, which we will work with the Authority to refine for the PR3 Project upon award.

Step	Description
Assess market conditions and publicize the project	Assess trade and material availability to review with the Authority. Publicize early to engage potential vendors and subs to ensure competitive procurement, eliminate surprises in the procurement/bid phase, and refine early design approach based on availabilities. Early marketplace outreach is critical to ensure a strong interest in participating in bidding opportunities.
Develop the right bid list	Assemble initial bid list for joint review to identify challenges to scope coverage. Evaluate interested companies for quality and safety. Review evaluations with the Authority's team.
Develop procurement schedule	Develop procurement schedules and identify long-lead items. Confirm design priorities and assist in bid package development. Review with the Authority and share with sub and vendor community to help inform their pre-planning efforts prior to bid package advertisement.
Assemble bid packages	"Right-size" and tailor bid packages and scopes to maximize local subcontractor participation. Break down bid packages into similar elements and stagger them to capture savings from repetitive work items.
Prequalify subcontractors	Evaluate qualifications, financials, long-term quality, customer support, and domestic market commitment to prequalify subs and equipment suppliers. Offer a one-step process with qualifications as part of the bid package and/or a two-step process where firms are first prequalified and then invited to bid.
Evaluate and recommend subcontractor and vendor proposals	Establish selection criteria for different scopes with the Authority to ensure best value, including conformity to technical requirements, schedule, quality, safety and commercial terms. Evaluate proposals in close collaboration with the Authority. Make recommendations to the Authority for review and approval.

Exhibit 10: Procurement Process

As outlined in the Water Collaborative Delivery Association Guidelines, developing a procurement plan is a crucial step in project delivery. As a standard practice, Archer Western outlines tasks to be accomplished within the first 100 days of award to implement a procurement plan. Example Tasks include:

- ***Task 1 – Reviewing the 30% Design Plans to develop a rough order of magnitude (ROM) construction cost***
  The most critical step to ensuring the project team meets the schedule goals is performing a review of the current 30% design plans. The Archer Western team has already begun this process by evaluating provided plans, cost estimates, and drawings. This pre-work allows our team to be positioned to present these ideas in a collaborative format immediately following award.
- ***Task 2 – Identify Schedule & Budget Critical Components for Early Procurement***
  Due to current market conditions, it is essential to capitalize on the leverage we offer early in the preconstruction phase. Archer Western maintains a database of current lead times on critical components in the industry. An added step in the procurement process is to identify and begin the procurement of components with volatile schedule and cost components. This step is added to address the risk of supply chain issues which have significantly impacted the construction process. *Exhibit 11* indicates the procurement lead times current projects are experiencing. Procurement of the following scopes are considered for early packages:
  - Pipe
  - Process Equipment
  - Pumps
  - Electrical Equipment
  - Stand By Generators
  - I&C Components

MATERIAL LEAD TIMES	HISTORICAL (WKS)	CURRENT (WKS)
Transformers	30	105
Ductile Iron Pipe	16	36
Control Panel I/O Cards	8	52
Variable Frequency Drives	12	60
Large Pumps (VTP)	24	48

Exhibit 11: Historical vs. Current Lead Time Durations

- ***Task 3 – Subcontractor Outreach***

The most important factor in our approach is selecting subs/vendors who can deliver the best value for each scope of work while meeting local participation goals. Historically, internal analysis has shown participation in projects by qualified sub trade partners is directly proportional to the outreach effort in the preconstruction phase. We create a comprehensive project-specific procurement plan following the Owner's purchasing procedures, designed to support maximum qualified and local business participation. Our procurement process continues the open-book GMP development, while maximizing competition between qualified subcontractors and suppliers, maintaining absolute transparency through bidding, and leveraging Archer Western's self-performance capabilities. Our qualification process is a proven and effective method to thoroughly evaluate subcontractors and vendors. In fact, through our successful project experience we have developed a strong list of prequalified subcontractors with a proven track record for performance. Our goal is to identify financially stable firms with the highest quality management, safety, and available capacity to achieve the highest value to our clients.

WHAT CAN YOU EXPECT?

During preconstruction, our team will:

- Monitor markets to stay current with viable trade contractors and material pricing conditions.
- Issue and/or update subcontractor pre-qualification forms identifying subcontractor/vendor experience, financial status, bonding capacity, current backlog, EMR/safety, labor force, litigation history.
- Hold outreach events to encourage local participation and bidding opportunities.
- Preconstruction and operations staff reviews of subcontractor pre-qualification forms, verification through independent sources, and comparison to industry standards.
- Review of qualifications with the Authority for approval prior to bid invitations.

MILLER ELECTRIC COMPANY
Powering the Possibilities

Our team includes Miller Electric Company (Miller), a 3rd generation family-owned business based in Florida. Miller has expertise in preconstruction, estimating, prefabrication, and BIM development of intricate electrical systems. More importantly, they understand the complexities of system interoperability and can create a comprehensive plan that ensures all systems function cohesively. This expertise not only translates seamlessly into the realm of integrated systems, but it is also absolutely crucial.

ENR INDUSTRY RANKINGS

#1 2021 Southeast Specialty Contractor of the Year

#5 2022 Southeast Specialty Contractor of the Year

SELF-PERFORMANCE WHILE MAINTAINING BEST VALUE

With $500M in construction equipment and 8,000 employees, nationally, we typically prefer to self-perform a sizable portion of the work on our projects. We have learned this is the best route to meet our customer's expectations on quality, safety, and schedule.

Our proposed team has decades of experience self-performing complex water process construction. Our hands-on self-performance experience reduces the potential risks of a typical "management-only" CMAR. We have a labor force of more than 500 personnel in Florida standing ready to execute specific scopes and support subcontractors where needed.

SELF-PERFORM ADVANTAGES

Why do we prefer to self-perform:

- **Schedule** - we understand the critical path and what is needed to stay on schedule. Our local, experienced craft workers can perform 60-80% of the project.
- **Flexibility** - our local craft workers is available to work on a critical path component, if needed, to ensure schedule completion.
- **Risk Avoidance** - By understanding the work packages and schedule requirements, we step in to help an under performing subcontractor, if needed.
- **Cost Control** - Utilizing our own workforce we are able to manage equipment and personnel to ensure value is maintained and cost controls are being monitored
- **Safety & Quality Assurance** - Our project teams and professional workforce are trained to plan the work to ensure all safety concerns are addressed and to deliver the highest quality product.

For potential self-perform scopes, we prepare a market-specific Labor Recruiting & Retention Plan, including hosting job fairs in targeted areas with available resources through promotion of market leading company employee benefits. We conduct thorough market studies to determine fair market wage rates to ensure we are offering best in class market value, so we retain our most skilled personnel. This supplemental labor program is coupled with our longtime crews and foremen to foster a safe and quality focused workforce.

Scope of Work	Self-Perform	Sub Quals & Price
Pump Stations	●	
Mechanical Piping	●	
Underground Pipe	●	●
Earthwork	●	
Concrete	●	
Piping Tie-Ins	●	
Equipment	●	
Electrical		●
SCADA/Programming		●
Painting/Coatings		●
Masonry CMU Wall		●

Exhibit 12: Self-Perform vs. Subcontracting Packages

6. CONSTRUCTION

The transition from Phase 1 Preconstruction to Phase 2 Construction will be seamless.

As Project Director, Bob's leadership carries forward with the team as construction begins. Each stakeholder involved in previous workshops understands their role and the goals for this phase. Once the design reaches 90% and the GMP is approved, we finalize design; begin construction; and perform testing, startup, and project acceptance activities. We work through a series of MOPO activities to demonstrate the continuous, active engagement of plant operators as we work on active facilities to perform tie-ins. As we transition to testing and startup activities, we deliver a formal plant operations training regimen including rigorous classroom and hands-on training, leveraging the VDC model, to equip operators with the confidence to manage the facility after project acceptance. Key activities include:

- Maintain Operations during construction
- Maintain Permitted Compliance
- Maintain Construction Schedule performance
- Safe Delivery of Work
- Achieving a high quality project
- Rigorous Testing smooths project acceptance

MAINTAINING FACILITY OPERATIONS DURING CONSTRUCTION APPROACH

Our approach to Maintenance of Plant Operations (MOPO) starts with a "walk in your shoes" with operations staff to ensure we fully understand processes and procedures needing to be maintained during construction.

MOPO and maintaining compliance with regulatory requirements is a priority shared among all Archer Western team members. The implementation of our MOPO Plans follow a structured, inclusive approach involving an Owner's operators every step of the way.

Implementation Strategy

Implementation of our MOPO Plan, begins with a project-wide workshop. The goal of this initial workshop is to communicate our MOPO approach from a holistic (project-wide) perspective. This includes increasing awareness of upcoming activities and the planned execution timeline within the overall project schedule. In addition to a project-wide workshop, individual MOPO workshops are held for every new area/structure/phase of construction activities. A key component for individual MOPO workshops is a thorough analysis and contingency planning to maintain compliance.

Job Shadowing

"The Archer Western team is fully committed to delivering a user friendly system to the Authority by listening to and observing the challenges they face. We will have members of our CMAR team ***walk a couple days in their boots*** *during the first 90 days! We will spend significant time job shadowing your staff on-site to ensure we are fully aware of all challenges, headaches, and frustrations they encounter in their daily course of business."*

-Bob Bruner, Project Director

VDC During Construction

Our VDC system is a fusion of three-dimensional designs, schedule, and cost data. Our suite of tools fully integrates BIM (Building Information Modeling, which creates 3D design models) technology with Primavera P6 construction schedule and cost data to create a fully virtual environment. Beginning at project planning, the project model is created with design information and related schedule and cost data. As design alternatives are developed and evaluated, the overall project cost and construction schedule implications can also be assessed. As design progresses, the cost and schedule data in the model are likewise developed in detail and tied to each project element.

From the moment we begin building our estimate to support early decision making, cost data is fully integrated with our design in the integrated model. We use the forecasting and cost capture functions to produce costs to date and forecast remaining costs. We provide the Owner with the project's financial status at regular reporting intervals throughout design and construction phases.

We build facilities in virtual reality before it is constructed. This "time machine" allowed risks to be identified and mitigated in ways not possible by any other construction planning technique.

Example VDC Technology

Rapidly advancing building information technology continues to change the way water infrastructure facilities are designed and built. Our Team uses the most advanced systems and processes to facilitate collaboration and improve efficiency of design-build project completion by improving risk management, expediting completion, reducing cost through all project phases, and making it easier for owners to review every element of design development and construction planning.

START-UP, COMMISSIONING, AND TRAINING

Our start-up mantra is "Begin with the end in mind". Our experienced operators work closely with the Owner's operations staff to have Standard Operating Procedures (SOPs), training manuals, and check-out plans well in advance of start-up.

Our goal during testing and startup is to examine and demonstrate process performance, operability, and maintainability of the new pipelines and equipment to ensure safe and reliable operation of the system ahead of the project acceptance period. A structured approach to functional testing provides equipment and systems which are complete and function properly, while providing comprehensive system training and documentation so your O&M staff can manage the facility effectively.

Our Commissioning Manager, Butch Babler, has extensive experience working closely with O&M staff training and starting up large pump stations. As a master electrician, he also understands the importance of SCADA and system integration.

System Testing

Having completed similar large pipeline installations, pump stations, and reservoir projects, the Archer Western team will manage the new PR3 system operational testing. This includes pump station and electrical integration, as well as flushing and disinfection of pipelines. A plan will be developed for each project segment and sub segment. We understand testing and integration can impact operations, so careful coordination and involvement with staff will be performed.

Developing Standard Operating Procedures

Phase 1 Activities – Development of SOPs, Functional Descriptions, Instrumentation and Equipment

Development of SOPs begin early in Phase 1. We realize with an increase in capacity of the system, a new SOP may be significantly different than the existing station's current operation. We will work together with the Authority and EOR to develop optimized SOPs for the system. The Archer Western team leads operations meetings to develop the SOP.

It is crucial to have the operators engaged early in design. We have often heard from operators that the planning and engineering teams have no idea what challenges and adversity the Operators face.

Staff Training

Training begins well before project turnover. Our team leads a phased training approach with continuation of assistance six months into operation to assist staff. Training sessions are held to instruct the operations staff on the proper operation and maintenance of the assets and equipment. Trainings are held both on-site and in a conference room or classroom setting. Each session is recorded and training videos are provided for future use in training and refreshing staff on the operations procedures.

Closeout and Warranty Services

Following completion of the start-up testing, we work with Operations Staff to ensure all project documentation including SOPs, Operations Manuals, Submittals, and testing reports are collected. As Punch lists are developed and worked through we continue to follow up with on how the system is performing. Any questions or modifications continue to be managed by our local start-up manager.

LEVERAGING VDC TO DELIVER BEST-IN-CLASS QUALITY

At Archer Western, quality is a proactive ideology and has been one of our core values for 125 years. Our staff is constantly working toward the prevention of issues, and our teams dedicate themselves to delivering a superior product for every project.

Each project's quality plan collaboratively defines the quality requirements in preconstruction and provides the necessary controls and procedures to ensure the construction activities exceed the owner's requirements. To support and ensure we uphold our legacy of quality, each year Archer Western dedicates a full week to celebrate our long history of quality delivery and provides training through our successful Toolbox Talks program.

Archer Western's three-phase control process is used throughout construction to ensure quality through all phases of the project:

- Ensure we are adequately prepared to begin a phase of work
- Work to proactively eliminate deficiencies
- Follow through to accomplish all work in accordance with the project requirements

SAFETY

Safety is the foundation of everything we do.

OUR CREDO:

"Actively caring - No one gets hurt"

A good safety record is indicative of a cohesive team. It is our goal to provide a safe and enjoyable work environment free from injury, illness, and impacts to the environment, equipment, property, or traveling public.

Protecting the lives of our clients, employees, subcontractors, and the surrounding public is our greatest value and guides our philosophy. Our project leaders recognize their responsibility to establish and maintain exceptional worksites. We are guests at your facility, so we must comply with your procedures and minimize impacts to the furthest extent possible. ***Project Superintendents, Wayne Pursley and Doug Laub,*** interact daily with the operators to validate and refine our approach. Our commitment is proven and demonstrated through our award-winning safety performance and guided by our core safety program. Our safety processes and standards are enforced through project team training, work plan review, daily task hazard analysis planning, onsite inspections, and continuous compliance monitoring. All foremen, superintendents, and project management staff are required to obtain 30-hour OSHA training, crane safety, CPR and first aid, in addition to numerous other core trainings. These systematic practices and actively caring culture rely on a simple message: **"No One Gets Hurt."**

ARCHER WESTERN			
YEAR	EMR	TRIR	LTIR
2022	0.58	0.23	0.0
2021	0.63	0.63	0.16
2020	0.63	0.49	0.0
MILLER ELECTRIC			
2022	0.50	0.8	0.3
2021	0.50	0.9	0.3
2020	0.49	1.6	0.6

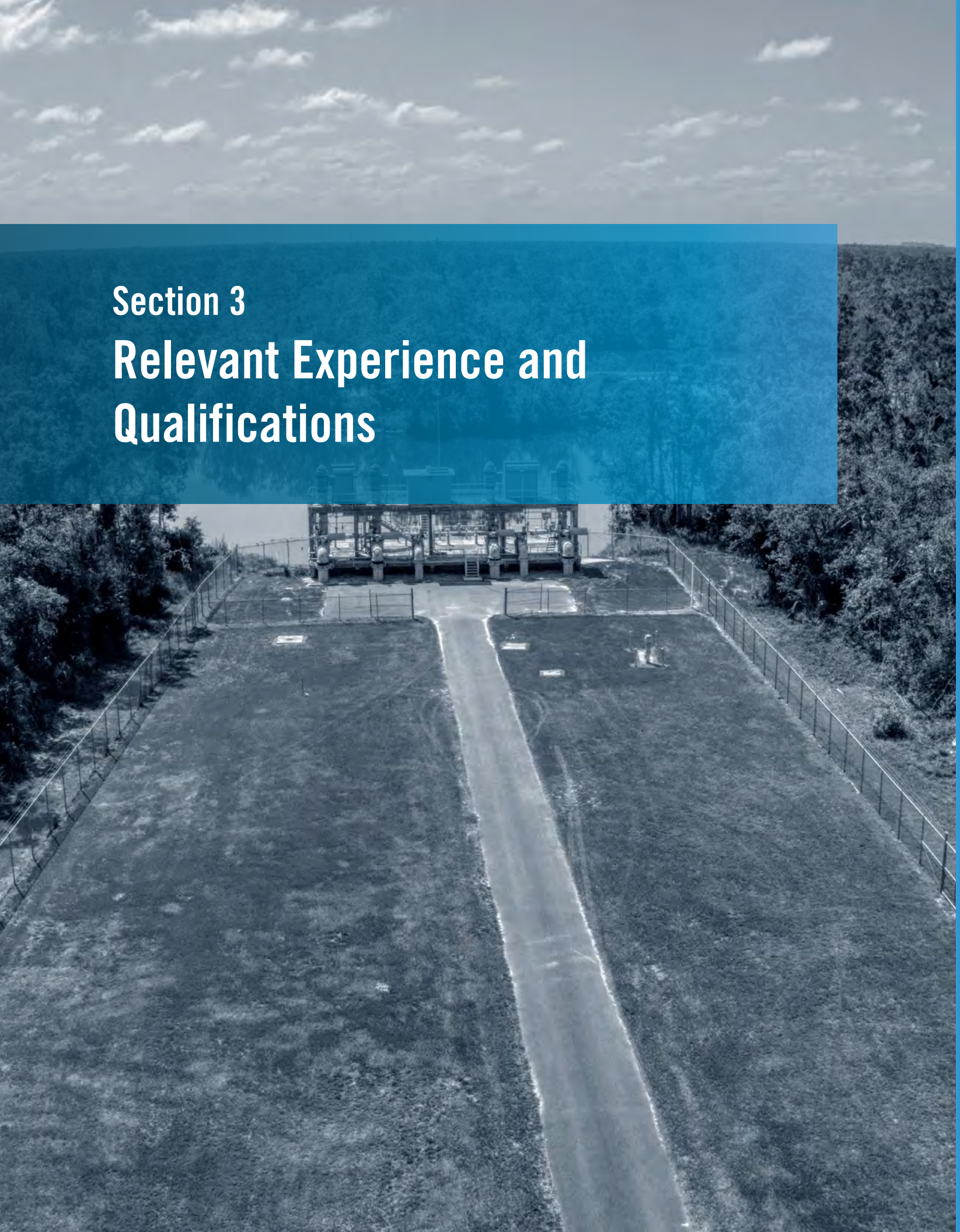
THREE YEAR SAFETY METRICS

Archer Western is extremely proud of our safety metrics. Archer Western's EMR ratings shown are considered the **best-in-class** for a self-performing contractor. **In 2022**, Archer Western's Water business alone completed **2,279,991 manhours** of direct self-perform work across the nation **without a single lost-time injury.** As a key subcontractor, Miller's safety stats are also provided.

Contractor Performance Assessment Report (CPAR) from the Army Corps of Engineers for the Miller Pump Station Project.

"Archer Western maintained an excellent safety record with 0 lost time accidents with approximately 480,000 man-hours completed to date. Archer Western ensured all team members were aware of hazards associated with the work and detailed in the applicable AHAs. The Site Superintendent, SSHO, QC staff, and foremen, were all held responsible for safety and all performed very good to excellent on a continuous basis. The consistent awareness trainings and safety meetings created a culture that put safety at the forefront of all concerns associated with construction. For these reasons, the Government offers an Excellent rating in safety."

- Stephen Montjoy, Project Engineer, USACE



Section 3

Relevant Experience and Qualifications

LOCAL LEADER, NATIONAL EXPERTS

Archer Western has unmatched experience in delivering pump station and pipeline projects across North America. We recognize the challenges of addressing the needs of a growing community, and bring unparalleled success managing similar projects.

We bring experience in:

- *Large CMAR management*
- *Reservoir pump station*
- *Large diameter pipeline*
- *The most extensive heavy civil in the state*

Archer Western has an active Florida Certified General Contractors License, which we have maintained in good standing since we began in Florida 40 years ago. During this time we have supported a number of Florida government agencies including the South Florida Water Management District, Tampa Bay Water Authority, Pinellas County, Pasco County, City of Tampa, City of St. Petersburg, and the Florida Department of Transportation.

As your selected CMAR partner, we bring a talented, local team, complemented by appropriate processes and state-of-the-art analytical, decision support, and design tools. As one of the nation's largest and most respected self-performing general contractors, with over 500 dedicated professionals and craftspersons locally, we have the expertise and capacity to meet your schedule and budget.

FOURTH GENERATION FAMILY BUSINESS	We have weathered the ups and downs through 125 years of the construction industry. The Authority will benefit from the resources and financial strength we bring to successfully complete the Project.
CUSTOMER FOCUSED	We treat our employees and our customers as family. We take ownership in your project like we would take on projects in our backyard. We are proud to have so many repeat customers, and we continually strive to treat them the way we would treat our family.

Extensive Florida Experience

Our local team brings significant, similar experience to the scope of the PR3 project, with many of our project leaders performing similar roles on Miller Pump Station, Tampa Bay Water Pump Station, L-8 Reservoir, and Boyette Reservoir.

Archer Western was chosen to manage and construct critical infrastructure at the Venice Water Treatment Plant. The project required careful operations and supply chain coordination to meet required deadlines and maintain operations throughout.

ARCHER WESTERN IS YOUR CMAR EXPERT

Pioneering CMAR Best Practices

For more than 20 years, as depicted in *Exhibit 13*, Archer Western has advocated for more collaborative delivery methods, which have proven to reduce project costs and duration. We have guided over a hundred owners through their first CMAR/CMGC, Design-Build, and Progressive Design-Build projects, and developed a series of guidelines/manuals to ensure a consistently successful outcome. As the Nation's Largest Water Builder, Archer Western are proven experts in CMAR, writing the book on execution.

CMAR Experience and History

Our team understands the Authority's project scope is larger than pump stations and conveyance pipelines. Successful project completion involves securing adequate funding, incorporating future phases of the Surface Water Expansion Project (SWEP) project, and building a facility promoting sustainability and a positive impact on the local community and workforce. We offer the Authority unmatched experience encompassing several key elements including:

- A core project team who has worked together on complex water projects.
- Experience with multiple project collaborative delivery methods, including CMAR.
- Strong self-performance experience averaging over 60% of the work on water infrastructure projects.
- References from owners who are valued partners on projects, who have chosen Archer Western to deliver their projects, creating long lasting relationships.

This section further details our team's relevant qualifications and unique experience required for successful completion of the PR3 project.

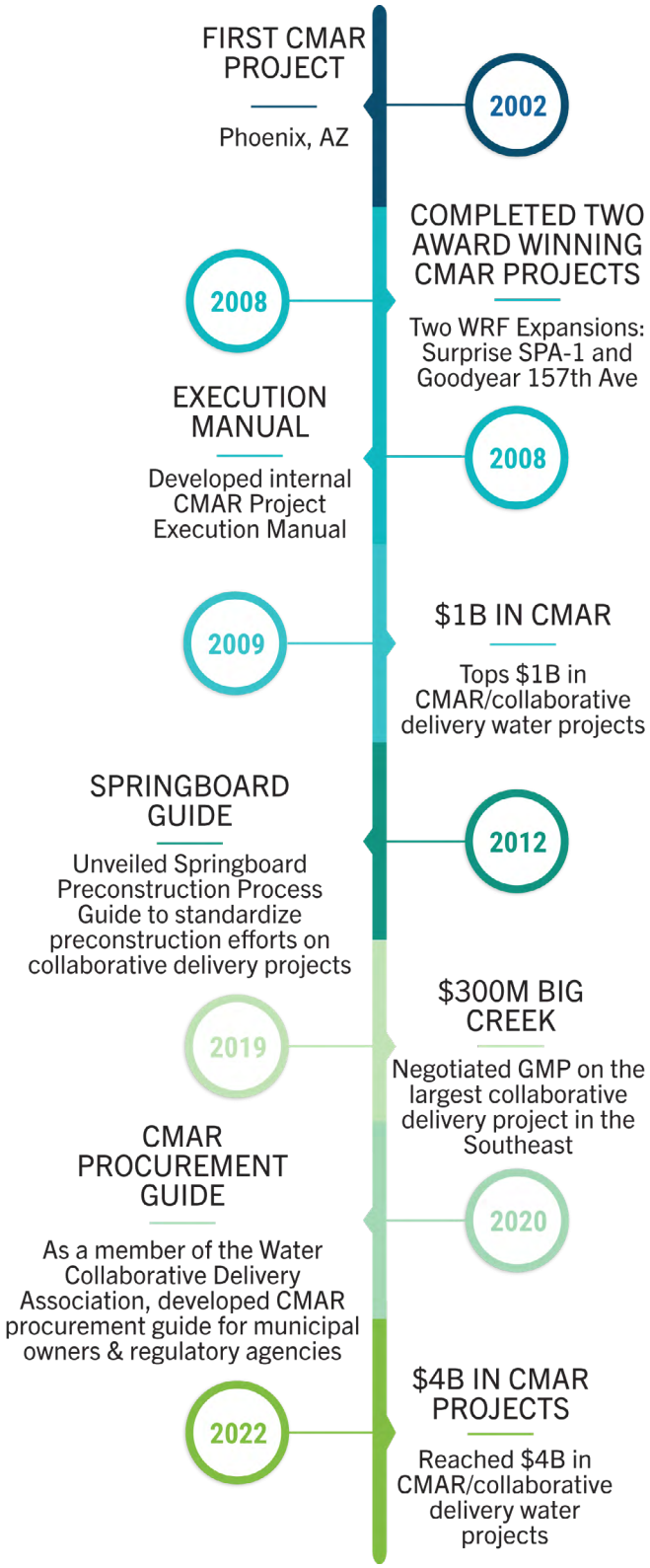


Exhibit 13: Collaborative Delivery Experience Timeline

Archer Western's history of partnership with your Engineer/Owner Advisor team, will enable a quick start.

As your CMAR, Archer Western's corporate experience, as well as our local relationships with your Program Manager and Design team, will be a major benefit. We have teamed with B&C, HDR and Hazen on numerous successful collaborative delivery projects both nationally and locally, which will result in an expedited preconstruction phase, lower cost for services, and schedule assurance.

HDR

Archer Western collaborated with HDR on two recent CMAR projects including **North WRF Expansion and St. Vrain WWTP Upgrades.** Our relationship with HDR began two decades ago and continue to collaborate on numerous projects, such as the Big Dry Creek Wastewater Treatment Facility, winning the Honor Award (2023), Engineering Excellence Awards by the American Council of Engineering Companies of Colorado. This was the Owner's first Envision project, completed on time and on budget.

more than $6 billion
Archer+HDR combined total construction value, projects nationwide

50+ projects
nationwide—Archer + HDR combined

Hazen

Bob and his local staff have personal relationships already established with Hazen's design leads for the river intake pump station, reservoir pump station, and pipeline scopes, which will pay dividends to the cohesiveness of the project team. Archer Western+Hazen successfully delivered the **Cartersville WPCP Nutrient Removal Upgrade** project under budget and two months ahead of schedule. Most recently, we successfully negotiated a GMP of $156M for our **W.B. Casey** project in Atlanta, Georgia. Archer Western+Hazen collaboration includes 47 National and Regional Awards, including a first place DBIA Award in 2010. One of these award winning projects includes the **James E. Quarles WTP 1 Replacement** for Cobb County-Marietta Water Authority delivered under budget. Archer Western+Hazen worked hand-in-hand to meet schedule and budget requirements, earning the facility the top ENR project in the Southeast for 2022, Wastewater Digest project of the year in 2021, and American Society of Civil Engineers Large Project of the Year in the Water Resources category.

more than $20 billion
Archer+Hazen combined total construction value, projects nationwide

385 projects
nationwide—Archer + Hazen combined

Walsh+BC have successfully worked side-by-side for more than 27 years. From traditional to collaborative project delivery this history of working together translates to established relationships founded on teamwork and transparency to create and deliver best-for-project solutions. Walsh+BC was the design-builder for two of the largest collaborative delivery projects in the Southeast, the state-of-the-art **Johns Creek Environmental Campus (JCEC)** in Fulton County, Georgia, winning 21 national awards, including DBIA Project of the Year; and the $312M PDB **Big Creek Water Reclamation Facility** project, considered to be the largest and most successful PDB in the state of Georgia.

more than **$20** billion
Archer+BC combined total construction value, projects nationwide

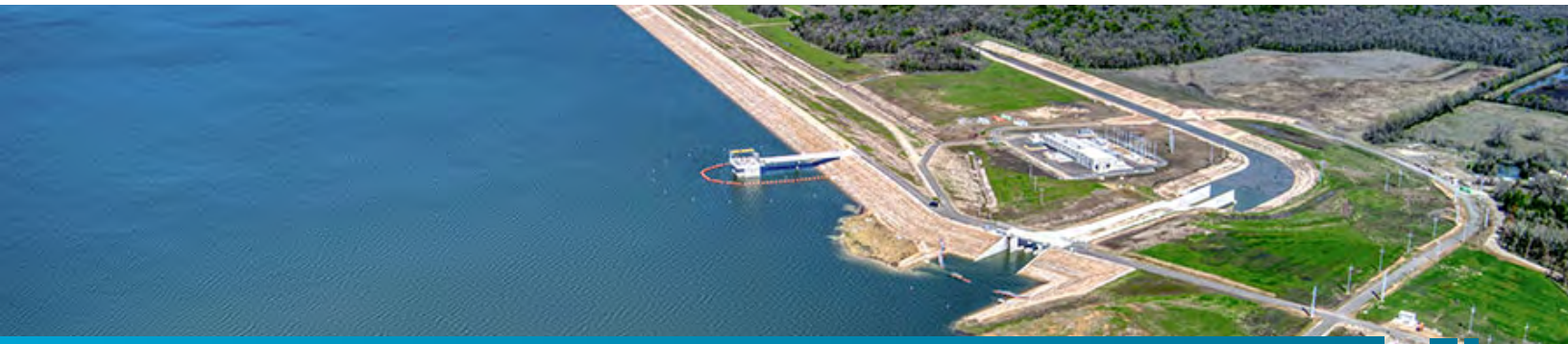
380 projects
nationwide—Archer+ BC combined

RELEVANT PROJECTS

We have provided specific project case studies relating to the PR3 project. Archer Western is committed to providing peace of mind to the Authority from beginning to end on the PR3 project. With the mindset to exceed the Authority's goals and expectations, we focused on the four key attributes you specifically require. These attributes are shown in the following icons, which are placed throughout the project discussions to highlight our alignment with your needs.

Meeting the Authority's Preferences

COLLABORATIVE DELIVERY	LARGE DIAMETER PRESSURE PIPELINES	DEWATERING IN HIGH GROUNDWATER CONDITIONS	PUMP STATIONS GREATER THAN 50MGD



LOWER BOIS D'ARC PROGRAM

NORTH TEXAS MUNICIPAL WATER DISTRICT (NTMWD)

With an ever-increasing population and water scarcity continuing to be an issue, the NTMWD chose to embark on one of the largest construction projects in 30 years. To design and build the program required five separate projects, three of which we had a key role in delivering. At peak, construction of the new reservoir, pipelines, pump stations, and treatment plant required over 1,000 craft workers. The **$1.6 billion** project was a testament to planning, coordination, and collaboration to meet schedule and budget goals. With 80 communities sharing the cost of the project, it was important to update stakeholders to ensure transparency and value.

HOW IT RELATES TO PR3

Similar to the Florida water market, Texas has a considerable amount of on-going projects, due to growth and water complexities. As with the Authority, the NTMWD knew they had to **split up the projects between contractors** in order to ensure an adequate workforce and ability to meet schedule. The CMAR process was chosen in order for NTMWD to choose the contractor best meeting the needs of each project. Ultimately, the contractors would utilize each other's skills and availability on each project resulting in **true collaboration across the program**.

Peace River Similarities to Bois D'Arc

		Peace River: Pipeline	Peace River: Pipeline	Peace River: Pump Station/Intake/Pipeline	Peace River: Reservoir	Peace River: WTP	Bois D'Arc: Reservoir	Bois D'Arc: Pipeline	Bois D'Arc: Environmental Mitigation	Bois D'Arc: WTP & Pump Station	Bois D'Arc: Utility Relocation
PROJECT DELIVERY	CMAR	⊗	⊗	✓	⊗	T	✓	✓	✓	✓	✓
	PDB	✓	✓	⊗	⊗	B	⊗	⊗	⊗	⊗	⊗
	DBB	⊗	⊗	⊗	✓	D	⊗	⊗	⊗	⊗	⊗
CONTRACTORS	ARCHER WESTERN (PRIME)	⊗	⊗	✓	⊗	⊗	✓	⊗	✓	⊗	⊗
	ARCHER WESTERN (KEY SUB)	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	✓	⊗
	GARNEY	✓	⊗	⊗	○	○	⊗	✓	⊗	✓	⊗
	OTHER LEAD CONTRACTOR	⊗	✓	⊗	○	○	⊗	⊗	⊗	⊗	✓
		PEACE RIVER					BOIS D'ARC				

SIMILARITIES

- Collaborative Delivery
- Large Diameter Pressure Pipelines
- Dewatering In High Groundwater Conditions
- Pump Stations greater than 50MGD

> "One thing that has been rewarding for us from a consulting standpoint is that we've had a seat at the table. It's a great collaborative environment that they have created with the contractors and designers. We've all got that common goal in mind."
>
> — JEFF PAYNE – CEO Freese & Nichols Program Manager

ARCHER WESTERN'S ROLE

- CMAR Preconstruction and Construction Services for a reservoir, spillway, intake tower, and three miles of 90" pipe.
- CMAR Preconstruction Services for Environmental Mitigation
- Key subcontractor for new water treatment plant including the clearwell and filters.
- Key subcontractor for raw water pump station

Intake Pump Station

Water Treatment Plant

Reservoir

LESSONS LEARNED & INNOVATIONS

- Team worked together on initial CMAR to procure the 90" pipe early on in order to meet schedule constraints for building the dam.
- Team worked with local landowners to procure enough clay for reservoir construction. In addition, the Archer Western team worked with local owners to re-open sand pits. This VE exercise resulted in a $30M savings, due to less trucking and materials.
- Archer Western worked with NTMWD to clear cultural resources, prior to early impoundments of the new reservoir, constructing earthen berms around burial sites for the removal of precious artifacts and remains, before the water inundated the sites.

REFERENCE FORM
PROJECT NO. *1*, *LOWER BOIS D'ARC CREEK RESERVOIR DAM*

Respondent: Archer Western Construction, LLC

Role on Reference Project (Prime, Sub-Contractor, Engineer of Record, etc.) Sub-Contractor

Reference Entity: North Texas Municipal Water District

Reference Contact Person: Cesar Baptista

Reference Address: 501 E. Brown Street, Wylie, TX 75098

Reference Email Address: cbaptista@NTMWD.com

Reference Phone No.: 469.626.4323

Project Delivery Method: Construction Manager at Risk (CMAR)

Project Location: Honey Grove, TX

Respondent Project Manager: Jeff Polak

Project Engineer of Record: Freese and Nichols

Date Project Commenced: April 27, 2018

Date of Final Completion or Status: August 01, 2022

Project Budget at NTP ($ million not including contingency and allowance): $216.55M

Project Cost at Final Completion ($ million including contingency and allowance): $218.77M

Preference Satisfied: ☒ 3.a. ≥42-inch Pipeline ☒ 3.b. ≥50-MGD Capacity or ≥200 HP Pump Station

☒3.c. Alternative Project Delivery ☒3.d High Groundwater Conditions

Description of Work Performed and Explanation of Differences in Budget and Final Cost:

Archer Western was chosen as the CMAR to implement a program for the design and construction of the Lower Bois d'Arc Creek Reservoir. The lake serves a growing population of 1.7 million North Texans. This formed part of a $1.6B program, including dam construction, water treatment plant, pump station and environmental mitigation.

This phase of the program was to construct a dam across the Lower Bois d'Arc Creek. The dam consists of an earthen embankment approximately 2 miles long and 90 feet tall at its highest point with a soil bentonite cutoff trench in the foundation and the upstream face of the dam protected by soil cement. There is an uncontrolled three cycle labyrinth spillway with a 1,500 foot wide emergency spillway and a reinforced concrete water supply intake tower that feeds the water supply pump station located on the downstream side of the dam. Additional components to the Reservoir include 35 miles of untreated water pipeline, a water treatment plant in Leonard, TX, 25 miles of treated water pipeline, roadway and bridge improvements.

$1.22M of unused owners contingency was returned to the owner.

REFERENCE FORM
PROJECT NO. 2, LOWER BOIS D'ARC PUMP STATION

Respondent: Archer Western Construction, LLC

Role on Reference Project (Prime, Sub-Contractor, Engineer of Record, etc.) Sub-Contractor

Reference Entity: North Texas Municipal Water District

Reference Contact Person: Aliza Caraballo, P.E

Reference Address: 17600 S. Hwy 78, Leonard, TX

Reference Email Address: acaraballo@NTMWD.com

Reference Phone No.: 469.626.4730

Project Delivery Method: Construction Manager at Risk (CMAR)

Project Location: Honey Grove, TX

Respondent Project Manager: Jeff Polak

Project Engineer of Record: Freese and Nichols

Date Project Commenced: November 1, 2018

Date of Final Completion or Status: December 1, 2021

Project Budget at NTP ($ million not including contingency and allowance): $76.65M

Project Cost at Final Completion ($ million including contingency and allowance): $78.13M

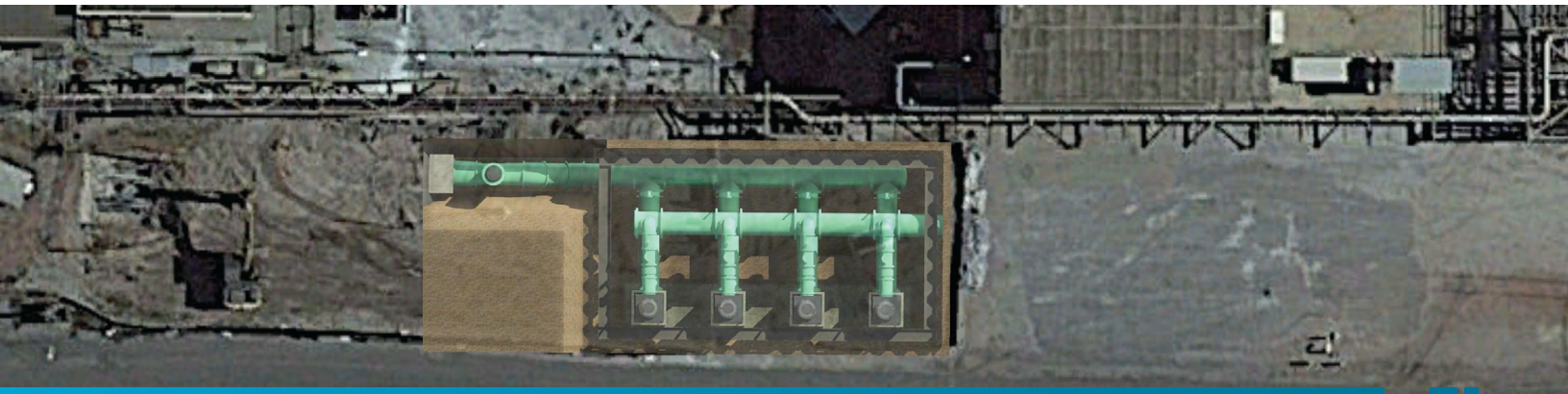
Preference Satisfied: ☒ 3.a. ≥42-inch Pipeline ☒ 3.b. ≥50-MGD Capacity or ≥200 HP Pump Station

☒3.c. Alternative Project Delivery ☒3.d High Groundwater Conditions

Description of Work Performed and Explanation of Differences in Budget and Final Cost:

Archer Western was chosen as the CMAR to implement a program for the design and construction of the Lower Bois d'Arc Creek Reservoir. The lake serves a growing population of 1.7 million North Texans. This formed part of a $1.6B program, including dam construction, water treatment plant, pump station and environmental mitigation.

Archer Western constructed the raw water pump station located downstream of the Lower Bois d'Arc Creek Reservoir dam embankment between the dam and the service spillway on the Leonard Water Treatment Plant work being performed for North Texas Municipal Water District. The raw water pump station include d side suction, horizontal split-case pumps with suction from a pipe header or manifold, and discharge to a similar pipe header located within a dry below grade pump room. The 290 x 80 inch pump vault was constructed to accommodate a build-out of nine pumps and all associated appurtenances and equipment. The initial pump installation consisted of three 50 MGD pumps at 250 inch total dynamic head operating with adaptive frequency drives. The pump station also included the discharge pipeline, flow meter, reservoir release outlet valves and pipe, pump and electrical building, and other infrastructure to support the pump station.



TAMPA BAY DESALINATION FACILITY INTAKE

TAMPA BAY WATER (TBW)

The project included the design, construction, and commissioning of a new intake pump station for the TBW Desalination Plant. The pump station is located at TECO's Big Bend Power Station and draws seawater into the reverse osmosis facility. The scope includes a new pump station and associated pipeline work, new electrical infrastructure, modifications to the existing pump station, and associated sitework required to support the work.

SIMILARITIES

- **Collaborative Delivery**
- **Large Diameter Pressure Pipelines**
- **Dewatering In High Groundwater Conditions**
- **Pump Stations greater than 50MGD**

LESSONS LEARNED & INNOVATIONS

The project was initiated during a time of high market volatility and challenging lead times on critical equipment, and success required close collaboration between the owner, owner's advisor, property owner (TECO) and the progressive design-build team, to generate innovative approaches to reduce costs, mitigate lead time challenges, and enhance functionality.

One such innovation the team developed was modifying the electrical gear package to substitute long lead components with more readily available components, enhancing lead times and reducing costs. The collaborative solution reduced the lead times by six months and generated more than $100,000 in project savings.

An additional value engineering idea included reducing the pump sizing and increasing the number of pumps to better meet short-term and long-term needs.

REFERENCE FORM
PROJECT NO. *3*, *TAMPA BAY DESALINATION FACILITY INTAKE*

Respondent: Archer Western Construction, LLC

Role on Reference Project (Prime, Sub-Contractor, Engineer of Record, etc.) Prime Contractor

Reference Entity: Tampa Bay Water

Reference Contact Person: Danielle Keirsey

Reference Address: 2575 Enterprise Rd, Clearwater, FL 33763

Reference Email Address: dkeirsey@tampabaywater.org

Reference Phone No.: 727.791.2377

Project Delivery Method: Fixed Price Design-Build (DB)

Project Location: Apollo Beach, FL

Respondent Project Manager: J.D. Gillespie

Project Engineer of Record: Wade Trim

Date Project Commenced: December 1, 2022

Date of Final Completion or Status: August 31, 2024

Project Budget at NTP ($ million not including contingency and allowance): $22.45M

Project Cost at Final Completion ($ million including contingency and allowance): TBD

Preference Satisfied: ☒ 3.a. ≥42-inch Pipeline ☒ 3.b. ≥50-MGD Capacity or ≥200 HP Pump Station

☒3.c. Alternative Project Delivery ☒3.d High Groundwater Conditions

Description of Work Performed and Explanation of Differences in Budget and Final Cost:

Archer Western was selected for this Fixed Price D-B project to design, construct and commission a new intake pump station for the Desalination Plant. The pump station is located at TECO Energy's Big Bend Power Station, and will draw from a second tunnel with full redundancy to alleviate the sole reliance on seawater supply from one tunnel. The pump station is being constructed at 35' in depth (-28' elevation) adjacent to Tampa Bay and will include (4) 200HP vertical turbine pumps capable of 60MGD pumping capacity. The pump station includes a new elevated electrical building platform for all gear and transformers. The pump station discharges seawater via 54" FRP force main piping to the Desalination Plant. The scope includes design, construction and commissioning of the new pump station and associated pipeline work, new electrical infrastructure and modifications to the existing pump station and associated site work required to support the work.

MILLER PUMP STATION

U.S. ARMY CORPS OF ENGINEERS (USACE) AND SOUTH FLORIDA WATER MANAGEMENT DISTRICT

This pump station was part of the Picayune Strand Restoration Project. The project, managed by ACOE, was designed to restore more than 55,000 acres of land in southwestern Collier County to a healthy functional wetland system. The project entailed removing the infrastructure of a subdivision and restoring its pre-drainage hydrology and ecology, generating positive effects on the hydrology, vegetation, and wildlife of the project area and surrounding public lands.

SIMILARITIES

Pump Stations greater than 50MGD

Large Diameter Pressure Pipelines

Dewatering In High Groundwater Conditions

LESSONS LEARNED & INNOVATIONS

The project faced challenges relating to the environmental conditions and numerous project stakeholders. During partnering meetings, members were encouraged to be transparent, share their experience with similar projects, to minimize design changes and expedite risk mitigation strategies.

This project included near identical site conditions and scope of work to the PR3 Project, such as high groundwater conditions and a large pump station in Southwest Florida. The subsurface conditions included fragmented and sand-filled rock with an abnormally high horizontal flow of groundwater. After initially excavating and dewatering the structure, it was determined a cut-off wall was necessary to manage pumping volumes. The construction team implemented creative strategies to mitigate delays, by designing and constructing a barrier wall to cut off lateral flows of water entering the excavation, reducing the dewatering volumes from more than 250,000 GPM down to 10,000 GPM. This early investigation and engineering strategy saved the project over $5M in potential project dewatering costs.

REFERENCE FORM
PROJECT NO. *4, MILLER PUMP STATION*

Respondent: Archer Western Construction, LLC

Role on Reference Project (Prime, Sub-Contractor, Engineer of Record, etc.) Prime Contractor

Reference Entity: U.S. Army Corps of Engineers (USACE)

Reference Contact Person: Stephen Montjoy

Reference Address: 701 San Marco Blvd, Jacksonville, FL 32207

Reference Email Address: Stephen.C.Montjoy@usace.army.mil

Reference Phone No.: 504.421.5281

Project Delivery Method: Design-Bid-Build (DBB)

Project Location: Naples, FL

Respondent Project Manager: J.D. Gillespie

Project Engineer of Record: USACE

Date Project Commenced: October 1, 2017

Date of Final Completion or Status: May 31, 2018

Project Budget at NTP ($ million not including contingency and allowance): $75.71M

Project Cost at Final Completion ($ million including contingency and allowance): $79.21M

Preference Satisfied: ☒ 3.a. ≥42-inch Pipeline ☒ 3.b. ≥50-MGD Capacity or ≥200 HP Pump Station

☐3.c. Alternative Project Delivery ☒3.d High Groundwater Conditions

Description of Work Performed and Explanation of Differences in Budget and Final Cost:

The Miller Pump Station uses a combination of electrical and diesel engine powered pumps that will maintain the current level of flood protection upstream in the Miller Canal, while at the same time providing the necessary sheet flow to the Picayune Strand State Forest, which facilitates ecosystem restoration. The station was designed to have five primary diesel engine pumps and one additional pump to allow the facility to function at full capacity in the event that a unit was out of service. The pump station features two primary back-up generators, allowing for full operation of the station if both generators are running, or up to 95% flow capacity operation with only one generator. The facility contains a hurricane-rated safe room in the control building, and satellite communication devices to provide for safe operation during hurricane-force winds.

Given that the Miller Pump Station project was conducted in an environmentally sensitive area inhabited by several endangered species, all personnel participated in environmental training upon arriving to the site their first day. Unique challenges in construction often inspire innovation.

The subsurface conditions of the site included fragmented and sand-filled rock with an abnormally high horizontal flow of groundwater. An impermeable barrier was designed and constructed by Archer Western to cut off all lateral flows of water entering the excavation site. The entire excavation was encapsulated by a slurry wall, reducing the dewatering volumes from 250,000 GPM down to 10,000 GPM. This innovation was a key-turning point to this successful project.

UPPER TRINITY WATER 72" PARALLEL PIPELINE

UPPER TRINITY REGIONAL WATER DISTRICT (UTRWD)

This project consisted of the installation of 20,000 linear feet of 72" pipe through a main thoroughfare in an urban neighborhood. Adding to the complexity of the project was the need to cross railway and utility lines, dig 11 tunnels, and timely navigation around a school zone.

SIMILARITIES

Collaborative Delivery

Large Diameter Pressure Pipelines

Dewatering In High Groundwater Conditions

LESSONS LEARNED & INNOVATIONS

CMAR was used due to a limited construction schedule. As CMAR, Archer Western procured 72" pipe and valves four months ahead of design completion, saving over $200,000 in material in the middle of an international trade war. During preconstruction Archer Western helped identify critical risk items.

Approximately eight months into the project, the design engineer and owner approached Archer Western to install an additional 1,300 more feet of 72" within the WTP, previously planned as a second phase. UTRWD realized they could reduce costs by adding into our project. The biggest benefit to UTRWD was the ability to hold original contract prices from the pipe and valve supplier, and receive materials in time to install the connection pieces within our originally scheduled shut-down time frames.

UTRWD issued three additional change orders to complete some high-risk pipe rehabilitation and tie-ins, prior to our team demobilizing from the project. UTRWD had grown comfortable with our team and our processes and decided there was less risk in adding the work, rather than send it out for bid.

REFERENCE FORM
PROJECT NO. 5, UPPER TRINITY WATER 72" PARALLEL PIPELINE

Respondent: Archer Western Construction, LLC

Role on Reference Project (Prime, Sub-Contractor, Engineer of Record, etc.) Prime Contractor

Reference Entity: Upper Trinity Regional Water District (UTRWD)

Reference Contact Person: Tom Snyder

Reference Address: 900 N. Kealy Street; Lewisville, TX 75067

Reference Email Address: tsnyder@utrwd

Reference Phone No.: 972.333.0975

Project Delivery Method: Construction Manager At Risk (CMAR)

Project Location: Lewisville, TX

Respondent Project Manager: Michael Suarez

Project Engineer of Record: Alan Plummer Plummer & Associates

Date Project Commenced: March 30, 2020

Date of Final Completion or Status: April 29, 2022

Project Budget at NTP ($ million not including contingency and allowance): $33.9M

Project Cost at Final Completion ($ million including contingency and allowance): $40.5M

Preference Satisfied: ☒ 3.a. ≥42-inch Pipeline ☐ 3.b. ≥50-MGD Capacity or ≥200 HP Pump Station

☒3.c. Alternative Project Delivery ☒3.d High Groundwater Conditions

Description of Work Performed and Explanation of Differences in Budget and Final Cost:

This project consisted of design and construction of approximately 19,000 linear foot of 72" diameter treated water pipeline, 10 tunnels crossing various streets, IH 35E, railway lines and privately owned areas, and other crossings of approximately 55 utility lines. As the CMAR, Archer Western procured 72" pipe and valves 4 months ahead of design completion, saving over $200,000 in material during a global materials shortage. We sourced expertise from respected peers prior to the release of bid packages, mitigating budgetary risk, and providing access to quality subcontractors. During preconstruction, developed a risk register for the project. Two of the major items were the use of several flagmen, and the possibility of large boulders in the path of the pipeline trench and tunnels. As part of a value engineering exercise to eliminate the budgetary risk, the flagmen were sourced directly by UTRWD, and a fee per occurrence was added if a contractor were to discover a boulders when laying the pipe.

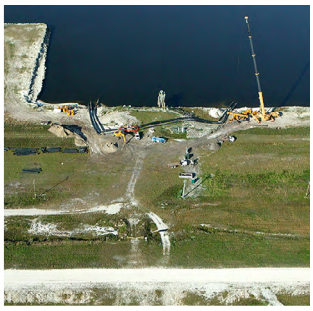
The design team approached Archer Western to perform additional pipeline installation within the WTP, which had previously formed the scope of a future phase of the project. This provided significant cost saving as the procurement was included in the larger pipe and valve order at a discounted, and materials were received in time to install the connection pieces during a scheduled shut-down, minimizing the impact on plant operations. UTRWD saw Archer Western as a trusted partner, with willingness to cooperate, and issued three additional change orders to complete some high-risk pipe rehabilitation and tie-ins.

DECADES OF WATER INFRASTRUCTURE CONSTRUCTION EXPERIENCE

Archer Western's experience extends well beyond water infrastructure. Across the country, our clients trust us with their most critical and challenging heavy civil projects in any environment, leaving a legacy which services communities for decades to come.

L-8 RESERVOIR PUMP STATION & INFLOW STRUCTURE, LOXAHATCHEE, FL

This design-build project required construction of a new 450 CFS pump station and inflow spillway into the existing L-8 reservoir for South Florida Water Management District. Scope included expansion of the reservoir capacity to 12 billion gallons, requiring extensive dewatering, earthworks, and slope stabilization improvements.



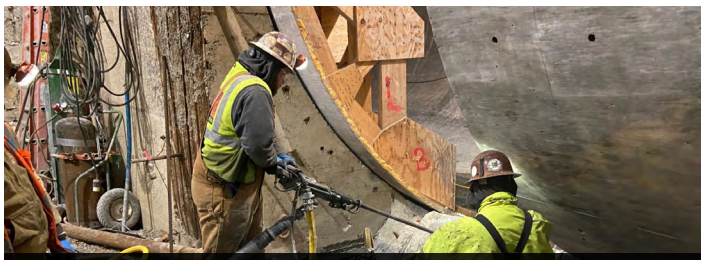
Archer Wester self-performed 64% of the scope on this collaborative delivery pump station and reservoir project in similar high water, geological conditions.

HERBERT HOOVER DIKE (LAKE OKEECHOBEE)

This $28M project, in collaboration with the USACE, consisted of the demolition of existing culverts, construction of new structures, placing cutoff walls at culvert locations, placement of new CIP reinforced concrete headwalls, foundations, water control structures, and restoring embankment. Work also included dewatering, re-watering upon completion for the new water control structures, removal of the cofferdams, and rip rap armoring.

THORNTON RESERVOIR

This $113M project connects an existing tunnel at the existing construction shaft stub-out to a reservoir, featuring a concrete lined tunnel, reinforced wet well shaft, maintenance bulkhead, and bifurcated tunnel conduits.

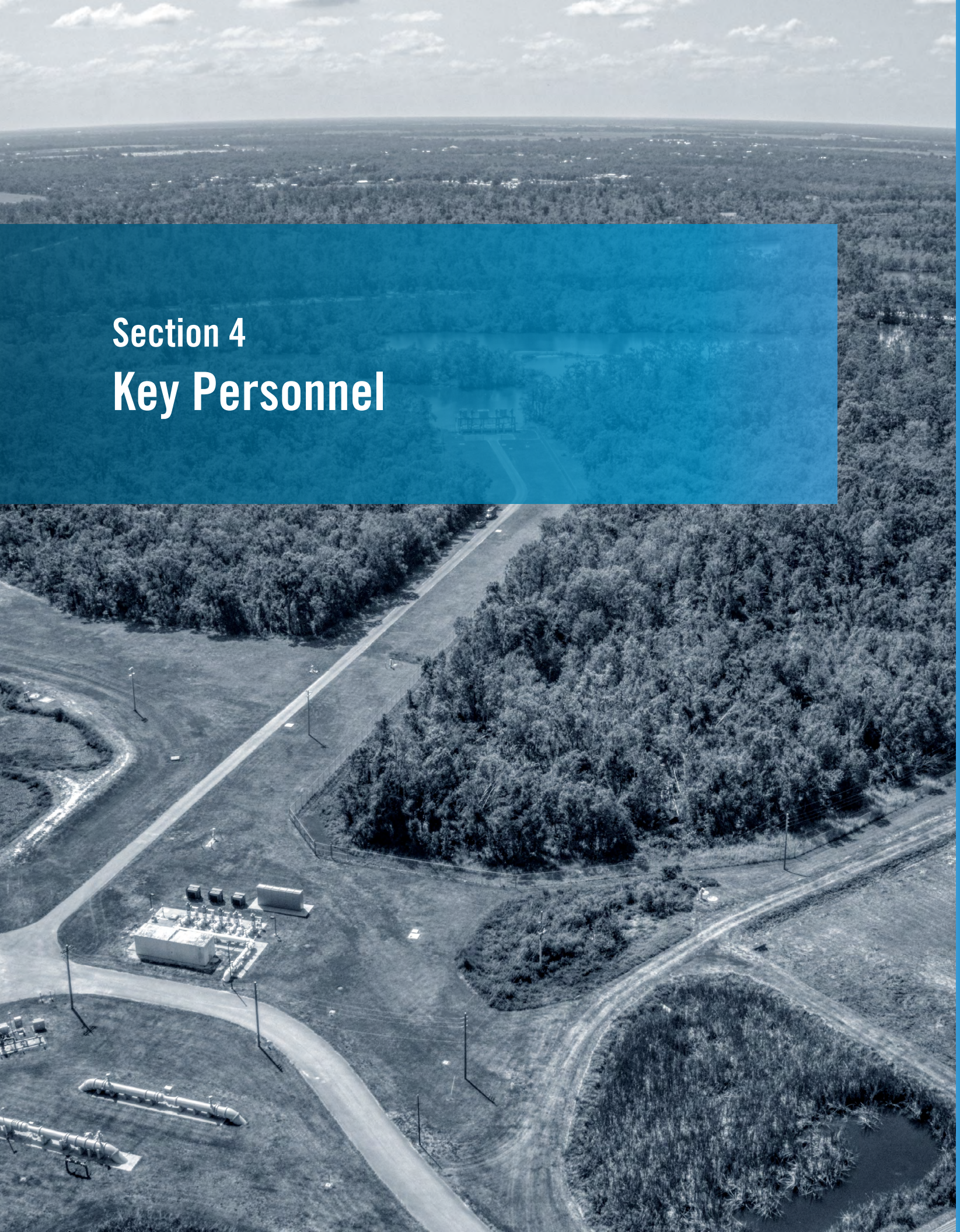


MCCOOK RESERVOIR

This $108M project included construction of a 20-foot diameter concrete lined connection tunnel from an existing tunnel system to a reservoir including a gate shaft, installing reservoir level and tunnel in flow instrumentation, and electrical equipment.

Exhibit 14: RFQ Attachment A - Key Personnel Chart

Key Personnel	Key Personnel Role on Phase I Preconstruction Services for Project	Key Personnel Role on Phase II Construction Services for Project	Current Employer	Years of Exp	Assigned Office City/State	Reference Project No.1 LOWER BOIS D'ARC CREEK RESERVOIR DAM	Reference Project No.2 LOWER BOIS D'ARC CREEK INLET PUMP STATION	Reference Project No.4 TAMPA BAY DESALINATION FACILITY INTAKE	Reference Project No.3 MILLER PUMP STATION	Reference Project No.5 UPPER TRINITY WATER 72" PARALLEL PIPELINE
Robert Bruner, PE, DBIA, ENV SP	Project Director	Project Director	Archer Western	31	Tampa, FL			Program Manager	Program Manager	
Jeff Polak, Assoc. DBIA	Preconstruction Manager		Archer Western	40	Irving, TX	Program Manager	Program Manager			Program Manager
Matt Tracy, ENV SP	Procurement Manager	Procurement Manager	Archer Western	16	Tampa, FL			Preconstruction Manager		
Steve Cornett	Lead Estimator	Lead Estimator	Archer Western	27	Atlanta, GA			Lead Estimator	Lead Estimator	
Johnathan Polak	Constructability Lead		Archer Western	12	Irving, TX	Assistant Project Manager	Assistant Project Manager			Constructability Lead
Vernon Perdue	Construction Manager	Construction Manager	Archer Western	40	Tampa, FL			Superintendent (SI)		
JD Gillespie, DBIA	Pipeline Project Manager	Pipeline Project Manager	Archer Western	14	Tampa, FL			Project Manager	Project Manager	
Justin Hale	Pump Station Project Manager	Pump Station Project Manager	Archer Western	15	Tampa, FL				Assistant Project Manager	
Wayne Pursley		Pipeline Superintendent	Archer Western	40	Tampa, FL	Project Manager	Project Manager			Superintendent
Doug Laub		Pump Station Superintendent	Archer Western	28	Tampa, FL			Pump Station SI		
Larry Nourse	Electrical Consultant		Miller Electric	31	Tampa, FL			Electrical Consultant		
Reference Project Details										
Reference project was completed for the Authority (X)										
Reference Project Location						Honey Grove, TX	Honey Grove, TX	Tampa, FL	Naples, FL	Lewisville, TX
Reference Project Budget at NTP ($ million not including contingency and allowance)						$216.6	$76.7	$22.5	$75.7	$33.9
Reference Project Cost at Completion ($ million including contingency and allowance)						$218.8	$78.1	$22.5	$79.2	$40.5
Contract Extension (Actual Final Completion Date minus Scheduled Final Completion Date at NTP)						N/A	N/A	N/A	N/A	N/A
Project Status - (Complete, Ongoing, Other)						Complete	Complete	Ongoing	Complete	Complete
Reference Project Delivery Method - Design Bid Build (DBB), Progressive Design-Build (PDB), Design-Build (DB), Construction Management at Risk (CMAR), Other (O)						CMAR	CMAR	PDB	Other (Best Value)	CMAR
Reference Project Preference Collaborative Delivery (X)						X	X	X		X
Reference Project Preference large diameter pressure pipeline >42-inch diameter (Largest Inch Dia.)						90"	72"	54"	66"	72"
Reference Project Preference dewatering in high groundwater conditions typical of Florida (X)						X	X	X	X	X
Reference Project Preference pump station >200 HP or >50 MGD pumping capacity (Largest MGD/HP)						50MGD / 2700HP	150MGD	60MGD / 200HP	150MGD / 575HP	10 MGD / 200 HP



Section 4
Key Personnel

OUR PEOPLE ARE FULLY COMMITTED AND READY TO SERVE THE AUTHORITY

Archer Western has assembled a dynamic team to collaborate with the Authority on every component of the PR3 Pumping and Conveyance Project.

By leveraging the expertise of our local and national network, we can offer a robust, long-term partnership with a thorough understanding of the program, in-depth knowledge of local conditions, and recent experience in delivering similar projects. **Bob Bruner, as Project Director, will be the main point of contact throughout the entire Project.** This ensures ongoing integration of CMAR personnel through both Phases I and II. Preconstruction Manager, Jeff Polak, brings his relevant CMAR management experience from both the Lower Bois d'Arc and Parallel Pipeline projects. As Construction Manager, Vernon Perdue, with his decades of field experience, will ensure safety, quality, budget, and schedule are maintained.

Exhibit 14: Leadership Team

Specifically tailored to this project and scope of work

Every member of the Archer Western team has been selected for their specialized skillset to best meet the Authority's needs. We have drawn from our deep bench of professionals, locally and nationally, to bring unmatched experience and a proven track record of satisfied clients to the PR3 project. Many of our staff of professionals have successfully collaborated on recent, major upgrade and expansion projects, including those on the Lower Bois d'Arc Reservoir program, Tampa Bay Water Desalination Intake, and Miller Pump Station. These established relationships allow for immediate integration to meet the Authority's objectives.

Our people live and work in this community

Capacity to deliver is a key element in achieving the Authority's goals. Our team's capacity includes local project leadership and seasoned craft workers located in the Tampa Bay region. Archer Western has served Florida for 40 years, establishing a Tampa office in 1983. The project will be managed from our Tampa office, and during construction, staff will be located at the job site. As one of the nation's largest and most respected self-performing general contractors, **with over 500 dedicated professionals and craftspersons locally**, we have the expertise and capacity to meet your schedule and budget.

Bob Bruner, PE, ENV SP, DBIA

PROJECT DIRECTOR

Bob will be the single point of contact for the Archer Western CMAR team. His leadership, decision-making, and commitment to teamwork make him ideally suited to lead this project.

PROFESSIONAL BACKGROUND:

30+ Years in the construction Industry
100+ Collaborative Delivery Projects

CERTIFICATION:

Professional Engineer (PE)
DBIA
ENV SP
OSHA 30

Bob directs efficient design-build integration.

Current and Past Work Experience » Bob brings more than **30 years of experience** managing large, complex pipeline, pump station, and water facilities expansion projects. With more than **20 years of experience as a project manager,** he has a strong track record for delivering construction projects safely, on time and on budget. Through his involvement in over 100 collaborative delivery projects, Bob is known for his ability to bring teams together, earning him recognition within the industry as an experienced and well-respected project leader.

DESCRIBE YOUR LEADERSHIP STYLE IN THREE WORDS:

» Accessible
» Passionate
» Decisive

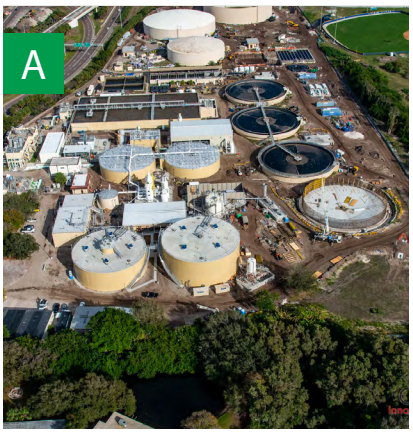
Effective Team Collaboration » Bob will plan, organize, and direct resources across all phases and tasks. He will be supported by Preconstruction Manager, Jeff Polak, and Construction Manager, Vernon Purdue, who serve as phase managers. Bob will create integration among design, permitting, construction, and operations personnel. By including construction and operations leadership during design development, he will make sure that constructability and operability are accounted for, maximizing our focus on system startup and long-term operations efficiency. Bob will recruit local subcontractors and vendors through his network of relationships and boots on the ground approach to ensure broad participation on all scopes of work for the project.

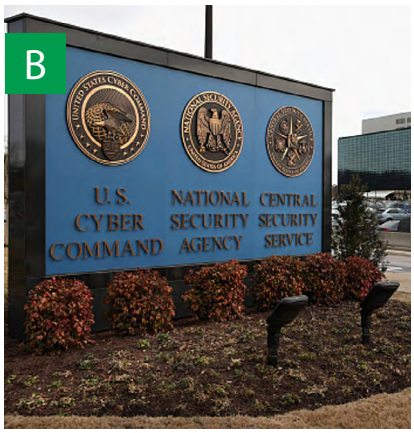
Q: How does your experience at the SWWRF Biosolids & Waste to Energy Project influence your success for the Peace River PR3 project?

A: Similar to the need for collaboration with the Peace River Manasota Regional Water Supply Authority on the PR3 Project, the City of St. Petersburg wanted to be involved in the project activities and fully informed of our progress. With four national consulting firms each having a piece of the design and the project being the City's first CMAR, the need for communication was imperative to meeting project goals. I implemented daily progress updates, as well as led detailed updates about our upcoming work plans

Q&A

and techniques we would use to perform the work. I see huge value and opportunity for communication and collaboration on the PR3 program. On the SWWRF project, we created work-planning sessions with the owner representative, construction manager, and onsite operators. We kept them informed on what work was planned and how we were going to deliver it while avoiding potential impacts. We learned that this was the best approach to take to deliver a successful project. The owner was always well-informed. This active collaboration with the owner and its operators also provided uninterrupted plant performance. We, in return, eliminated owner frustrations over any surprises from us, received early buy-in on our plans, and gained owner trust and respect. To be successful on the PR3 project, we'll communicate with the Authority at a time, occurrence, and level of detail where it is most comfortable and can make the best decisions.





Featured Program Management Expertise

A Southwest WRF Biosolids Waste to Energy and Capacity Improvements, City of St. Petersburg | $124M

The City's first CMAR project, constructing a Biosolids to Energy facility ($69M). During which an emergency consent order CMAR was added to improve plant capacity at the SWWRF ($55M).

Bob was instrumental in making sure the entire team communicated and collaborated on the City's first CMAR at the SWWRF. He showed true leadership by integrating the City staff and four major consultants on two concurrent projects to successfully deliver on our project goals.

— **DIANA SMILLOVA, P.E**
City of St. Petersburg

B Utility Privatization ICI Fort Meade » American Water (AW) Military Services Group | $75M

50-year Utility Privatization contract at Fort Meade. Initial Capital Improvements (ICI) included 22 potable water system projects and 26 wastewater system projects. All projects associated with this 5-year ICI program were completed through design-build delivery.

C Utility Privatization ICI Fort Belvoir » AW Military Services Group | $68M

50-year Utility Privatization contract at Fort Belvoir. Initial Capital Improvements (ICI) included 20 potable water system projects and 16 wastewater system projects. All projects associated with this 5-year ICI program were completed through design-build delivery.

Jeff Polak, Assoc. DBIA

PRECONSTRUCTION MANAGER

Jeff is fully invested in collaborating with the Authority to create a long lasting asset for members using a fully transparent cost model.

PROFESSIONAL BACKGROUND:

40+ Years construction experience in the water Industry
100+ Collaborative Delivery Projects

CERTIFICATION:

Associate DBIA Certified Professional
CPR/First Aid
OSHA 30-Hour Certified
Crane Safety Awareness

Jeff manages preconstruction planning and design.

Current and Past Work Experience » Jeff brings more than **40 years of experience** managing construction of water infrastructure. He is an expert in cost model development and value driven results. Jeff has experience leading collaborative delivery projects over $500M and successfully led the team on both the Lower Bois d'Arc program and the UTRWD Parallel pipeline projects. His recent, relevant experience on pipelines, reservoirs, and pump stations in a similarly hot water market will be invaluable to the project.

DESCRIBE YOUR LEADERSHIP STYLE IN THREE WORDS:

» Advocate
» Collaborative
» Pragmatic

Effective Team Collaboration » Jeff provides leadership in the conceptual design phase and coordinates all preconstruction and GMP development efforts while making sure the Authority is engaged at the appropriate level to review and endorse decisions. Authority involvement and decision-making during the preconstruction and GMP development phase will ensure our collaboratively developed GMP is transparent, market competitive, and auditable. Once the construction phase begins, Jeff will continue to collaborate with the Authority and construction team to provide scope management and project quality.

Q: What has prepared you to manage Pre-Construction activities and collaborate with the team to drive value on the PR3 Project?

A: For the past four decades I have worked for numerous authorities and municipalities, providing the best customer service by focusing on their goals. My greatest honor is having former customers continue to choose Archer Western. The Lower Bois d'Arc program put us over 40 projects completed in the last 20 years for the NTMWD. I will bring that same customer focused outlook to the PR3 project for the Authority. Having worked in a competitive bid market for a majority of my 40 years, I understand how to bring value in a project.

Q&A

Featured Project Expertise

A CMAR St. Vrain WWTP Improvements GMP Package » St. Vrain Sanitation District | $32M

Project Director. CMAR delivered project allowing Archer Western to contribute heavily to the design phase, bringing better value, constructability and lower overall cost to the owner. Major work items included: 1) Construct additional anaerobic selector. 2) Convert the two existing oxidation ditches into bioreactors. 3) Replace existing blowers with new turbo blowers to serve the converted basins. 4) Install new blower system. 5) Convert existing ATAD tanks to SNDR tanks. 6) Construct a new ATAD Building with ATAD tanks, odor control, relocate WAS piping & equipment, install new storage and feeds for polymer, ferric and coagulant systems. 7) Pair existing screw thickeners with new WAS thickener pumps. 8) Install new standby generator for new ATAD building. 9) Convert old clarifier to WAS holding tank with new grinder, mixing and aeration system.

B CMAR Lower Bois d'Arc Reservoir and Dam » NTMWD | $218M

Project Manager. CMAR for the design and construction of the Lower Bois d'Arc Creek Reservoir. This was the first major reservoir to be built in Texas in nearly 30 years. The lake serves a growing population of 1.7 million. One phase of this program was the construction of a dam across the Lower Bois d'Arc Creek. The dam consists of an earthen embankment approximately two miles long and 90 feet tall at its highest point with a soil bentonite cutoff trench in the foundation and the upstream face of the dam protected by soil cement. There is an uncontrolled three cycle labyrinth spillway with a 1,500 foot wide emergency spillway and a reinforced concrete water supply intake tower feeding the water supply pump station located on the downstream side of the dam.

C CMAR Parallel Pipeline » UTRWD | $40M

Program Manager. CMAR for construction of 19,000 linear-feet of 72-inch diameter treated water pipeline, 10 tunnels crossing various streets, IH 35E, railway lines and privately owned areas, and other crossings of approximately 55 utility lines. We procured 72-inch pipe and valves four months ahead of design completion, saving over $200,000. Gained industry expertise from trusted and respected peers prior to bid packages being advertised, which brought additional value in risk mitigation to the project, as well as providing for a viable selection of quality contractors at bid time.

Vernon Purdue

CONSTRUCTION MANAGER

Vernon commits to daily communication with existing operations management during construction to provide a smooth integration of construction activities into operations.

PROFESSIONAL BACKGROUND:

40+ Years of construction experience

CERTIFICATION:

Safety Trained Supervisor
OSHA 30-hour
FSESCI (Florida Stormwater Erosion and Sedimentation Control Inspector)
Crane Safety Awareness

Vernon minimizes operational impacts to facility upgrades.

Current and Past Work Experience » Vernon brings more than **40 years of experience** in the construction industry, specializing in reviewing plans, scheduling work, tracking job costs, managing daily field operations, and coordinating with the owner's engineers on a variety of large, complex construction projects, including pipeline and pump station construction. Vernon has managed projects of similar complexity and magnitude as PR3 and performed a range of superintendent responsibilities, such as safety management, and subcontractor coordination.

DESCRIBE YOUR LEADERSHIP STYLE IN THREE WORDS:

» Visionary
» Motivating
» Supportive

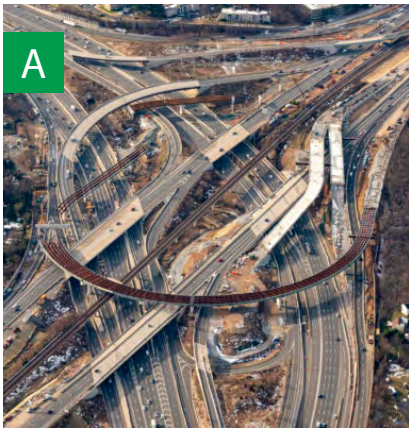
Effective Team Collaboration » As our construction manager Vernon will use his 40 years of construction experience and proactive problem-solving skills to avoid any conflicts on the job. He is technically knowledgeable and works well with the various trades. Vernon's focus on the client means that the end product meets the Authority's quality standards. Additionally, Vernon will continue to incorporate Archer Western's best in class safety program to ensure everyone with both the Authority and craft workers go home safe every day.

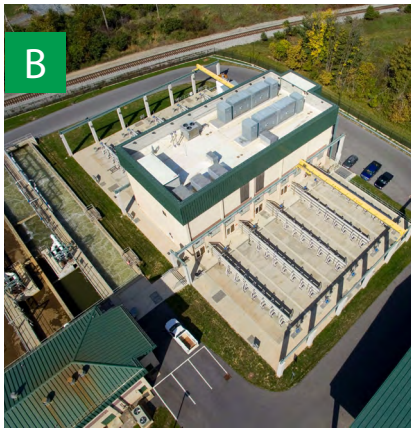
Q: Implementing upgrades without affecting ongoing operations can be a challenge. What is your approach to this type of upgrade work and how will you work alongside Authority staff and operations?

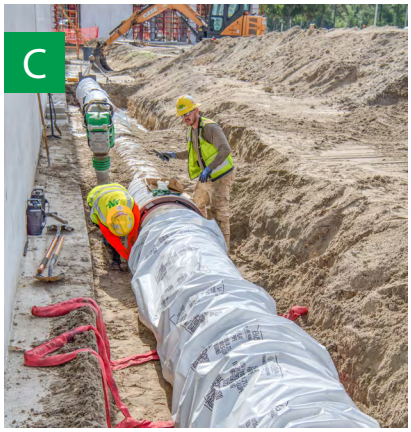
A: Implementing upgrades successfully is all about planning, knowing the "connection points," and communication. Before any work is done, we plan very carefully, sequencing work activities at times and in areas that minimize impact. Then we identify all work that may impact each system component or daily operational procedures. These are the critical "connection points" where operations and expansion work interact, and may include pipe tie-ins and bypass startup activities,

Q&A

to name a few. To eliminate any potential friction, we will submit our draft work plans in advance, then work with operators to produce a mutually agreeable work plan that achieves the required expansion work and makes sure that the operators and the Authority can feel secure that operational continuity will be maintained. We will maintain good communication through weekly or biweekly meetings to evaluate any new concerns they may have or any activities that may be coming up potentially impacting the system. Throughout all of this, I will be on site to provide leadership, help maintain performance, and look out for the safety of operators and construction crews. Because expanding the functionality and performance of an operating water system is a complicated endeavor, we leave nothing to chance, all onsite work will be planned, communicated, and agreed to before work gets done.







Featured Project Expertise

A Transform 66 Outside the Beltway » Fairfax, VA | $2.4B

Project Manager. This Design-Build, joint initiative, between the Virginia DOT, Department of Rail and Public Transportation (DRPT), and private partner, I-66 Express Mobility Partners, designed to transform Northern Virginia's Interstate 66. Improvements included 22.5 miles of dynamically-tolled Express Lanes, improved public transport transit routes, and enhancements for the community with the addition of bike and pedestrian trails. Vernon was responsible for multiple segments of the project, including major earthworks for the public transit system, and installation of 23,000-LF of storm water drains, managing multiple stake holders, and dispersed, specialized teams.

B Ballenger McKinney WWTP » Frederick, PA | $104M

Senior Project Manager. Construction of a 15 MGD expansion and enhanced nutrient removal upgrade of the existing 7 MGD WWTP. This included construction of new influent screens, influent pumping station, grit removal facility, primary clarifiers, and a new 2mm fine screening facility.

C Southeast WWTP Improvements & Expansion » Pasco County | $112M

Construction Manager. The project consists of construction of a new headworks facility, two new aeration basins, one new clarifier, new filter structure, new backwash basin, new chlorine contact basin, new sludge holding basin, new high service pump station, and dewatering facility.

	NAME/ROLE/ QUALIFICATIONS	RELATED EXPERIENCE	VALUE TO THE AUTHORITY
	*Matt Tracy, ENV SP* **PROCUREMENT MANAGER** Matt has become an expert in managing supply chain and evaluating value with suppliers and vendors in the Florida market. He works closely with our customers to discuss options in choosing the low-cost to provide value.	• Matt was instrumental with coordinating long lead items to meet the tight schedule on the award winning Lift Station 87 project	✓ Recent and relevant supply chain management experience. ✓ Understands Florida ODP rules and where it can add value. ✓ Great relationship with local vendor partners to ensure quality start-up and equipment O&M for long term operations.
	*Steve Cornett* **LEAD ESTIMATOR** Steve will work closely with the design and preconstruction teams to ensure cost representation in all meetings, workshops and decisions. He will manage the live cost model and work closely with Procurement Manager, Matt Tracy, on bid package structuring and procurement planning.	• Steve brings 26 year of experience in estimating large and complex infrastructure projects. He has been responsible for estimating more than $4B of contract work	✓ Offers valuable strategies during the preconstruction phase for project cost savings and budget management. ✓ Has led hundreds of bids in the Southeast and understands the market. Also leads the competitive bid jobs and understands how to work with partners to bring value.
	*Johnathan Polak* **CONSTRUCTABILITY** John will work with the design and construction teams to lead constructability reviews, as well as lead risk management and register activities.	• Has vast leadership experience on large, multi-phase water and other heavy civil construction projects, with expertise in project controls, such as cost management and scheduling	✓ Having worked as a Project Manager on the entire Lower Bois d'Arc program, John brings his understanding of risk and lessons learned to apply to the PR3 project with awareness of its impact to future stages of the SWEP.
	*Larry Nourse* **ELECTRICAL CONSULTANT** Larry will provide valuable insight into constructability issues specific to electrical components.	• Has over 30 years experience with large-scale electrical requirement in challenging conditions	✓ Accustom to working closely with multiple stakeholders to ensure electrical systems are designed with the end-result in mind and clearly communicated to all parties.

	NAME/ROLE/ QUALIFICATIONS	RELATED EXPERIENCE	VALUE TO THE AUTHORITY
	*JD Gillespie, DBIA* **PIPELINE PROJECT MANAGER** JD will lead construction phase pipeline activities, coordinate/ communicate with the Authority, oversee compliance with work plans, schedule, safety plans and other controls. He will report progress to the Authority and leadership.	• As a seasoned and accredited DBIA professional with 13 years of compatible project experience, JD recently lead the team responsible for delivering the Lift Station 87 project within a compressed schedule	✓ Tampa Bay Resident for 15 Years. ✓ Possesses outstanding leadership and communication skills, renowned for his ability to value engineer and maintain project schedules.
	*Wayne Pursley* **PIPELINE SUPERINTENDENT** Wayne is responsible for the supervision of pipeline construction work, onsite safety management, subcontractor coordination, and overseeing the performance of construction tasks to ensure compliance with design and Owner's satisfaction.	• Wayne lead site work for the Lower Bois d'Arc Reservoir program and, more recently, Lake Ralph Hall Raw Water Pump Station. He is relied upon to deliver some of the most complex water infrastructure projects in our portfolio	✓ Wayne has more than 40 years of experience overseeing the construction of large water infrastructure projects as a collaborative and hands-on superintendent, which will result in a high-functioning field operation.
	*Justin Hale* **PUMP STATION PROJECT MANAGER** Justin will lead construction phase pump station activities, coordinate/communicate with the Authority, oversee compliance with work plans, schedule, safety plans and other controls. He will report progress to the Authority and leadership.	• Justin has constructed five pump stations in the Southeast over the past five years, including the Cartersville Water Pollution Control Plant with Hazen	✓ Experience working with pump vendors from design through start-up. ✓ Knowledge of high groundwater situations and ensuring safe, quality construction practices in those areas. ✓ Works closely with operations to train and meet project goals.
	*Doug Laub* **PUMP STATION SUPERINTENDENT** Doug will be involved during preconstruction, for logistics planning and constructability guidance. During construction, his focus is execution of mechanical and electrical work.	• Doug was part of a team which recently constructed two pump stations and pipelines in Gallup, NM to convey water from the WTP to downstream reservoirs and pump stations for the Navajo Nation water supply	✓ With almost 30 years in the industry, Doug has lead successful field operations on dozens of projects and is a respected site leader.

Exhibit 15: Organizational Chart

ENGINEERING DESIGN TEAM

HDR

Hazen

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

ADVISORY TEAM

Brown AND Caldwell

KEY PERSONNEL

DAVID WALKER
Vice President - Southeast Water Group

BOB BRUNER, PE, DBIA, ENV SP
Project Director

QUALITY & SAFETY

- CHAD TOWNSEND Quality Manager
- JOSEPH LOYA Safety Manager

PHASE I » PRECONSTRUCTION

JEFF POLAK, ASSOC. DBIA
Preconstruction Manager

MATT TRACY, ENV SP
Procurement Manager

JOHNATHAN POLAK
Constructability Lead

STEVE CORNETT
Lead Estimator

- Dallas Evans Pipeline/Mech Estimating
- Jeff Will Marine/Heavy Civil Estimating
- Clay Strovinskas Structural Estimating

- Justin Hale Scheduling
- Greg Dills Value Engineering
- Ryan Conner Electrical Advisor

MILLER Electric Company

LARRY NOURSE
Electrical Consultant

PHASE II » CONSTRUCTION

VERNON PERDUE
Construction Manager

JD GILLESPIE, DBIA
Pipeline Project Manager

WAYNE PURSLEY
Pipeline Superintendent

- Thomas Ruedinger Assistant Project Manager (Piping)
- Tyler Pelton Project Engineer
- Marvin Medina Project Engineer

JUSTIN HALE
Pump Station Project Manager

DOUG LAUB
Pump Station Superintendent

- Ryan Conner Assistant Project Manager (Structures & Electrical)
- Myles Routh Project Engineer
- Justin Quary Project Engineer

- Brent Bieske Virtual Design & Construction (VDC) Manager
- Butch Babler MOPO, Startup and Commissioning Manager

PROJECT DIRECTOR

BOB BRUNER, PE, DBIA, ENV SP

EXPERIENCE
- 31 years

EDUCATION
- B.S., Construction Engineering, Purdue University

CERTIFICATION
- Registered Professional Engineer
- Envision™ Sustainability Professional
- DBIA, Design-Build Institute of America certified

Bob is an engaging Project Director with a wealth of experience delivering water infrastructure projects of similar significance over the past 30 years. His clients consider him a solutions provider, partner, and trusted advisor.

Bob will be you your committed Single Point of Accountability. Establishing the partnering environment to ensure all stakeholders are comfortable collaborating toward the most effective solutions, ensuring the project is delivered to the satisfaction of the Authority.

WHY BOB?

- *Extensive Collaborative Delivery Experience:* Direct management or oversight on more than 100 collaborative delivery projects.
- *Strong Client Advocate:* Thorough understanding of the project objectives and continuous engagement with the County.
- *Exemplary Leadership Record:* Fostering teamwork and development through all project phases.

Southeast WWTP Improvements & Expansion, Pasco County, Zephyrhills, FL » $112M

Program Manager on this WWTP expansion project to service a rapidly growing community, managing multiple stakeholders.

Southwest WRF Capacity Improvements » City of St. Petersburg, FL » $55M

Project Manager on two concurrent CMAR projects at the same site, requiring coordination with multiple designers and both construction teams, to maximize efficiency, prevent design and scheduling conflicts, and monitor budgets and cashflows.

KEY PROJECTS

Tampa Bay Desalination Facility Intake, Apollo Beach, FL » $22M

Project Director - Fixed-price design-build, project entailing a new intake pump station. The intake facility discharges to an existing pipeline conveying water to the Desalination Plant for processing. Project includes four 200 HP Vertical Turbine Pumps, 600 LF of 54" FRP discharge Piping, a new precast electrical building, and associated appurtenance.

Southwest WRF Biosolids Waste to Energy, City of St. Petersburg, FL » $69M

Project Director - First of two concurrent CMAR projects, consisting of capacity improvements, demolishing abandoned digesters and existing dewatering infrastructure, upgrading the existing aeration basins, construction of two primary clarifiers, a complete TPAD system. Required coordination with multiple designers and both construction teams, to maximize efficiency, prevent design and scheduling conflicts, and monitor budgets and cashflows.

Lift Station 87 Wet Weather Flow Transfer, City of St. Petersburg, FL » $11M

Project Director - Progressive design-build project to balance wet weather flow between the southwest and northwest facilities during wet weather events. The scope includes a new lift station, three miles of 16" force main, and modifications to an existing lift station to connect the new force main.

Miller Pump Station/Picayune Strand Restoration, USACE, Naples, FL » $79M

Project Director - The project required removal of a subdivision's infrastructure, and restoration of its pre-drainage hydrology and ecology to generate positive effects on the hydrology, vegetation, and wildlife of the project area and surrounding public lands. The project included construction of the 1,250 cfs pumps station, tie-back levee, spreader berm and weirs; backfill, and clearing.

ADDITIONAL RELEVANT EXPERIENCE

Cypress Bridge Wellfield Improvements, Tampa Bay Water Authority

Cosme Water Treatment Plant Improvements, City of St. Petersburg » Odessa, FL

Boyette Reservoir Soil Ballast Improvements, Pasco County » Wesley Chapel, FL

Indiana American Water In-Line Booster Pump Station » West Lafayette, IN

Mount Holly/Long Creek Pump Stations» Charlotte, NC

Lift Station 87, St Petersburg FL

PRECONSTRUCTION MANAGER

JEFF POLAK, ASSOC. DBIA

EXPERIENCE
- 40 years

EDUCATION
- B.S., Civil Engineering, University of Nebraska

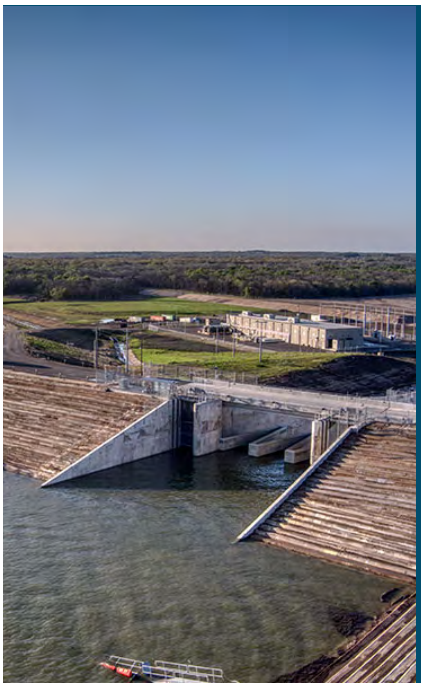
CERTIFICATION
- Associate DBIA Certified Professional
- CPR/First Aid
- OSHA 30 Hour Certified
- Crane Safety Awareness

Jeff brings four decades of construction experience with a robust performance record executing various water infrastructure projects and delivery systems ranging from $1M to over $218M.

He will lead the interface between the design and construction teams to ensure collective goals are achieved. He will steer the estimating team while the procurement plan is developed through to execution, engage Wayne to provide recommendations on constructability and value engineering, and ensure the VDC team has accurate data and produces timely outputs.

WHY JEFF?

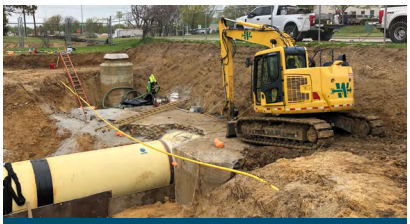
- *Scheduling and other project controls expertise:* Diverse project background spanning preconstruction and construction phases.
- *Experience leading large, multi-phase projects:* Recently successful delivery of the Lower Bois d'Arc Reservoir and Dam project in Texas.
- *Key Collaborator:* A conduit in a seamless transition through design to construction phases.



Lower Bois d'Arc Reservoir and Dam, NTMWD, Honey Grove, TX » $218M

Program Manager for several phases of this $1.6B program. He was the conduit between the District, various project managers, and engineers.

Archer Western has been trusted with 33 projects for NTMWD on the back of our successful partnership.



Parallel Pipeline, UTRWD, Lewisville, TX » $40M

Program Manager for this CMAR project, constructing 19,000 linear-feet of 72-inch diameter treated water pipeline.

KEY PROJECTS

Lower Bois d'Arc Reservoir and Dam, NTMWD, Honey Grove, TX » $218M

Program Manager - **CMAR** for the design and construction of the Lower Bois d'Arc Creek Reservoir. This was the first major reservoir to be built in Texas in nearly 30 years. The lake serves a growing population of 1.7 million. One phase of this program was the construction of a dam across the Lower Bois d'Arc Creek. The dam consists of an earthen embankment approximately two miles long and 90 feet tall, at its highest point, with a soil bentonite cutoff trench in the foundation and the upstream face of the dam protected by soil cement.

Lower Bois d'Arc Creek Intake Pump Station, Honey Grove, TX » $78M

Project Manager - **CMAR** for the construction of the raw water pump station located downstream of the Lower Bois d'Arc Creek Reservoir dam embankment between the dam and the service spillway on the Leonard Water Treatment Plant work being performed for NTMWD. The raw water pump station included side suction, horizontal split-case pumps with suction from a pipe header or manifold, and discharged to a similar pipe header located within a dry below grade pump room.

Riverbend WRP Expansion, UTRWD, Lewisville, TX » $32M

Program Manager - **CMAR** for a new influent pump station sized for peak flow firm capacity with VFD's; new headworks facility including 15 MGD fine screens; one 20 MGD vortex grit basin with grit pump and classifier, one conveyor, washer/compactor, mods to SBRs to convert to ABs configured in an anaerobic/oxic (A/O) process, and installation of three new 3500 SCFM blowers in a dedicated building. Led cost modeling efforts and worked through multiple iterations to ensure the project stayed within UTRWD's budget. Initiated a decision to pull the admn. building out of the original scope, with an allowance given; so it could be redesigned and combined with the laboratory without delaying the overall project.

ADDITIONAL RELEVANT EXPERIENCE

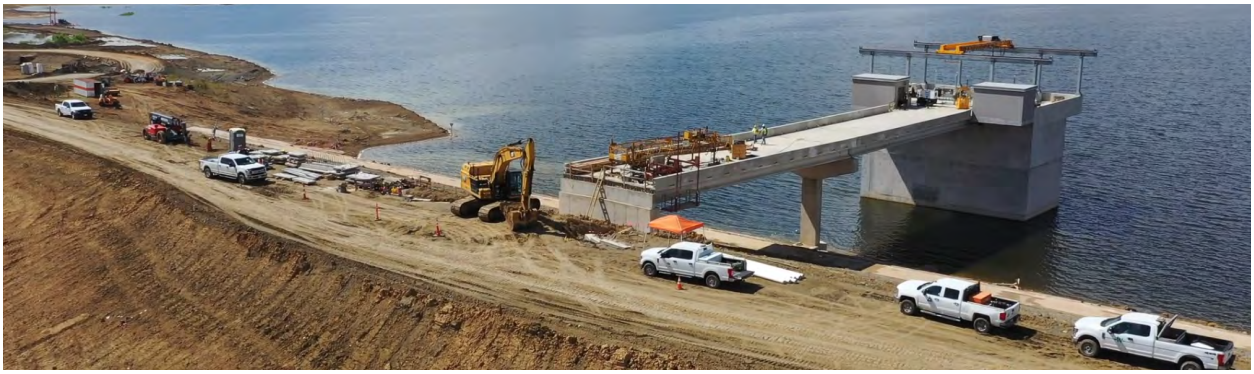
CMAR Wylie WTP Phase IV, NTMWD, TX » $88M

Atoka Pipeline Surge Control, Oklahoma City Water Utilities Trust, Atoka, OK » $26M

Lubbock Pump Station, City of Lubbock, TX, Lubbock, TX »$10M

Wichita Falls Reuse Pump Station, City of Wichita, Wichita Falls, TX » $16M

CMAR Town of Erie North WRF Expansion, Erie, TX » $26M



Lower Bois d'Arc Inlet

CONSTRUCTION MANAGER
VERNON PERDUE

EXPERIENCE
- 40 years

EDUCATION
- Civil Engineering, Virginia Military Institute, Lexington, VA

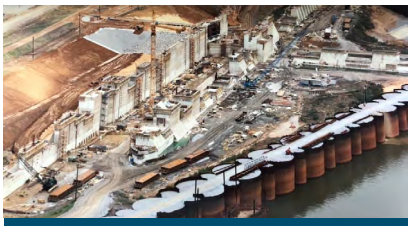
CERTIFICATION
- Safety Trained Supervisor
- OSHA 30-hour Training

Vernon has specializes in construction of complex water and wastewater facility projects, and has a history of on-time and safe project delivery. He has managed more than $700 million of water and wastewater construction work during the past two decades.

As Construction Manager, Vernon is responsible for the supervision of all construction work to ensure compliance with the design documents and the Owner's satisfaction.

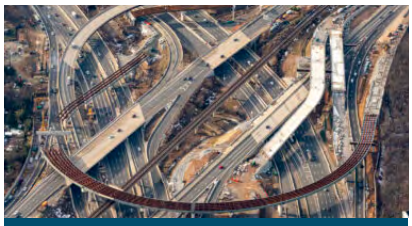
WHY VERNON?

- *Experience leading large, multi-phase projects:* Capable of managing multiple teams congruently while driving the program vision.
- *Seasoned professional:* Diverse heavy civil project background on several programs of increased public interest.
- *Risk Mitigation:* Proactively minimizes risk onsite, coordinating closely with staff, subcontractors, quality and safety managers.



Oliver Lock and Dam, Northport AL » $87M

Superintendent on this project, which was the first partnership between the USACE and a private contractor in the US, and an early endorsement of the benefits of Owner/Contractor collaboration.



Transform 66 Outside the Beltway Project, Virginia Department of Transportation (VDOT), Fairfax, VA » $2.4B

Project Manager on this mega project for the Virginia DOT, the DRPT, and private partners.

Southeast WWTP Improvements & Expansion, Pasco County, Zephyrhills, FL » $112M

Construction Manager on this WWTP expansion project to service a rapidly growing community, managing dozens of personnel on site.

KEY PROJECTS

Transform 66 Outside the Beltway Project, Virginia Department of Transportation (VDOT), Fairfax, VA » $2.4B

Project Manager - This design-build project provided clearing and grubbing of 30 acres, excavation of 50,000 cy of cut, 80,000 CY of imported fill, installation of 8400-LF of storm drain, four SWMP's, 22,000-LF of curb and gutter, and 24 acres of paved parking lot with associated bus shelters, ITS systems, and pavement markings. Demolition and construction of 3.5 miles of I-66. Work consisted of installing 70,000-LF of duct bank and laterals, tolling pads and structures, and 72 gantries and cantilever signage structures along the I-66 and I-495 interchange.

Ballenger McKinney WWTP, Frederick County, Frederick County, MD » $104M

Sr Project Manager - Construction of a 15 MGD expansion and enhanced nutrient removal upgrade of the existing 7 MGD WWTP. This included construction of new influent screens, influent pumping station, grit removal facility, primary clarifiers, and a new 2mm fine screening facility.

Broadrun WWTP, Ashburn, VA » $104M

Sr. Project Manager - Project increased the processing capacity of the plant from 30 MGD to 40 MGD while reducing odor and vastly reducing the discharge of biological nutrients into the Four Mile Run stream, a tributary of the Chesapeake Bay. The plant remained operational throughout construction as the team coordinated more than 240 scheduled shutdowns to allow tie in to the new facilities and systems. Extensive electrical distribution system upgrades were included.

Oliver Lock and Dam, Northport AL » $87M

Superintendent - The project included Installation of the coffer cells, dewatering, managing dredging activities in the river and inside the coffer dam area, and other heavy civil activities such as mass excavation, large riprap erosion control measures, and backfilling operations.

ADDITIONAL RELEVANT EXPERIENCE

Brandywine Pump Station, City of Wilmington » Wilmington, DE » $20M

Coatesville WWTP, Pennsylvania American Water » Coatesville, PA » $49M

Southeast WWTP Improvements & Expansion, Pasco County, FL » $112M

South Austin WWTP » Austing, TX » $24M

Wyoming Valley Pump Stations, Wilkes-Barre, PA » $40M

Southeast WWTP

PROCUREMENT MANAGER

MATT TRACY, ENV SP

EXPERIENCE
- 16 years

EDUCATION
- B.S. Building Construction, University of Florida

CERTIFICATION
- Envision™ Sustainability Professional
- LEED AP
- Safety Trained Supervisor
- OSHA 30-hour Training

As Procurement Manager, Matt brings 16 years of industry experience and a deep knowledge of project costing and schedule development. Through his experience driving preconstruction efforts on various projects in the region, including a deep pump station for City of Largo, Matt knows how to lead a successful preconstruction operation.

He will lead the interface between the design team and construction team to ensure collective goals are achieved, steering the estimating team while the procurement plan is developed through to execution.

WHY MATT?

- *Strong local knowledge:* Florida-focused procurement career.
- *Successful GMP development:* Conscious of balancing budget, schedule, contingencies and risk, resulting in a positive outcome for the owner and CMAR.
- *Collaboration Experience:* Able to work closely with designers and owners on cost, schedule and constructability.

Tampa Bay Desalination Facility Intake, Tampa Bay Water, Apollo Beach, FL » $22M

Preconstruction Manager entailing construction of a new intake pump station, located on TECO's Big Bend Power Station site.

Largo WWRF Influent Pumping Station, Pinellas County, Clearwater, FL » $27M

Preconstruction Manager on 18-MGD influent pump station with six 100-HP submersible pumps, a new 5-MG equalization tank.

Lake Manatee WTP Filter Upgrade, Manatee County, Bradenton, FL » $52M

Preconstruction Manager to expand the capacity of the existing 2 MGD wastewater treatment plant to 6 MGD.

KEY PROJECTS

Tampa Bay Desalination Facility Intake, Apollo Beach, FL » $22M

Preconstruction Manager - Fixed-price design-build, $22.4M project consisted of a new intake pump station for the Tampa Bay Water's Desalination Facility. The intake facility discharges to an existing pipeline which conveys the water to the Desalination Plant for Processing. Project includes four 200 HP Vertical Turbine Pumps, 600 -LF of 54" FRP discharge Piping, and a new precast electrical building associated appurtenance.

Lift Station 87 Wet Weather Flow Transfer, City of St. Petersburg, FL » $11M

Preconstruction Manager - The City's first progressive design-build project, to balance wet weather flow between the southwest and northwest facilities during wet weather events. The scope includes a new lift station, three miles of 16" force main, and modifications to an existing lift station to connect the new force main. Preconstruction Phase Services included value engineering, constructability analysis, cost estimating, and the development of a Guaranteed Maximum Price (GMP) at the completion of the design development.

Southeast WWTP Improvements & Expansion, Pasco County, FL » $112M

Construction Manager - The project consists of various improvements and upgrades to the existing 3MGD WWTP to allow for expansion to 6 MGD. The project includes construction of a new headworks facility, two new aeration basins, one new clarifier, new filter structure, new backwash basin, new chlorine contact basin, new sludge holding basin, new high service pump station and dewatering facility. Additionally, three new electrical buildings, pumping systems, chemical storage and feed systems, back-up generator and various other improvements throughout the project.

ADDITIONAL RELEVANT EXPERIENCE

Manatee County SEWRF Capacity Upgrades, Manatee County, Bradenton, FL » $58M

South Cross Bayou WRF UV Disinfection System, City of St. Petersburg, St. Petersburg, FL » $120M

Venice WTP Switchgear & Generator Addition, City of Venice » Venice, FL

Blacks Ford WRF Phase 4 Expansion, Jacksonville, FL » $55.6M

Southeast WWTP

LEAD ESTIMATOR

STEVE CORNETT

EXPERIENCE
- 27 years

EDUCATION
- B.S., Civil Engineering

CERTIFICATION
- Health & Safety
- Management Training
- DBE Compliance
- EEO Compliance and Harassment Prevention
- Business Law and Ethics

Steve is a cost estimator who brings 27 years of experience in estimating large and complex infrastructure projects. He has been responsible for estimating more than $4 billion of contract work, and specializes in leading preconstruction phase services for water projects.

Steve will offer valuable strategies during preconstruction for project cost savings and budget management. He supports services such as cost modeling, cost estimate development, constructability reviews, and solicitation of local and regional subcontractors and suppliers.

WHY STEVE?

- *Timely, accurate, and organized cost estimates:* Diverse project background spanning preconstruction and construction phases.
- *Experience leading multi-disciplined estimating team:* Successfully managed the estimating team for the $312M Big Creek WRF Expansion in Georgia.
- *Successful GMP development:* A conduit in a seamless transition through design to construction phases.

Miller Pump Station/ Picayune Strand Restoration, USACE, Naples, FL » $79M

This was part of a project to restore more than 55,000 acres in Collier County, Florida to a healthy wetland system. Steve was responsible for estimating.

Big Creek WRF Expansion, Fulton County, Roswell, GA » $325M

Lead Estimator for this major facility expansion project, working closely with our design partner, Brown & Caldwell.

James E. Quarles Environmental Campus Project, Cobb County, Marietta, GA » $70M

Senior Estimator on this treatment plant replacement project. We partnered with Hazen to create a team atmosphere on the project.

KEY PROJECTS

Big Creek WRF Expansion-Multiple Phases, Fulton County, Roswell, GA » $325M

Lead Estimator - A multi-phase progressive design-build project to expand and upgrade an existing 24 MGD water reclamation facility to 32 MGD capacity with the potential for future expansions up to 38 MGD. This project involves a detailed evaluation of MBR and other process technologies; and offers long-term, sustainable solutions to the County for providing significantly cleaner water while resolving light, noise and odor challenges of the existing facility. The project re-purposes portions of the existing facility, and removes several abandoned structures.

James E. Quarles Environmental Campus Project, Cobb County, Marietta, GA » $70M

Senior Estimator/Preconstruction Manager - The project replaced the existing plant with a new 33 MGD conventional treatment plant. Added three complete process trains (flocculation, sedimentation, filtration) and a maintenance building; and provided associated site and civil improvements, and implementation of plant automation controls.

Hugh A. Wyckoff Water Treatment Plant Improvements, Cobb County-Marietta Water Authority, Acworth, GA » $77M

Senior Estimator - The project entailed improvements to the plant including a new raw water metering, new rapid mix facility, and a raw water splitter structure. The project also included the demolition and construction of new flocculation/ sedimentation basins 1 through 4, and two new flocculation/ sedimentation basins 7 and 8. It involved the rehabilitation of existing filters 9 through 16, and four new dual-media filters; and modifications to the existing backwash recycle basin. Added a granular activated carbon (GAC) facility, post-flash chemical mixing facility, chemical storage and feed systems, solids and backwash equalization basins with associated electrical buildings, three finished water flow meters.

ADDITIONAL RELEVANT EXPERIENCE

L-8 Reservoir Pump Station/Inflow Structure, SFWMD, Loxahatchee, FL » $57M

Fowler WRF Expansion, Forsyth County, Cumming, GA » $66M

Cartersville WPCP Nutrient Removal Upgrade, Cartersville, GA » $40M

Clarksville WWTP Improvements, Clarksville Gas & Water, Clarksville, TN » $73M

Lift Station 87 Wet Weather Flow Transfer, City of St. Petersburg, St. Petersburg, FL » $11M

James E. Quarles Environmental Campus

PIPELINE PROJECT MANAGER

JD GILLESPIE, DBIA

EXPERIENCE
- 14 years

EDUCATION
- B.S. Civil Engineering, University of South Florida

CERTIFICATION
- DBIA, Design-Build Institute of America certified Professional
- OSHA 30-Hour
- Scheduling, Cost Management, Cost, Quantity and Revenue Forecasting

JD is an adept Project Manager who presents experience with successfully delivering challenging, fast-track projects with complex schedules to meet project goals and client expectations. He has experience with over $500 million of Florida infrastructure construction.

JD will lead construction phase activities, coordinate/communicate with Authority, oversee subcontractors and suppliers to comply with work plans, schedule, safety plans and other controls, to track, monitor and report progress of pipeline construction to the Authority.

WHY JD?

- *Collaborative delivery partner:* Lead the Archer Western team during the City of St Petersburg's first Progressive Design Build project in a compressed schedule.
- *Marine experience:* Project manager for Miller Pump Station, Tampa Bay Water Desalination Plant Facility Intake, and L-8 Reservoir Pump Station and Inflow Structure.

Southeast WWTP Improvements & Expansion, Pasco County, Zephyrhills, Florida » $112M

Project Manager for WWTP improvements, working closely with the owner and site superintendents.

Miller Pump Station/ Picayune Strand Restoration, USACE, Naples, FL » $79M

Project Manager for this project forming part of a program to restore more than 55,000 acres in Collier County, Florida to a healthy wetland system.

L-8 Reservoir Pump Station/Inflow Structure, South Florida Water Management District, Palm Beach County, FL » $57M

Project Engineer for this reservoir pump station receiving the Century award from the Florida Engineering Society.

KEY PROJECTS

Lift Station 87 Wet Weather Flow Transfer, City of St. Petersburg, St. Petersburg, FL » $11M

Project Manager - This progressive design-build project balanced wet weather flow between the southwest and northwest facilities during wet weather events. The scope includes a new lift station, three miles of 16" force main, and modifications to an existing lift station to connect the new force main. The design included modifications to piping at the existing Pasadena Pump Station to allow the City to use the Force Main in a bi-lateral fashion to balance flows as needed during rain events.

Miller Pump Station/Picayune Strand Restoration, USACE, Naples, FL » $79M

Project Manager - Part of the Picayune Strand Restoration Project, to restore more than 55,000 acres of land in Collier County to a healthy and functional wetland system. The project required removal of a subdivision's infrastructure, and restoration of its pre-drainage hydrology and ecology to generate positive effects on the hydrology, vegetation, and wildlife of the project area and surrounding public lands. The project included construction of the 1,250 cfs pumps station, tie-back levee, spreader berm and weirs; backfill, and clearing.

L-8 Reservoir Pump Station/Inflow Structure, SFWMD, Palm Beach County, FL » $57M

Project Engineer - This design-build project included a water resource management function allowing the use of the reservoir to store and release water from and to the L-8 Canal. SFWMD had acquired approximately 45,000 acre-feet of storage over approximately 1,000 acres. Project entailod the design and construction for necessary improvements for the District to be able to manage stormwater runoff for improved restoration of natural systems, water quality efforts and water supply.

ADDITIONAL RELEVANT EXPERIENCE

Big Creek WRF Expansion, Fulton County, Roswell, GA » $312M

James E. Quarles Plant 1 Replacement, Cobb County-Marietta Water Authority, Marietta, GA » $70M

Cypress Bridge Wellfield Improvements, Tampa Bay Water » Wesley Chapel, FL

Tippin WTP High-Service Pump Station, City of Tampa » Tampa, FL

James E. Quarles Plant 1 Replacement

PUMP STATION PROJECT MANAGER

JUSTIN HALE

EXPERIENCE
- 15 years

EDUCATION
- B.S., Civil Engineering, Florida Gulf Coast University
- US Veteran

CERTIFICATION
- LEED GA
- Scheduling
- Cost Management
- Cost, Quantity and Revenue Forecasting
- Work Planning

Justin has 15 years project management experience constructed five pump stations in the Southeast over the past five years, including the highly successful Cartersville Water Pollution Control Plant with Hazen.

Justin is responsible for oversight of major aspects of construction work related to the pump station. His duties include managing procurement, and working with the project superintendents to produce work planning packages, acquisition of materials, equipment and labor force for projects, submittal and RFI management.

WHY JUSTIN?

- *Scheduling and other project controls expertise:* Diverse project background spanning preconstruction and construction phases.
- *Marine experience:* Project manager for Miller Pump Station, and L-8 Reservoir Pump Station and Inflow Structure.
- *Key Collaborator:* Experience in working with peers across multiple task-focused teams.

Cartersville WPCP Nutrient Removal Upgrade, City of Cartersville, Cartersville, GA » $40M

Project Manager for construction of facilities to meet new discharge permit limits, completed two months ahead of schedule.

James E. Quarles Environmental Campus Project, Cobb County, Marietta, GA » $70M

Project Manager on this treatment plant replacement project. Our partnership with Hazen resulted in a successful on time and under budget project.

Miller Pump Station/ Picayune Strand Restoration, USACE, Naples, FL » $79M

The restoration of 55,000 acres of wetland in Florida. As Assistant Project Manager, managed challenging site conditions and received multiple accolades.

KEY PROJECTS

Cartersville WPCP Nutrient Removal Upgrade, City of Cartersville, Cartersville, GA » $40M

Project Manager - Included construction of facilities to meet new discharge permit limits, as well as critical plant upgrades to improve reliability and redundancy. The scope of work entailed demolition of the existing headworks building and other infrastructure; retrofit of the existing bioreactors with fine bubble diffused air; replacement of one screw pump at the primary and secondary lift stations; modifications to the emergency storage tank, existing dewatering building.

James E. Quarles Plant 1 Replacement Project, Cobb County, Marietta, GA » $70M

Project Manager - This project included replacing the James E. Quarles WTP 1 with a new conventional treatment plant with an initial capacity of 33 MGD. Added three complete process trains (flocculation, sedimentation, filtration) and a maintenance building; and provided associated site and civil improvements, and implementation of plant automation controls.

Miller Pump Station/Picayune Strand Restoration, USACE,Naples, FL » $79M

Assistant Project Manager - Part of the Picayune Strand Restoration Project, to restore more than 55,000 acres of land in Collier County to a healthy and functional wetland system. The project required removal of a subdivision's infrastructure, and restoration of its pre-drainage hydrology and ecology to generate positive effects on the hydrology, vegetation, and wildlife of the project area and surrounding public lands. Included construction of the 1,250 cfs pumps station, tie-back levee, spreader berm and weirs. This project was awarded the ENR Regional Best Project of the Year.

ADDITIONAL RELEVANT EXPERIENCE

Fowler WRF Phase 2 Expansion, Forsyth County, Cumming, GA » $19M

Flat Creek WRF Dewatering Improvements, City of Gainesville, Gainesville, GA » $29M

Snapfinger Advanced Wastewater Treatment Facilities Expansion, Phase 2, DeKalb County, Ellenwood, GA » $196M

Miller Pump Station

PIPELINE SUPERINTENDENT

WAYNE PURLSEY

OVERALL EXPERIENCE
- 40 years

EDUCATION

CERTIFICATION
- Quality Control
- OSHA 30-Hour
- Crane Safety Awareness
- Basic Rigging
- CPR/First Aid

Wayne has been responsible as for leading field operations for more than a dozen water and wastewater treatment facility projects. He presents experience with large, complex facilities valued up to $1.6 billion.

As superintendent, Wayne oversees the completion of all phases of work on the project, providing direction to discipline superintendents as well as subcontractor operations leaders to ensure the quality and consistency of the work performed. Wayne coordinates as needed with facility O&M staff on scheduled construction activities.

WHY WAYNE?

- *Scheduling and other project controls expertise:* Diverse project background spanning preconstruction and construction phases.
- *Experience leading large, multi-phase projects:* Recently successful delivery of the Lower Bois d'Arc Reservoir and Dam project in Texas.
- *Confident Leader:* Capable of identifying resource needs and coordinating with project managers and subcontractors.

Lower Bois d'Arc Reservoir and Dam, NTMWD, Honey Grove, TX » $218M

Superintendent, working with Preconstruction Manager, Jeff Polak, for several phases of this $1.6B program, including dam construction, water treatment plant, pump station and environmental mitigation.

Parallel Pipeline, UTRWD, Aubrey, TX » $40M

Superintendent for the complex construction of 19,000 linear-feet of 72-inch diameter treated water pipeline, with tunnel and railway crossings, and close proximity to residences.

KEY PROJECTS

Lower Bois d'Arc Reservoir and Dam, NTMWD, Honey Grove, TX » $218M

Superintendent - CMAR for the design and construction of the Lower Bois d'Arc Creek Reservoir. This was the first major reservoir to be built in Texas in nearly 30 years. The lake served a growing population of 1.7 million. One phase of this program was the construction of a dam across the Lower Bois d'Arc Creek. The dam consists of an earthen embankment approximately two miles long and 90 feet tall, at its highest point, with a soil bentonite cutoff trench in the foundation and the upstream face of the dam protected by soil cement.

Lower Bois d'Arc Creek Intake Pump Station, Honey Grove, TX » $78M

Superintendent - Construction of the raw water pump station located downstream of the Lower Bois d'Arc Creek Reservoir dam embankment between the dam and the service spillway on the Leonard Water Treatment Plant work being performed for NTMWD. The raw water pump station included side suction, horizontal split-case pumps with suction from a pipe header or manifold, and discharge to a similar pipe header located within a dry below grade pump room.

Parallel Pipeline, UTRWD, Lewisville, TX » $40M

Superintendent - CMAR for construction of 19,000 linear-feet of 72-inch diameter treated water pipeline, 10 tunnels crossing various streets, IH 35E, railway lines and privately owned areas, and other crossings of approximately 55 utility lines. We procured 72-inch pipe and valves four months ahead of design completion, saving over $200,000 during a material shortage. Gained industry expertise from trusted and respected peers prior to bid packages being advertised, which brought additional value in risk mitigation to the project, as well as providing for a viable selection of quality contractors at bid time.

ADDITIONAL RELEVANT EXPERIENCE

Hefner WTP Low Lift Pump Station, OCWUT, Oklahoma City, OK » $20M

Auxiliary High Service Pump Station at Draper WTP, Oklahoma City, OK » $36M

Zero Street Pump Station, City of Fort Smith Utility Department, Fort Smith, AR »$12M

Riverbend WRP Expansion, UTRWD, Aubrey, TX » $32M

Rolling Hills WTP, City of Ft. Worth, Fort Worth » TX

Riverbend WRP

PUMP STATION SUPERINTENDENT

DOUG LAUB

EXPERIENCE
- 28 years

EDUCATION

CERTIFICATION
- OSHA 30-Hour
- Crane Safety Awareness
- Basic Rigging
- CPR/First Aid

Doug has 28 years of construction experience covering an array of heavy civil projects. He has focused the majority of his career on jobsite safety, developing and updating production schedules, and overseeing the quality of self-performed work and subcontracted scope.

As Project Superintendent, Doug is responsible for the completion of the pump station. His duties include the review of plans, scheduling of work, tracking of job costs, managing daily field operations and coordinating with the owner's engineers.

WHY DOUG?

- *Extensive pump station experience:* Completed four pump station projects in the past two years.
- *Quality self-performed work:* Works closely with the team to secure high quality materials and workmanship.
- *Large program experience:* Performed three phases of the $1.5B Navajo-Gallup Water Supply Project.

San Juan Pumping Plant 4 & 7, US Bureau Of Reclamation » Sanostee, NM » $51M

Superintendent for this project forming part of the Navajo-Gallup Water Supply Project.

Cutter Lateral Reach 21 Water Treatment Plant, Bloomfield, NM » $25M

Superintendent for this greenfield water treatment plant, which required 21,400-LF of raw and finished water pipeline conveyance and a regulation tank.

Santa Rita Water Reclamation Facility, City of Durango » Durango, CO » $58M

As Superintendent, oversaw site operations, and worked with the project manager and owner to manage the schedule.

KEY PROJECTS

Ute Reservoir Intake Screens, Tunnel and Pump Forebay Shaft, Logan, NM » $14M

Superintendent - Construction of two cylindrical tee-screens, two 48-inch knife gates with hydro-burst actuators, as well as installation of 48-inch and 54-inch intake piping, connecting tee-screens and valves to intake tunnel. Project also included 54-inch intake tunnel approximately 250-feet long using one-pass tunnel lining system via mirco tunneling boring machine. Intake access structure with integral retrieval system for tee-screens.

San Juan Pumping Plant 2 & 3, US Bureau of Reclamation » Sanostee, NM » $73M

Superintendent - Construction of two similar pump stations including onsite/offsite pipelines, metal building, large vertical turbine pumps, surge tanks, electrical room, chemical feed systems, metal buildings, site development, and commissioning. The project provided potable water conveyance for the Navajo Nation.

San Juan Pumping Plant 4 & 7, US Bureau Of Reclamation » Gallup, NM » $51M

Superintendent - Construction of two similar pump stations including onsite/offsite pipelines, metal building, large vertical turbine pumps, surge tanks, electrical room, chemical feed systems, metal buildings, site development, and commissioning. Located in the Gallup, NM, provides potable water conveyance for the Navajo Nation.

Cutter Lateral Reach 21 Water Treatment Plant, Bloomfield, NM » $25M

Superintendent - As a subcontractor, project included construction of a new water treatment plant and conveyance pipeline located on the Navajo Nation. Plant was 5.4 MGD at full build out and included solar drying pods, operations facility, site improvements, new electrical service, access road improvements, and finish water pump station and pipeline.

ADDITIONAL RELEVANT EXPERIENCE

Santa Rita Water Reclamation Facility Improvements, City of Durango » Durango, CO » $58M

Lake Ogletree Spillway Modifications, City of Auburn» Auburn, AL » $18M

Joint Booster Pump Station #3, Tarrant Regional Water District » Dallas, TX » $13M

San Vicente Dam Raise, San Diego County Water Authority » Lakeside, CA » $356M

Cutter Lateral Reach 21 Water Treatment Plant

CONSTRUCTABILITY LEAD

JOHNATHAN POLAK

EXPERIENCE
- 12 years

EDUCATION
- B.S. Civil Engineering, University of Texas

CERTIFICATION
- OSHA 30 Hour
- CPR/First Aid
- Competent Person
- Crane Awareness

John is a uniquely talented individual. His attention to detail and responsibility to management systems and quality work have aided him in rapidly moving up the positions in the field. He has experienced and mastered each area of the project from the ground up, earning the trust and respect of his crew and upper management.

During preconstruction, John will perform constructability reviews to apply a builder's perspective to design challenges. He is responsible for maintaining the Constructability Review Log as the design evolves.

WHY JOHNATHAN?

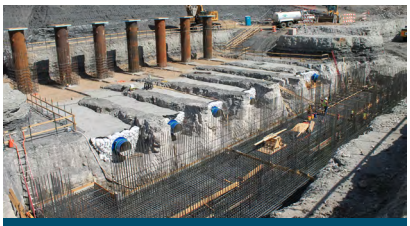
- *Similar project experience:* Project manager on the Lower Bois d'Arc reservoir project, with an understanding of the challenges faced.
- *Innovative solutions provider:* Conscious of balancing budget, schedule, contingencies and risk, resulting in a positive outcome for the owner and CMAR.

Lower Bois d'Arc Reservoir and Dam, NTMWD, Honey Grove, TX » $218M

Project Manager, earning the respect of the owner, project leaders and crew through his thorough work and project understanding.

Lower Bois d'Arc Creek Intake Pump Station » NTMWD, Honey Grove, » $78M

Project Manager for the construction of the raw water pump station located downstream of the Lower Bois d'Arc Creek Reservoir dam embankment.



South Mesquite Creek Regional WWTP, NTMW » US Bureau Of Reclamation » Mesquite, TX » $43M

Project Manager for this project within a $120M program. He maintained a holistic view of the program to avoid scheduling conflicts.

KEY PROJECTS

South Mesquite Creek Regional WWTP, NTMW » US Bureau of Reclamation » Mesquite, TX » $43M

Project Manager - This project was part of a $120M program at the South Mesquite Creek Regional WWTP to provide peak flow management facilities, as well as expand the treatment capacity from 33 MGD to 41 MGD. Performed preconstruction services, site preparation, major components including all associated requirements to facilitate early peak flow relief, gravity drain piping and manholes, selective demolition, rehabilitation, and miscellaneous metal installation of existing infrastructure, electrical work, start-up & commissioning.

Lower Bois d'Arc Reservoir and Dam, NTMWD, Honey Grove, TX » $218M

Project Manager - CMAR for the design and construction of the Lower Bois d'Arc Creek Reservoir. This was the first major reservoir to be built in Texas in nearly 30 years. The lake serves a growing population of 1.7 million. One phase of this program was the construction of a dam across the Lower Bois d'Arc Creek. The dam consists of an earthen embankment approximately two miles long and 90 feet tall, at its highest point, with a soil bentonite cutoff trench in the foundation and the upstream face of the dam protected by soil cement.

Lower Bois d'Arc Creek Intake Pump Station, Honey Grove, TX » $78M

Project Manager - Construction of a raw water pump station located downstream of the Lower Bois d'Arc Creek Reservoir dam embankment between the dam and the service spillway on the Leonard Water Treatment Plant work being performed for NTMWD. The raw water pump station included side suction, horizontal split-case pumps with suction from a pipe header or manifold, and discharge to a similar pipe header located within a dry below grade pump room.

ADDITIONAL RELEVANT EXPERIENCE

SDS Raw Water Pump Stations, Colorado Springs Utilities, Colorado Springs, CO » $81M

DCPCMUD WTP Membrane Facility, Dallas Co. Park Cities Municipal Utility District, Dallas, TX » $11M

Auxiliary High Service Pump Station, Oklahoma City, OK » $36M

Bonham WTP Ozone Generator Replacement, NTMWD, Bonham, TX

South Mesquite Creek Regional WWTP

ELECTRICAL CONSULTANT

LARRY NOURSE

EXPERIENCE
- 31 years

EDUCATION
-

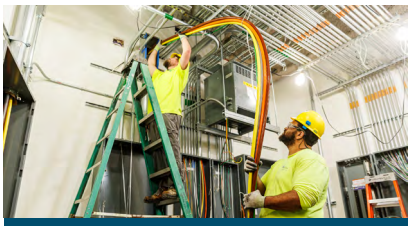
CERTIFICATION
- Licensed Electrician
- Electrical Apprenticeship
- Risk Identification and Mitigation
- Scheduling

Larry is a highly experienced electrician, with decades of experience working together with the owners, designers, general contractors, trade partners, vendors and commissioning authorities ensures the electrical systems are designed with the end-result in mind and clearly communicated to all parties.

As the Project has a large-scale electrical requirement in challenging conditions, during preconstruction, Larry will provide valuable insight into constructability issues specifically related to electrical.

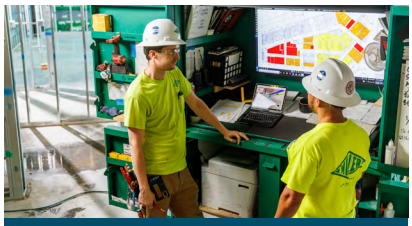
WHY LARRY?

- *Similar project experience:* Project executive on numerous large scale electrical projects where owner's need for long-term efficiencies, reliability and cost-effective solutions were paramount.
- *Innovative solutions provider:* Conscious of balancing constructability, budget and risk, resulting in a positive outcome for the owner and CMAR.



Gerdau Ameristeel, Jacksonville, FL

Larry managed the team Installing a new Electrical Arc Furnace. This heavy industrial project included a new 40MVA electrical substation consisting of multiple 35kV medium voltage duct-banks.



Kingsbay Security Enclave, Kingsbay, GA

Larry was the project Manager for installation of over 2 miles of concrete encased duct-banks, including a new 15kV electrical system to feed 6 new pad mounted transformers.

Georgia Renewable Power Plants, Madison & Franklin Counties, GA

Larry served as the design-assist partner and managed two teams on concurrent projects consisting of 60MW Precipitators. Each site includes a wood-fired 60MW steam turbine.

KEY PROJECTS

Tampa Bay Desalination Facility Intake » Apollo Beach, FL » $22M

Electrical Advisor - Fixed-price design-build, $22.4M project consisted of a new intake pump station for the Tampa Bay Water's Desalination Facility. The intake facility will be located on TECO's Big Bend Power Station and will discharge to an existing pipeline which conveys the water to the Desalination Plant for Processing. Project includes (4) 200 HP Vertical Turbine Pumps, 600 -LF of 54" FRP discharge Piping, a new precast electrical building associated appurtenance.

Gerdau Ameristeel, Jacksonville, FL

Project Manager - Installation of new Electrical Arc Furnace. This heavy industrial project included a new 40MVA electrical substation consisting of multiple 35kV medium voltage duct-banks and manholes feeding a new transformer. The transformer fed the new rectifier which powered a new furnace via arc-flash.

Kingsbay Security Enclave, Kingsbay, GA

Project Manager - Installed over 2 miles of concrete encased duct-banks. This project included a new 15kV electrical system to feed 6 new pad mounted transformers. Project consisted of 3 new Security Enclaves/ Checkpoints, granting access to restricted nuclear naval facilities.

Georgia Renewable Power Plants, Madison & Franklin Counties, GA

Project Manager - Twin projects consisting of 60MW Precipitators. Each site includes a wood-fired 60MW steam turbine. Projects were a Design-Assist Partnership with EPC and Owner and ran concurrently. Major electrical work includes 115kV Primary Service, 13.8kV Secondary Service, 4000-Amp Generator Step-Up Transformer, extensive conveyor system, cable bus system, concrete encased duct-banks and medium voltage distribution via multiple power distribution centers.

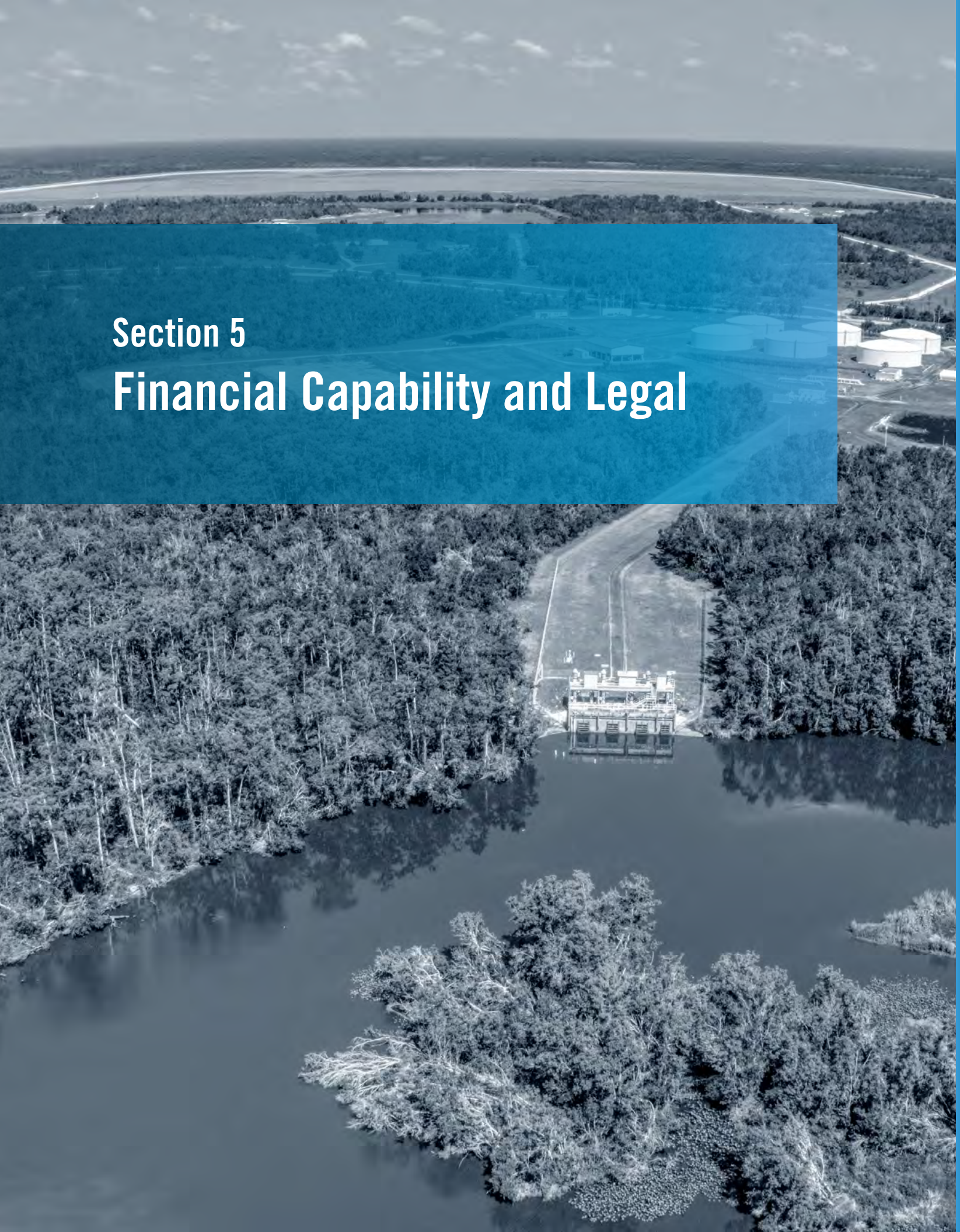
ADDITIONAL RELEVANT EXPERIENCE

Coca - Cola New distribution Facility, Haskell » Tampa FL » $16M

T-Mobile Data Center Expansion, Cork Howard Construction & SWG » Tampa FL

Bayonet Point Freestanding Rehab, HCA » Hudson FL

Miller Electric Company staff operate safely onsite



Section 5
Financial Capability and Legal

ATTACHMENT B

CLAIMS, LIENS, LITIGATION HISTORY

1. Within the past 5 years, has your organization filed suit or a formal claim against a project owner (as a prime or subcontractor) or been sued by or had a formal claim filed by an owner, subcontractor or supplier resulting from a construction dispute? Yes __X__ No ____
   If yes, please attach additional sheet(s) to include: ***List is provided on the following page.***
   Description of every action Captions of the Litigation or Arbitration
   Amount at issue: _____ Name (s) of the attorneys representing all parties:
   _____
   Amount actually recovered, if any: _____
   Name(s) of the project owner(s)/manager(s) to include address and phone number:
   _____
2. List all pending litigation and or arbitration. ***See response to Question 1.***
3. List and explain all litigation and arbitration within the past five (5) years - pending, resolved, dismissed, etc. ***See response to Question 1.***
4. Within the past 5 years, please list all Liens, including Federal, State and Local, which have been filed against your Company. List in detail the type of Lien, date, amount and current status of each Lien.
   On February 14, 2023, the Texas State Comptroller filed a lien against Archer Western Construction, LLC for failure to remit franchise tax in the amount of $3,100.60. On March 10, 2023 Archer Western Construction, LLC, satisfied the lien and the Texas Comptroller released the subject lien
5. Have you ever abandoned a job, been terminated or had a performance/surety bond called to complete a job? Yes_____ No __X___ If yes, please explain in detail:
   _____
   _____
   _____
6. For all claims filed against your company within the past five-(5) years, have all been resolved satisfactorily with final judgment in favor of your company within 90 days of the date the judgment became final? Yes_____ No __X___ If no, please explain why?
   _____
   _____
7. List the status of all pending claims currently filed against your company:
   See response to Question 1.

Liquidated Damages

1. Has a project owner ever withheld retainage, issued liquidated damages or made a claim against any Performance and Payment Bonds? Yes_____ No __X___ If yes, please explain in detail:
   _____
   _____

(Use additional or supplemental pages as needed)

A.i ATTACHMENT B - CLAIMS, LIENS, LITIGATION HISTORY

Q1-3. SUITS OR FORMAL CLAIMS, PENDING AND ALL LITIGATION AND/OR ARBITRATION

Archer Western Construction, LLC ("AWC") as a large, national construction contractor, is, in the regular course of business, a party to construction-related litigation. In the majority of the construction-related litigation actions, AWC's national water division has been a named defendant in an insurance related claim, primarily workers compensation and related third-party actions. No pending claim or litigation will have a material impact on AWC's ability to perform this project.

Although AWC does not centrally track claims that do not result in arbitration or litigation, AWC notes the following claims, litigation, arbitration, and mediation proceedings during the last 5 years. Additional information is available upon request.

Consolidated Crane & Rigging, LLC v. Garney Companies, Inc. et al., Case No. CV-21-45249, District Court, Fannin County Texas, (218142)

Related to third party petition filed June 21, 2021 against Archer Wester Construction LLC brought by second tier subcontractor Jetfab, LLC alleging non-payment of $60,000 for work it allegedly performed for Archer Western and Arrowhead Precast on the Leonard Raw Water Pump Station and Lower Bois D/Arc Creek Reservoir projects. This case is pending.

Attorneys for Plaintiff: Stephens Reed & Armstron, PLLC.

Name of Project Owner: North Texas Municipal Water District. 312 N. Main St. Boham TX 75418. (972) 442-5405.

Southeastern Tank, Inc., v. Archer Western Construction, LLC (215091)

Southeastern Tank filed suit against Archer on January 31, 2022 in the Superior Court of Gwinnett County, Georgia, case no. 22-A-00776-3, for breach of contract for nonpayment in the amount of $60,900 pertaining to the Snapfinger Advanced Wastewater Treatment Facilities Expansion Project (Archer Western Project No. 215091). This case is pending.

Attorneys for Plaintiff: Mark D. Gropp; Wasson, Sours & Harris

Name of Project Owner: Dekalb County, Georgia. Wendell Brown, 1300 Commerce Dr. Decatur, GA 30030. (404) 555-1212.

Archer Western Construction, LLC v. Arrowhead Precast, LLC, Jams Arbitration Reference No. 14250. (218142)

This arbitration concerns Arrowhead's defective fabrication and construction of Insulated Precast Concrete Wall Panels ("concrete panels") that were the subject of a contract between Arrowhead and Archer Western to design, fabricate, deliver, and install said concrete panels at the Leonard Raw Water Pump Station. Arrowhead's design, fabrication, delivery, and installation of the concrete panels resulted in deficiencies that drew a non-conformance report from the Owners' engineers. After receipt of the report, and discovery of deficiencies with the concrete panels, Arrowhead failed to remedy the defects pursuant to the subject contract, and per its subcontract Archer Western withheld the balance on Arrowhead's contract. In July 2021, Archer Western brought a claim in excess of $1,000,000 pursuant to its subcontract with Arrowhead to

private arbitration, which is still pending. Arrowhead has counterclaimed for an amount alleged to be in excess of $700,000 including its unpaid balance and other damages.

Attorneys: Warren, Drugan & Barrows

Name of Project Owner: North Texas Municipal Water District. 312 N. Main St. Boham TX 75418. (972) 442-5405.

Steel LLC v. Archer Western Construction, LLC, Case No. 1:21-cv-02109-SJC, USDC, Northern District of Georgia. (215091)

This suit was filed on or about May 19, 2021 and is pending in the United States District Court for the Northern District of Georgia. Archer Western is the Contractor on the Snapfinger Wastewater treatment plant expansion project for Dekalb County, Georgia and its subcontractor Steel made a bond claim, and brought suit alleging non-payment and damages of $2,514,114. This suit is pending and undetermined, but Archer Western has filed a counterclaim against Steele and discovery has commenced.

Attorneys for Plaintiff: Gordon Rees Scully Mansukhani LLP

Name of Project Owner: Dekalb County, Georgia. Wendell Brown, 1300 Commerce Dr. Decatur, GA 30030. (404) 555-1212.

Dixie Metal Products, Inc v. Archer Western Construction, LLC and Travelers Casualty and Surety Company of America. (213097)

Dixie Metal Products, Inc filed suit against Archer Western regarding the Brambleton Sewage Pump Station Loudoun Water (Archer Western Project No. 213097) in April 2021 claiming breach of contract in Loudoun Circuit Court, Virginia (Case Number 2020-CA-000394-15-K). Archer Western asserted back charges against Dixie Metals due to Dixie's failure to maintain the schedule of its work on the Project. This claim for non-payment in the amount of $76K was settled and dismissed on or about 3/31/2022.

Attorneys for Plaintiff: Fulleton & Knowles, P.C.

Name of Project Owner: Loudoun County Sanitation Authority, d/b/a Loudoun Water, 44865 Loudoun Water Way, Ashburn VA 20147. (571) 291-7700.

ATTACHMENT C

AFFIDAVIT OF SOLVENCY

PERTAINING TO THE SOLVENCY OF Archer Western Construction, LLC (Respondent), being of lawful age and being duly sworn I, David Walker (Affiant), as

Vice President/Business Group Leader (Title) *(ex: CEO, officer, president, duly authorized representative, etc.)* hereby certify under penalty of perjury that:

1. I have reviewed and am familiar with the financial status of above stated entity.
2. The above stated entity possesses adequate capital in relation to its business operations or any contemplated or undertaken transaction to timely pay its debts and liabilities (including, but not limited to, unliquidated liabilities, unmatured liabilities and contingent liabilities) as they become absolute and due.
3. The above stated entity has not, nor intends to, incur any debts and/or liabilities beyond its ability to timely pay such debts and/or liabilities as they become due.
4. I fully understand failure to make truthful disclosure of any fact or item of information contained herein may result in denial of the application, revocation of the Certificate of Public Necessity if granted and/or other action authorized by law.

The undersigned has executed this Affidavit of Solvency, in his/her capacity as a duly authorized representative of the above stated entity, and not individually, as of this 17th day of August, 20 23.

Signature of Affiant

STATE OF Georgia
COUNTY OF Clayton

Sworn to (or affirmed) and subscribed before me by means of ☑ physical presence or ☐ online notarization, this 17th day of August, 20 23, by Affiant. who is personally known to me or has produced, N/A as identification.

SANDRA J. MURPHY NOTARY PUBLIC CLAYTON COUNTY GEORGIA MY COMMISSION EXPIRES FEBRUARY 21, 2027

Notary Public
Sandra J. Murphy
Name typed, printed or stamped

My Commission Expires: 2/21/2027

B. & C. FINANCIAL STRENGTH AND STABILITY

Archer Western is a 125-year-old company with 8,000+ employees. We are in a strong and stable financial position and routinely manage and deliver projects of this size. As requested in the RFQ, we have provided three years of audited balance sheets, in a separate file labeled "Proprietary" and confirm we meet the required financial ratios as summarized in the table below:

FINANCIAL INDICATOR	REQUIRED	ACTUAL
i. Times interest earned	>10	184
ii. Revenue to equity	=<18	6.2
iii. Current ratio	=>1	1.04

TRAVELERS

Travelers Bond
215 Shuman Blvd.
00211Naperville, IL 60563
Telephone: (630) 961-7052
Fax: (630) 961-7020

August 9, 2023

Peace River Manasota
Regional Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch, FL 34202

RE: PR3 Pumping and Conveyance Facilities

To Whom It May Concern:

We have been advised that **Archer Western Construction, LLC** is submitting a Statement of Qualifications in response to the Request for Qualifications for the above mentioned project. **Travelers Casualty and Surety Company of America** is pleased to recommend **Archer Western Construction, LLC** as a professional, well-financed construction manager at risk company.

Travelers Casualty and Surety Company of America is currently providing **Archer Western Construction, LLC** with bonding support of $400 million dollars on single contracts and $8 billion dollars for an aggregate work program. Thus, **Archer Western Construction, LLC** has the ability to maintain a performance and payment bond in the amount of at least $150 million dollars. Please be advised that any request or issuance of bonds is subject to the review and approval of all coontract terms, conditions and bond forms.

Travelers Casualty and Surety Company of America is authorized to transact business in all fifty (50) states with a Treasury Listing of $224,944,000 and is rated A++ XV by A.M. Best Company.

Should you have any questions, or need additional information, please feel free to contact me.

Yours truly,
Travelers Casualty and Surety Company of America

By: _____
Patricia Collins, Attorney-in-Fact

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA
HARTFORD, CONN.

TRAVELERS

Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company
Farmington Casualty Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, St. Paul Fire and Marine Insurance Company, and Farmington Casualty Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Patricia Collins of Sarasota, Florida,** their true and lawfulAttorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof **(including any and all consents required by the Florida Department of Transportation or the Central Florida Expressway Authority incident to the release of retained percentages and/or final estimates)** on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April, 2021.**

State of Connecticut

By: _____
Robert L. Raney, Senior Vice President

City of Hartford ss.

On this the **21st** day of **April, 2021**, before me personally appeared **Robert L. Raney,** who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June, 2026**

_____
Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 9th day of August , 2023 .

_____
Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)
08/10/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Aon Risk Services Central, Inc.
Chicago IL Office
200 East Randolph
Chicago IL 60601 USA

CONTACT NAME:
PHONE (A/C. No. Ext): (866) 283-7122 **FAX (A/C. No.):** 800-363-0105
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A:	Arch Insurance Company	11150
INSURER B:	Arch Indemnity Insurance Company	30830
INSURER C:	Berkshire Hathaway Specialty Ins Company	22276
INSURER D:	Swiss Re Corp Solutions America Ins Corp	29874
INSURER E:		
INSURER F:		

INSURED
Archer Western Construction, LLC
929 West Adams
Chicago IL 60607 USA

COVERAGES **CERTIFICATE NUMBER:** 570101109721 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

Limits shown are as requested

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X **COMMERCIAL GENERAL LIABILITY** CLAIMS-MADE [ ] OCCUR [X] GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [ ] PRO-JECT [X] LOC [X] OTHER:			41PKG8901917 SIR applies per policy terms & conditions	06/01/2023	06/01/2024	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$2,000,000 $1,000,000 $25,000 $2,000,000 $4,000,000 $4,000,000
A A	**AUTOMOBILE LIABILITY** X ANY AUTO OWNED AUTOS ONLY [ ] HIRED AUTOS ONLY [ ] SCHEDULED AUTOS [ ] NON-OWNED AUTOS ONLY [ ]			41PKG8901917 AOS 41CAB8902017 MA ONLY	06/01/2023 06/01/2023	06/01/2024 06/01/2024	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$5,000,000
A	[ ] **UMBRELLA LIAB** [ ] OCCUR X **EXCESS LIAB** [ ] CLAIMS-MADE [ ] DED [ ] RETENTION			41UFP1992100 Primary 5M - Occurrence	06/01/2023	06/01/2024	EACH OCCURRENCE AGGREGATE	$5,000,000
B	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N [N] **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		44WCI8937510	06/01/2023	06/01/2024	X PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE-EA EMPLOYEE E.L. DISEASE-POLICY LIMIT	 $1,000,000 $1,000,000 $1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
RE: Evidence for Bid on Peace River Regional Reservoir No. 3 (PR3) Pumping and Conveyance Facilities. (See Attached)

CERTIFICATE HOLDER

Peace River Manasota Regional
Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch FL 34202 USA

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Aon Risk Services Central, Inc.

Holder Identifier : BNO

Certificate No : 570101109721

AGENCY CUSTOMER ID: 10774508
LOC #:

ADDITIONAL REMARKS SCHEDULE

AGENCY	NAMED INSURED
Aon Risk Services Central, Inc.	Archer Western Construction, LLC
POLICY NUMBER See Certificate Number: 570101109721	
CARRIER See Certificate Number: 570101109721 / NAIC CODE	EFFECTIVE DATE:

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: ACORD 25 **FORM TITLE:** Certificate of Liability Insurance

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER	
INSURER	
INSURER	
INSURER	

ADDITIONAL POLICIES If a policy below does not include limit information, refer to the corresponding policy on the ACORD certificate form for policy limits.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	LIMITS	
	EXCESS LIABILITY							
C				47XSF30256808 5M x 5M	06/01/2023	06/01/2024	Each Occurrence	$5,000,000
D				EXS200084705 10M x 10M	06/01/2023	06/01/2024	Aggregate	$5,000,000
							Each Occurrence	$5,000,000

AGENCY CUSTOMER ID: 10774508

LOC #:

ADDITIONAL REMARKS SCHEDULE

AGENCY	NAMED INSURED
Aon Risk Services Central, Inc.	Archer Western Construction, LLC
POLICY NUMBER	
See Certificate Number: 570101109721	
CARRIER / NAIC CODE	EFFECTIVE DATE:
See Certificate Number: 570101109721	

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: ACORD 25 **FORM TITLE:** Certificate of Liability Insurance

Continuation

Peace River Manasota Regional Water Supply Authority (Owner) and its officers and employees are an Additional Insureds pertaining to General Liability and Excess Liability with respects to liability arising out of the Named Insured's operations on the referenced project. Professional services for Architects, Engineers, Consultants, etc. are excluded.

A Waiver of Subrogation in favor of Peace River Manasota Regional Water Supply Authority (Owner) and its officers and employees are included on the General Liability, Automobile Liability, Excess Liability and Workers Compensation policies.

This insurance will be Primary and Non-Contributory to the General Liability and Excess Liability policies with respect to any other available insurance to the Additional Insureds for the negligence of the insured on the referenced project.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	**Location And Description Of Completed Operations**
Any person or organization, you have agreed by means of a written contract or agreement, to add as an additional insured; such person or organization is an additional insured on this policy. When required by a written contract or agreement, coverage afforded to these additional insured parties will be primary to and non-contributory with any other insurance available to that person or organization.	
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

NOTICE OF CANCELLATION – CERTIFICATE HOLDERS (SPECIFIED DAYS)

The person(s) or organization(s) listed or described in the Schedule below have requested that they receive written notice of cancellation when this policy is cancelled by us. We will mail or deliver to the Person(s) or Organization(s) listed or described in the Schedule a copy of the written notice of cancellation that we sent to you. If possible, such copies of the notice will be mailed at least **60** days, except for cancellation for non-payment of premium which will be mailed 10 days, prior to the effective date of the cancellation, to the address or addresses of certificate holders as provided by your broker or agent.

Schedule

Person(s) or Organization(s) including mailing address:

All certificate holders where written notice of the cancellation of this policy is required by written contract, permit or agreement with the Named Insured and whose names and addresses will be provided by the broker or agent listed in the Declarations Page of this policy for the purposes of complying with such request.

This notification of cancellation of the policy is intended as a courtesy only. Our failure to provide such notification to the person(s) or organization(s) shown in the Schedule will not extend any policy cancellation date nor impact or negate any cancellation of the policy. This endorsement does not entitle the person(s) or organization(s) listed or described in the Schedule above to any benefit, rights or protection under this policy.

Any provision of this endorsement that is in conflict with a statute or rule is hereby amended to conform to that statute or rule.

All other terms and conditions of this policy remain unchanged.
Endorsement Number:

Policy Number: 41PKG8901917

Named Insured: THE WALSH GROUP, LTD

This endorsement is effective on the inception date of this Policy unless otherwise stated herein:

Endorsement Effective Date: 06-01-23

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

NOTICE OF CANCELLATION – CERTIFICATE HOLDERS (SPECIFIED DAYS)

The person(s) or organization(s) listed or described in the Schedule below have requested that they receive written notice of cancellation when this policy is cancelled by us. We will mail or deliver to the Person(s) or Organization(s) listed or described in the Schedule a copy of the written notice of cancellation that we sent to you. If possible, such copies of the notice will be mailed at least **60** days, except for cancellation for non-payment of premium which will be mailed 10 days, prior to the effective date of the cancellation, to the address or addresses of certificate holders as provided by your broker or agent.

Schedule

Person(s) or Organization(s) including mailing address:

All certificate holders where written notice of the cancellation of this policy is required by written contract, permit or agreement with the Named Insured and whose names and addresses will be provided by the broker or agent listed in the Declarations Page of this policy for the purposes of complying with such request.

This notification of cancellation of the policy is intended as a courtesy only. Our failure to provide such notification to the person(s) or organization(s) shown in the Schedule will not extend any policy cancellation date nor impact or negate any cancellation of the policy. This endorsement does not entitle the person(s) or organization(s) listed or described in the Schedule above to any benefit, rights or protection under this policy.

Any provision of this endorsement that is in conflict with a statute or rule is hereby amended to conform to that statute or rule.

All other terms and conditions of this policy remain unchanged.

Endorsement Number:

Policy Number: 44WCI8937510

Named Insured: WALSH CONSTRUCTION GROUP, LLC

This endorsement is effective on the inception date of this Policy unless otherwise stated herein:

Endorsement Effective Date: 06-01-23

E. DISCLOSURE OF PREVIOUS OR CURRENT REPRESENTATIONS

The following is disclosure of whether Archer Western Construction, LLC has previously represented or currently represents Charlotte, DeSoto, Manatee or Sarasota Counties, and/or the City of North Port ("Customers"), in any capacity, and description of such representation.

Currently Active Contracts

Manatee County: Construction Management At Risk Services On An As-Needed Basis

F. DISCLOSURES OF CURRENT LITIGATION AGAINST THE AUTHORITY

Respondent, Archer Western Construction, LLC ("AWC"), is not a party to or directly or indirectly involved in any current litigation that is against the Authority or any of the Customers.

G. SUMMARY AND DISPOSITION OF LITIGATION

Please see A.i ATTACHMENT B - CLAIMS, LIENS, LITIGATION HISTORY

H. BANKRUPTCY

Archer Western is not involved in an ongoing bankruptcy as a debtor, or in a reorganization, liquidation, or dissolution proceeding, or if a trustee or receiver has been appointed over all or a substantial portion of the property of the Respondent under federal bankruptcy law or any state insolvency law.

Appendix A
Forms

SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1) This sworn statement is submitted to PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY by David Walker, Vice President/Business Group Leader
(Print individual's name and title)

for Archer Western Construction, LLC
(Print name of entity submitting sworn statement)

whose business address is 4343 Anchor Plaza Parkway, Suite 155, Tampa, FL 33634

and (if applicable) its Federal Employer Identification Number (FEIN) is 27-0887868
(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____).

2) I understand that a "public entity crime" as defined in Section 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid, statement of qualifications, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Section 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an "affiliate" as defined in Section 287.133(1)(a), Florida Statutes, means:

a) A predecessor or successor of a person convicted of a public entity crime; OR

b) An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Section 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. **(Indicate which statement applies.)**

✓ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives,

partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. **(Attach a copy of the Final Order.)**

I UNDERSTAND THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES, FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

August 17, 2023
(Signature) (Date)

STATE OF Georgia

COUNTY OF Clayton

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 17th day of August, 20 23 by David Walker as Vice President/Business Group Leader of Archer Western Construction, a LLC company organized under the laws of the State of Illinois, on behalf of the company, who is personally known to me or has produced NA as identification.

SANDRA J MURPHY NOTARY PUBLIC CLAYTON COUNTY, GEORGIA MY COMMISSION EXPIRES FEBRUARY 21, 2027

Notary Public
Sandra J. Murphy
Name typed, printed or stamped

My Commission Expires: 2/21/2027

Contract Holder E-Verify Registration and Affidavit

As provided in Section 33 of the Agreement, pursuant to Section 448.095, Florida Statutes, beginning January 1, 2021, Contract Holder shall register with and use the U.S. Department of Homeland Security's E-Verify system, (https://e-verify.uscis.gov/emp) to verify the work authorization status of all Contract Holder employees hired on and after January 1, 2021. Additionally, Contract Holder shall require all sub-Contract Holders performing work under this Agreement to use the E-Verify system for any employees hired on and after January 1, 2021. Contract Holder must provide evidence to the Authority of compliance with Section 448.095, Florida Statutes, prior to entering the Agreement.

Affidavit

I hereby certify that Archer Western Construction, LLC (Contract Holder) does not employ, contract with, or subcontract with any unauthorized aliens, and is otherwise in full compliance with Section 448.095, Florida Statutes.

All employees hired on or ager January 1, 2021, have had their work authorization status verified through the E-Verify system.

A true and correct copy of Archer Western Construction, LLC (Contract Holder) proof of registration in the E-Verify system is attached to this Affidavit.

August 17, 2023
Signature Date

David Walker, Vice President/Business Group Leader
Print Name

STATE OF Georgia

COUNTY OF Clayton

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 17th day of August, 20 23 by David Walker, Vice President (name of officer or agent, title of officer or agent) of Archer Western Construction, LLC (name of Contract Holder company acknowledging), a Illinois (state or place of incorporation) corporation, on behalf of the corporation. He/she is personally known to me or has produced (personally known) (type of identification) as identification.

SANDRA J MURPHY NOTARY PUBLIC CLAYTON COUNTY, GEORGIA MY COMMISSION EXPIRES FEBRUARY 21, 2027

Sandra J. Murphy
Notary Public

Sandra J. Murphy
Name typed, printed or stamped

My Commission Expires: 2/21/2027

Archer Western
4343 Anchor Plaza Pkwy
Suite 155
Tampa, FL 33634
P: 813.849.7500

PR3

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

PR3 PUMPING AND CONVEYANCE FACILITIES

SOQ FOR CMAR PHASE I PRECONSTRUCTION SERVICES
AND PHASE II CONSTRUCTION SERVICES

Kiewit

TABLE OF CONTENTS

1. LETTER OF TRANSMITTAL & DELEGATION OF AUTHORITY

Kiewit

PR3 PUMPING AND CONVEYANCE FACILITIES
PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
SOQ FOR CMAR PHASE I PRECONSTRUCTION SERVICES AND PHASE II CONSTRUCTION SERVICES

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
9415 Town Center Parkway Lakewood Ranch, Florida 34202

RE: Statement Of Qualifications for Construction Management at-Risk (CMAR) Services for the PR3 Pumping and Conveyance Facilities

The Surface Water Expansion Project holds significant importance as it represents a crucial component of the Peace River Manasota Regional Water Supply Authority's (Authority) mission to continue providing high quality, safe drinking water to the region that remains reliable and sustainable of our precious natural resources. The Authority has wisely chosen the CMAR procurement model, recognizing the pivotal role the contractor will play in advancing the PR3 Pumping and Conveyance Facilities (Project), starting with collaboration in the preconstruction and design phase and focused execution through construction. Kiewit is fully prepared to collaborate with you as partners and committed to successfully delivering a quality project on schedule, both safely and within budget.

E. COMPANY HISTORY

Employee-owned Kiewit Corporation is one of North America's largest and most respected construction and engineering organizations. With its roots dating back to 1884, the organization maintains client relationships through a decentralized network of district and regional offices. This allows Kiewit's operating subsidiaries to act as local contractors with the backing of a financially stable, national firm.

We are well versed in completing collaborative delivery projects locally and nationwide, in fact the Kiewit Corporation has been performing CMAR contracts since 2000 when legislation was first passed to allow the contracting method. We have completed more than 650 CMAR contracts including the $1B Gulf Intracoastal Waterway West Closure Complex (GIWCC) Pump Station Project, the $1.4B Orlando South Terminal Complex CMAR, and the $458M Southport Turning Notch CMAR in South Florida.

A subsidiary of Kiewit Corporation, Kiewit Infrastructure South Co. (Kiewit) will be the bidding entity on this project out of our Tampa regional office where we have maintained a presence for nearly 40 years. Kiewit Infrastructure South Co. shares resources and management with Kiewit Water Facilities Florida Co. (KWFF), currently serving as an On-Call Contractor for the Authority.

A. LEGAL COMPANY NAME

Kiewit Infrastructure South Co., a Delaware Corporation, is registered as a legal entity in the State of Florida

B. PHYSICAL MAILING ADDRESS

5405 Cypress Center Drive, Suite 210
Tampa, FL 33609

C. POINTS OF CONTACT

Primary: Tim Cleary, SR VP
770.487.2300 | tim.cleary@kiewit.com
Secondary: Project Director - Cody Jensen, VP
813.337.5210 | cody.jensen@kiewit.com

D. NAMES/TITLES OF PRINCIPALS, ETC.

Kiewit Infrastructure South Co. is a wholly-owned subsidiary of Kiewit Infrastructure Group, Inc. Principals include:
David J. Miles, President
William D. Glaser, Executive Vice President
Timothy J. Cleary, Senior Vice President
Cody J. Jensen, Vice President

H. UNIFORMANCE GUIDANCE

Kiewit is in compliance with the Federal Requirements listed in 2 C.F.R Part 200 (Uniform Guidance), including the required contract clauses detailed in 2 C.F.R. Part 200, Appendix II and Federal Labor Standards Provisions (Davis-Bacon and Related Acts 29 C.F.R Parts1, 3 and 5).

DELEGATION OF AUTHORITY LETTER

Reference attached Certified Copy of Resolution

As a true differentiator for Kiewit, we will draw upon our nearly 2,000 design professionals from Kiewit Infrastructure Engineers (KIE) to support design reviews and value engineering efforts. We have relied on KIE's services on countless CMAR projects as a value-added resource as needed to help our team bring innovation and capture lessons learned and best practices from all our construction projects.

F. BUSINESS PHILOSOPHY - OUR CORE VALUES

Our core values define our success and longevity. Kiewit's leaders and workforce ensure that our values remain at the core of everything we do. In this proposal, we have emphasized how our core

values add tangible value to the Project, drawing from our wealth of experience and the valuable lessons we've acquired from past similar projects.

Safety is at the forefront of everything we do. A testament to our safety focus is our industry leading Experience Modification Rate (EMR), described further in Section 2. Our EMR of .51 is well below industry average of 1.0. Our philosophy of "Nobody Gets Hurt" extends beyond the Kiewit ranks to all members of the public impacted by the project - nothing is more important.

G. OUR INTEREST IN THE PROJECT

Kiewit recognizes the importance of this project, to secure the region's water supply for the generations to come. Our team has appreciated the opportunity to get to know the Authority's staff and consultants over the last few years and hope our contributions have been valuable in moving the PR3 Project forward. Based on our familiarity with the Project, we have assembled a uniquely qualified team of construction professionals and Subject Matter Experts (SMEs) with a strong history of working together on similar CMAR and construction projects. With our proven experience, Kiewit's team understands your requirements and is prepared to deliver the following benefits that continue this project on a path to success:

Team Continuity: As highlighted in our proposal our team brings extensive local experience working together in Florida, executing the CMAR model, and constructing similar complex Pump Station and Pipeline projects. These individuals have worked together on some of our most high-profile projects and produced award winning success along the way.

Large Pump Station Builder of Choice: We have completed some of the largest and most challenging water infrastructure projects, including more than 400 pump station projects and 950 water supply projects across the nation. Here in Florida, we continue to build large water infrastructure projects with clients such as USACE, SFWMD, SWFWMD, Charlotte County, Manatee County, City of Tampa, and Tampa Bay Water to name a few. Our reference projects, along with our performance on other similar projects described in Section 3, offers the Authority a glimpse into our history of large water infrastructure experience.

Successful CMAR Execution: Kiewit has provided CMAR services on nine projects in the state of Florida and developed several innovative approaches to the preconstruction process that help exceed our clients' goals and ensure the successful delivery of their projects. As a true differentiator, our builders, key subcontractors, suppliers and SMEs will be involved in preconstruction design package reviews. Their critical right-time constructability input will reduce cost, improve quality, and ensure on-time delivery.

Schedule Certainty: Through early and ongoing collaboration with the Authority, by leveraging our team members' in-depth knowledge of the CMAR processes, and by building on our experience working together on similar projects, we will instill scheduling efficiency and confidence in design, preconstruction, construction, commissioning and start-up. Kiewit has the ability, equipment, and experience to self-perform all major operations. We typically self-perform operations that are schedule-critical or where we can provide cost savings. We evaluate our cost competitiveness with subcontractors in order to give the Authority the best value and will ensure we meet the two scheduled milestones of June 2027 and June 2028.

Thank you for the opportunity to present our experience and capabilities to deliver this important project, and we look forward to partnering with you.

Sincerely,

Kiewit Infrastructure South Co.

Timothy J. Cleary
Senior Vice President

Kiewit

CERTIFIED COPY OF RESOLUTION
OF
KIEWIT INFRASTRUCTURE SOUTH CO. (THE "CORPORATION")

"WHEREAS, the Corporation intends to submit a response to the Request for Qualifications (the "RFQ") to the Peace River Manasota Regional Water Supply Authority, with regard to the Construction Management at Risk Services for PR3 Pumping and Conveyance Facilities, located in Florida (the "Project").

NOW, THEREFORE, BE IT RESOLVED, that Timothy J. Cleary, as a Senior Vice President of the Corporation, is authorized to execute and deliver the RFQ for the Project on behalf of the Corporation, and upon award of the Project, to execute and deliver the Project Contract and related documents and further certify on behalf of the Corporation that the information provided in the SOQ is true, full and correct."

****

I, Thomas J. Boyle, certify that I am an Assistant Secretary of Kiewit Infrastructure South Co., a Delaware corporation (the "Corporation").

I certify that: (1) The resolution quoted above was adopted by the Consent Action of the Board of Directors, signed on July 21, 2023; (2) Any action of the directors of the Corporation may be taken without a formal meeting if the directors consent in writing; (3) The signed Consent Action has been filed in the minute book of the Corporation; and (4) The resolution has not been revoked or amended and is now in full force and effect.

KIEWIT INFRASTRUCTURE SOUTH CO. CORPORATE SEAL A DELAWARE CORPORATION

SIGNED on July 21, 2023.

Thomas J. Boyle, Assistant Secretary

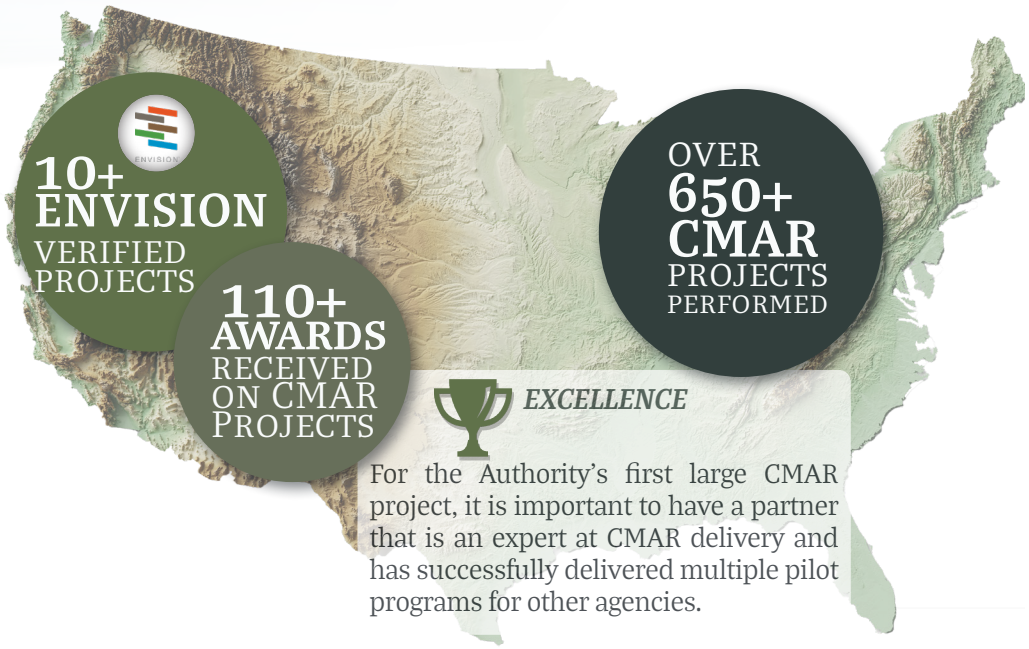
2. GENERAL APPROACH AND SAFETY

Kiewit

GENERAL APPROACH

As an industry leader in water infrastructure construction projects, Kiewit Corporation has led the industry with our advocacy and history of collaborative project delivery. With recent annual revenues exceeding $13 billion, including over $1B delivered through the CMAR model, our reputation is vital, and our clients rely on our in-depth knowledge, resources, and commitment to maximize the collaborative benefits inherent to the CMAR delivery model. We have the ability to self-perform a majority of the work, which allows more control over our projects, ultimately reducing risk, ensuring the project is delivered on-time, under budget, and of the highest quality.

In this section we will describe our approach to providing industry leading preconstruction phase services, followed by our approach to successfully delivering the PR3 Project during the construction phase. Finally we will describe our approach to project closeout, commissioning, and turnover. In each phase we describe our means of communication and collaboration with the Authority, Design Team and project stakeholders; along with our proven methods for managing safety, quality, schedule, environmental compliance, risk, cost certainty, and providing a high performing, low maintenance end product to meet your Envision Goal. In fact, the William "Jack" Hernandez Sport Fish Hatchery, a Kiewit/HDR project, was the first completed project using the Envision sustainable infrastructure rating system. **Throughout the lifecycle of the project, we will work alongside the Authority as Envision verification is sought.**



PHASE I PRECONSTRUCTION SERVICES APPROACH

Our extensive collaborative delivery experience has allowed us to develop several innovative approaches for the preconstruction process that help our clients exceed their goals and ensure successful project delivery. Our Team utilizes a fully open-book approach to cost estimating, innovation tracking, and risk management. From the onset, we will develop a production-based baseline estimate and focus on areas that our Team can make the most significant impact on cost reduction. We will concentrate on innovation and risk mitigation by utilizing detailed tracking logs and tools that aid in decision making. As a true differentiator, our builders and KIE SMEs will be involved in every step of the preconstruction phase, beginning with the 60% design package, along with verifying existing site conditions. Our critical right-time constructability input will reduce cost, improve quality, reduce maintenance, and ensure on-time delivery. These are just a handful of the dozens of best practices Kiewit will bring to the Project.

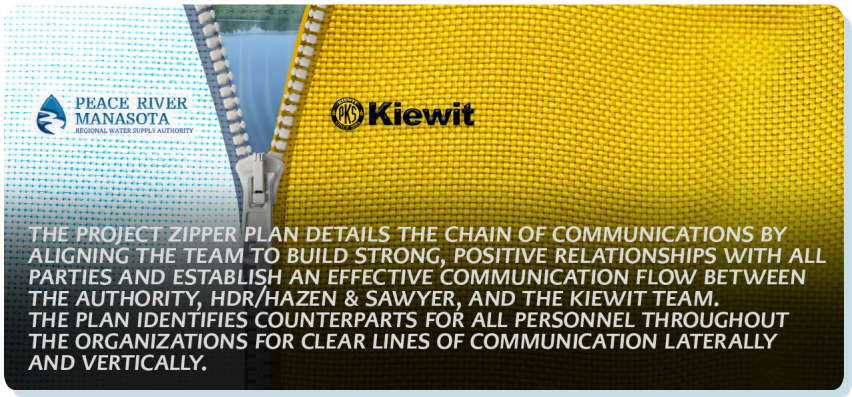
Management Approach Centered Around Collaborative Engagement

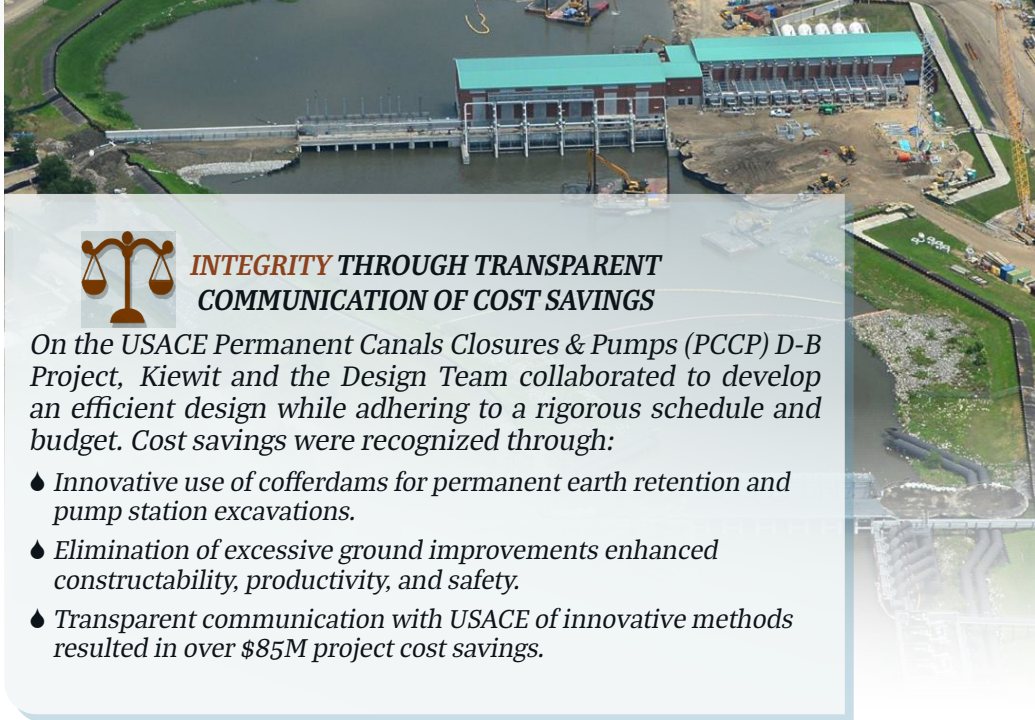
Our Team knows from experience that collaborative engagement with the Authority is the key driver to success on this Project. Our role is to serve as a trusted advisor with an approach that promotes coordinated solutions without interrupting the schedule or affecting project budget. We will identify, prioritize, and address project challenges promptly.

PROJECT COMMUNICATION

Kiewit understands project success can only be achieved through a collaborative team effort building trust with open, frequent, and effective communication. Our management practices include the use of a zipper plan, executive partnering meetings, workshops, and discipline-specific task force meetings. Kiewit will work with the

Authority and HDR/Hazen & Sawyer to develop and implement a Project Communications Plan that effectively delivers information, keeps the entire team apprised, and resolves issues quickly. The Plan will maintain a consistent meeting schedule that incorporates the use of project management tools for real-time and detailed information sharing. With these practices and tools, the Authority will always have access to the most current information such as constructability review comments, cost estimates, project schedule, and risk matrix.





INTEGRITY THROUGH TRANSPARENT COMMUNICATION OF COST SAVINGS

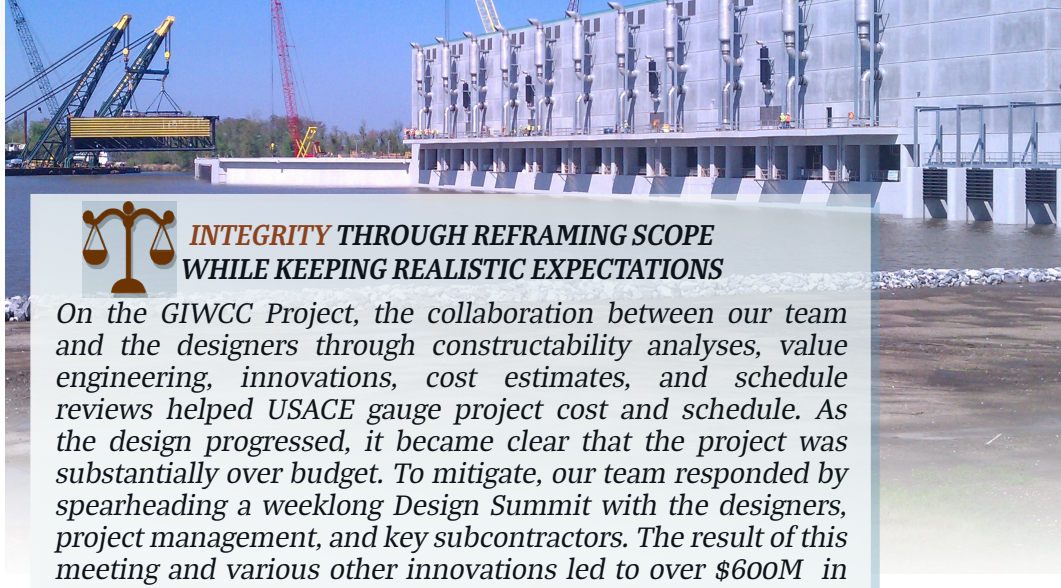
On the USACE Permanent Canals Closures & Pumps (PCCP) D-B Project, Kiewit and the Design Team collaborated to develop an efficient design while adhering to a rigorous schedule and budget. Cost savings were recognized through:

- *Innovative use of cofferdams for permanent earth retention and pump station excavations.*
- *Elimination of excessive ground improvements enhanced constructability, productivity, and safety.*
- *Transparent communication with USACE of innovative methods resulted in over $85M project cost savings.*

FACILITATING WORKSHOPS AND PROJECT MEETINGS

Our management practice includes planning meetings and workshops, as depicted in ***Exhibit 2.1*** These meetings help reaffirm everyone's understanding and commitment of the project goals and objectives and establish an environment of trust and partnership.

Exhibit 2.1 *Preconstruction Project Meetings*



DESIGN DEVELOPMENT

Kiewit's role during preconstruction design development is to collaborate with HDR/Hazen & Sawyer, while actively participating, listening, and providing timely feedback to the team. We will lead structured workshops for constructability reviews, implementation of Envision requirements, and Value Engineering (VE). The other collaborative aspect of the process is day-to-day interaction, whether face-to-face or remotely, in which our core preconstruction team will be fully engaged. Our key team members will co-locate with the Design Team as needed. We believe that face-to-face interaction is the best way to perform preconstruction services and build teamwork, and our SMEs from KIE will attend major task force meetings and preconstruction workshops as needed.

Our team provides constructability input, sustainability and resiliency actions, alternative recommendations, and identifies risk by looking at sections of the design during development via reviews, providing trade-off cost and schedule analysis for design options, and guiding design discussions to accommodate the most cost-effective means and methods. Early in the project, our Team will develop and continuously update an integrated design, preconstruction, and construction schedule. Kiewit will work with the design team to develop this fully integrated schedule with clear lines detailing relationships between key aspects and responsible parties. A summary of our preconstruction responsibilities and the shared responsibilities between Kiewit and the Authority are shown in ***Exhibit 2.2***.

Exhibit 2.2 *Preconstruction Responsibilities*

Kiewit

- *PRELIMINARY SITE INVESTIGATIONS*
- *PACKAGE & SOLICITATION OF "OPEN BOOK" BIDS*
- *CONSTRUCTABILITY REVIEWS*
- *INITIAL COST ESTIMATES*
- *VE ANALYSIS & RECOMMENDATIONS*
- *LONG LEAD & DIRECT PURCHASE PROCUREMENT*
- *GMP DEVELOPMENT*
- *EARLY WORKS OVERSIGHT*
- *PROJECT BASELINE SCHEDULE & SCHEDULE MANAGEMENT*
- *ALTERNATIVE MATERIALS RECOMMENDATIONS*

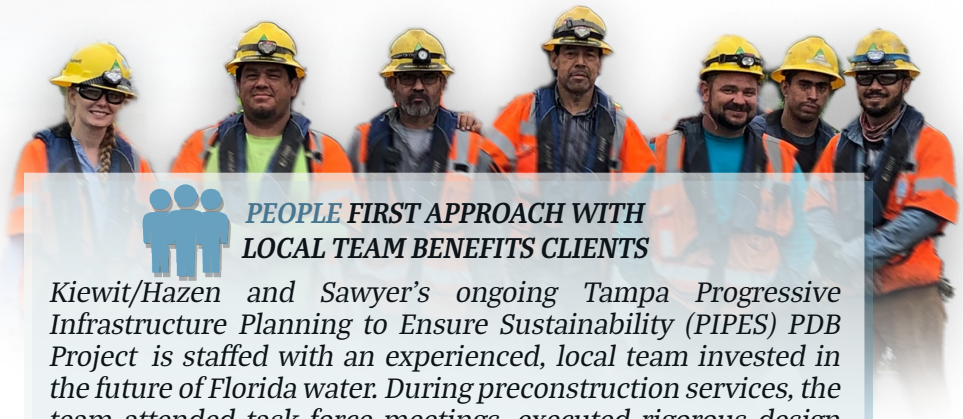
Kiewit *HDR/HAZEN & SAWYER WITH THE AUTHORITY*

- *COMPLETING CODE COMPLIANCE REVIEWS*
- *COORDINATION OF UTILITIES & PERMITTING*
- *PARTICIPATION IN DESIGN*
- *TASK FORCE MEETINGS*
- *SEQUENCE OF CONSTRUCTION*
- *PROJECT RISK ANALYSIS*
- *EXECUTIVE WORKSHOPS*
- *SELECTION OF SUBS, SUPPLIERS, & VENDORS*
- *ESTABLISHING DIVISION OF WORK BREAKDOWNS*
- *PROJECT DELIVERY*
- *QA & QC DURING DESIGN*
- *PUBLIC INFORMATION AND COMMUNICATION*
- *WORK PACKAGE RECOMMENDATIONS*

INTEGRITY THROUGH REFRAMING SCOPE WHILE KEEPING REALISTIC EXPECTATIONS

On the GIWCC Project, the collaboration between our team and the designers through constructability analyses, value engineering, innovations, cost estimates, and schedule reviews helped USACE gauge project cost and schedule. As the design progressed, it became clear that the project was substantially over budget. To mitigate, our team responded by spearheading a weeklong Design Summit with the designers, project management, and key subcontractors. The result of this meeting and various other innovations led to over $600M in cost saving ideas. Ultimately, the transparent communication process, and innovative reframing of scope without impacting quality and project purpose, allowed the project to rise above difficult financial circumstances.

"This has been a once-in-a-lifetime experience for every person involved. Working on something like this with so many achievements – the first, the largest, the fastest – it's been nice to be a part of it."
– Tim Connell, Project Manager, USACE New Orleans District



KIEWIT INFRASTRUCTURE ENGINEERS (KIE) *illustrates Kiewit's commitment to the values we put in place as a company, and as people. KIE provides tailored infrastructure solutions both through design and construction, to implement design concepts that innovate new ideas with practical applications in mind, so construction is as effective as possible. KIE works with our Project Teams to deliver collaborative delivery projects on schedule and within budget, and assist in the construction of the project, including execution of safety and quality controls. Projects built with KIE expertise identify risk factors, optimize procurement and delivery of products, and in the case of PR3, leverage expertise necessary to overcome project challenges such as geotechnical conditions and utility conflicts.*

CONSTRUCTABILITY INPUT

One of the significant advantages of the CMAR model is the seamless collaboration between the construction team and the design team throughout the preconstruction phase. Constructability reviews play a crucial role in minimizing risks, resulting in fewer field changes and reduced construction downtime. Moreover, this approach enhances safety measures and quality planning, thereby ensuring that the design aligns perfectly with the intended workflow and construction methods.

Constructability reviews take place as the design documents are developed, typically at 30%, 60%, 90% design milestones. Having our builders and construction staff engaged early allows a smooth transition from preconstruction to construction. **Construction Manager, Ron D'Orsi**, will spearhead the constructability reviews, with valuable input from **Pump Station Superintendent Ryan Conner and Pipeline/Sitework Superintendent Mark Thomas** at key design milestones. Constructability review forms will be delivered to both the Authority and HDR/Hazen & Sawyer at each design milestone. Our commitment includes assisting the Authority in coordinating design submissions and effectively addressing comments from stakeholders.

PROJECT DESIGN TASK FORCE MEETINGS

Our approach to providing impactful constructability concepts into the design is centered around organized collaboration by major disciplines through Task Force Meetings. A Task Force Meeting is a design optimization meeting with all key personnel and designers related to that discipline, where the Authority and project stakeholders can provide insight to design feature preferences. The Design Team would offer design criteria and options, and Kiewit would provide constructability, innovations, risk mitigation, schedule, and cost feedback. Task Force Meetings will be attended weekly by key team members. Value added staff from KIE will attend as needed based

PEOPLE FIRST APPROACH WITH LOCAL TEAM BENEFITS CLIENTS

Kiewit/Hazen and Sawyer's ongoing Tampa Progressive Infrastructure Planning to Ensure Sustainability (PIPES) PDB Project is staffed with an experienced, local team invested in the future of Florida water. During preconstruction services, the team attended task force meetings, executed rigorous design and construction reviews, and performed Early Construction packages to progress the project schedule before entering into the construction phase. Implemented into the design and emphasized through construction completion, Kiewit's policy of "Nobody Gets Hurt" is a priority and guiding principle in everything we do. The following proposed Key Personnel have an active role in ensuring safety is implemented in all stages of the PIPES project.

Cody Jensen: Provides executive input on both the planning and building phases and ensures proper resources are allocated to support the project.

Ron D'Orsi: Actively involved in preconstruction constructability reviews to ensure the design allows for the most efficient, cost effective, highest quality, and safest means for construction.

Bert Laaker: Bert, whom you may recognize from the PR3 safety training, is acting as the Safety Manager on the Tampa PIPES project. He continues to implement safety methods developed during the preconstruction phase to protect our people and issues during construction.

on their area of expertise, to provide effective communication and coordination between the major project components, including critical design work activities and action items. Comment resolution meetings and/or task force sessions will be arranged for reviewers to discuss their comments with the Design Team and provide potential solutions. The ultimate goal of these constructability reviews is to have an optimized, buildable design with best value for the Authority.

Value Engineering and Innovative Concepts

Kiewit and our affiliates are well-versed in the construction of pump stations and installation of large diameter pipe. In the past 10 years alone, we have built over $3.6 billion worth of pump stations and installed over 200,000 LF of large diameter pipe (>42”). The CMAR delivery model allows us to implement our knowledge, experience, and lessons learned from similar past projects to provide innovative design and procurement ideas, as well as effective VE options. While partnering with the Authority and HDR/Hazen & Sawyer, we are confident that our innovative techniques and VE options will substantially impact major cost drivers, providing savings and other crucial benefits to the Project.

EXCELLENCE IN CREATIVE SOLUTIONS THROUGH VE AND INNOVATION

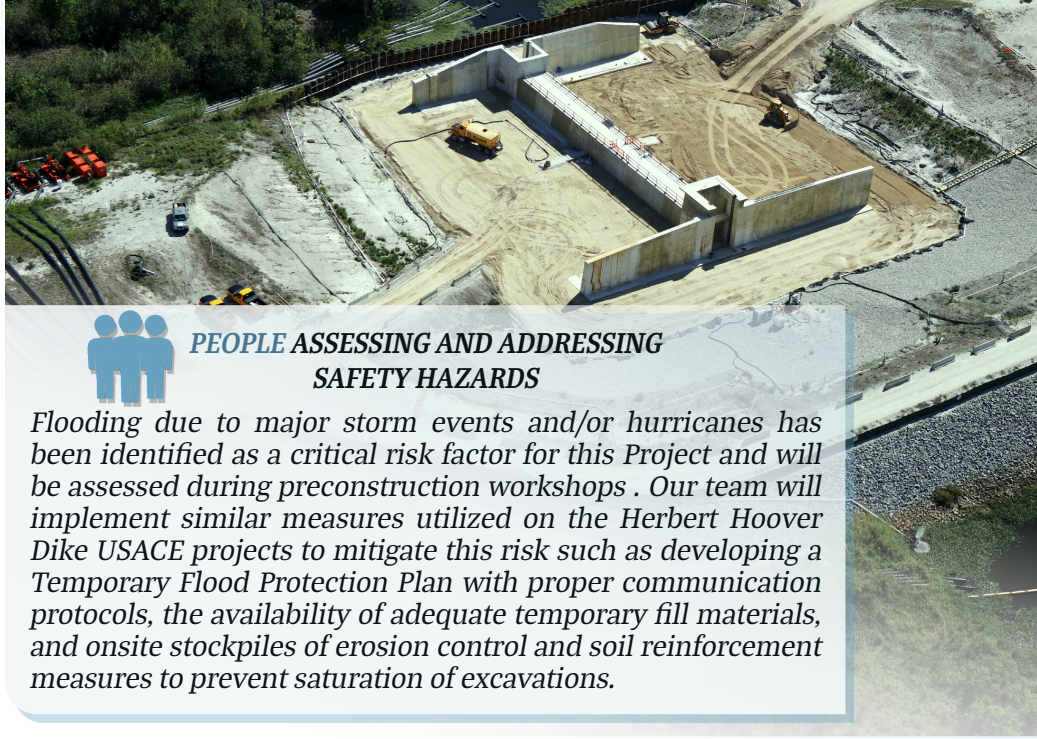
The Claude Bud Carlsbad Desalination Plant PDB Project is currently the largest desalination plant in the western hemisphere, which boasts a 10-mile, 54” pipeline. Our team saved the client over $50M through VE efforts, including optimizing site layout, reducing equipment by maximizing gravity flow post-treatment, reducing concrete by minimizing holding tank volumes, and optimizing piping, mechanical, electrical and structure sizes to reduce scope and quantities. Additionally, we mitigated a potential 9-month schedule delay by using “permit-only” design packages to gain early approvals for enabling work.

A key differentiator of Kiewit and a significant benefit to the Authority is our ability to work with our discipline based constructability and innovation experts at KIE. Together with the Authority and HDR/Hazen & Sawyer, Kiewit will evaluate all alternative options developed by the Team and provide an analysis for each proposed innovation and VE option. By clearly understanding the cost, schedule and risk of each item, we can make the most informed and best decisions for the Project. All innovations will be tracked in a shared file, providing the Authority with a continually updated summary to see how innovation improvements have reduced the project cost. Kiewit has begun to identify possible innovative concepts to reduce overall cost and future maintenance and we look forward to presenting our ideas to the Authority during our Technical Presentation.

Risk Management

Kiewit's risk management process allows the opportunity to collaboratively identify and work through solutions with the Authority, HDR/Hazen & Sawyer, and the Kiewit team to mitigate and eliminate key project challenges and risks. We commit to working alongside the Authority to assist in the establishment of the project's Risk Management Plan. An example of our risk matrix can be found on the next page (***Exhibit 2.3 Preliminary Risk Matrix***). Our process to identify, price, and mitigate risk will include:

1. ***DEVELOP RISK MATRIX***
   - » *Estimators and superintendents perform a deep dive into the design and add possible risks to the risk matrix*
   - » *A project specific risk matrix is developed and is an agenda item at weekly task force meetings; items are added or deleted in real time*
   - » *Conduct risk and innovation workshops*
2. ***QUANTIFY RISKS***
   - » *Provide detailed cost estimates and schedule models to quantify the magnitude of each risk*
   - » *Assign the probability of each risk occurring based on past experience or a reasonable estimate*
3. ***PRIORITIZE AND MITIGATE***
   - » *Identify risk mitigations, prioritize those mitigations, and assign actions to implement mitigating solutions*
   - » *Refine design and construction plans to implement agreed-upon mitigation measures that will reduce or eliminate risks, including implementation of early work packages if determined beneficial to the project*
   - » *Establish contingency budgets (both schedule and cost). This process includes mutually agreeing on which party is best suited to manage each risk and assigning such to that party*
4. ***MONITOR AND MANAGE***
   - » *Update and discuss the risk matrix throughout the preconstruction phase and refine as the project develops*
5. ***INCORPORATE IN THE ROM***
   - » *Analyze risk in the development of the GMP and account for / allocate to the appropriate (or shared) party*



PEOPLE ASSESSING AND ADDRESSING SAFETY HAZARDS

Flooding due to major storm events and/or hurricanes has been identified as a critical risk factor for this Project and will be assessed during preconstruction workshops . Our team will implement similar measures utilized on the Herbert Hoover Dike USACE projects to mitigate this risk such as developing a Temporary Flood Protection Plan with proper communication protocols, the availability of adequate temporary fill materials, and onsite stockpiles of erosion control and soil reinforcement measures to prevent saturation of excavations.

Kiewit will categorize risks as low, medium, and high using a risk matrix. We will assign probabilities by comparing relevant past projects, historical data, and past and forecasted trends. **Lead Cost Estimator, Abby Conner**, will provide detailed cost estimates to capture the magnitude of each risk as they are identified. We will share these costs openly and transparently, discussing how the risks impact the project schedule. The team will collectively develop mitigation strategies to eliminate or reduce the risk. These strategies may include:

- Performing additional field exploration to refine our assumptions on construction and design.
- Modifying the temporary construction design to optimize cost and reduce risk.
- Analyzing early work packages to manage risk and shorten the construction schedule

Developing these risks and their costs outside the base cost in an allowance or contingency allows the team to capture the possible total cost and address the project budget issues upfront. We can establish these costs in a risk sharing pool. In the event the risk does not occur, the authority would not incur the cost.

Exhibit 2.3 *Preliminary Risk Matrix*

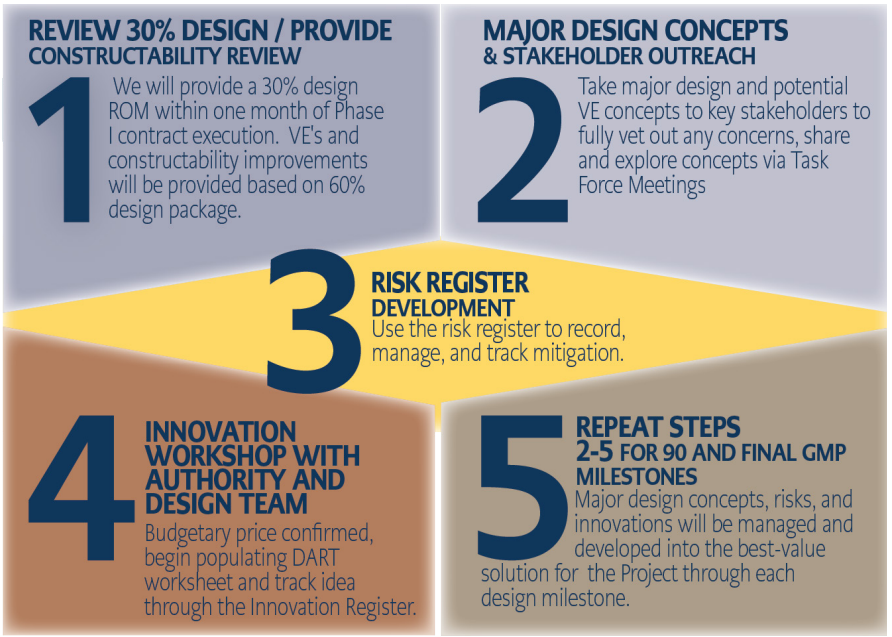
We have established a preliminary Risk Matrix to be shared with the Authority during the Technical Proposal presentation. To date we have identified approximately 25 risks and mitigation measures. This Exhibit provides a look at the three of the risks we have identified.

DESCRIPTION	IMPACT TO PROJECT	MITIGATION MEASURES
Material supply chain challenges and cost certainty	Schedule/Cost	Early material procurement of critical components (i.e. pipe, valves, pumps, misc metals) through early design packages. Material submittals reviewed and approved to allow for executed contract agreements before GMP is finalized. Potential for owner direct purchase.
Environmental permitting and wildlife mitigation	Schedule/Cost	Preconstruction wildlife survey to detect potential wildlife. Early works package for E&S, clearing and grubbing. Develop permitting matrix that outlines effort for each permit.
Weather-Peace River flooding, tropical storms, hurricanes, rainy season, soil cement temperature restrictions	Schedule/Cost	Conservative design for temporary sheetpile cofferdam. Develop project preparedness and mitigation plan for tropical storms and hurricanes. Update plan annually as site conditions change. Specification allow for hydration stabilizer admixture in soil cement to extend set-up time and reduce temperature during hydration.

Decision Analysis and Resolution

Our team will serve as an expert resource for the Authority and use proven, quantifiable processes and tools to ensure the best decisions for the Project are reached. This process is illustrated in ***Exhibit 2.4***. We will partner with the Authority and HDR/Hazen & Sawyer to evaluate risk, innovation, construction, Envision Certification process requirements- including desired level of award, and design decisions that can impact scope, schedule, cost, and the overall effect on the Authority and key stakeholders. Major decisions will be evaluated against the project goals and then ranked on a relative scale regarding how a given decision will meet or maximize each goal. Kiewit uses specific decision analysis tools to assist in making informed decisions based on objective information, such as our Decision Analysis and Resolution Team Tracking Matrix (DART) (***Exhibit 2.5***). The resulting individual analysis from the DART process will be used to populate the Innovation Tracking Log.

Exhibit 2.4 *Process for implementing VE options and Innovations*



DART is used to evaluate innovations and includes a weighted system to assess and rate innovations and design concepts considering five key factors:

1. *Design Cost - Additional or reduced design costs*
2. *Construction Cost - Additional or reduced costs*
3. *Schedule - Net time savings for design and construction*
4. *Risks - Does the innovation add or reduce risk*
5. *Owner Cost - Increase or decrease the Authority's costs such as program management, third parties, or future maintenance*

Preconstruction Schedule Management

Kiewit will develop a cost- and resource-loaded Primavera P6 CPM schedule, in collaboration with the Authority, HDR/Hazen & Sawyer, and our major subcontractors and suppliers; integrating all design, permitting, construction, and handover activities. We will rely on that schedule to efficiently phase and structure work to achieve the Authority's timeline for completion of June 1, 2027 for the River intake PS and 84" pipeline, and June 1, 2028 for the Reservoir PS and 54" pipeline.

A baseline schedule will be developed during the preconstruction phase and will be updated at each design milestone. The GMP schedule will be priced, and resources loaded such that it reflects the agreed-upon GMP amounts and goals. ***Exhibit 2.6*** on the following page represents the anticipated project schedule.

The schedule is based on our understanding of the preconstruction services described in the RFQ and common anticipated tasks and activities performed during CMAR preconstruction. Upon award, we will work with the Authority and HDR/Hazen & Sawyer to agree on the sequence of work and critical path to ensure an on-time construction start.

Exhibit 2.5 *Decision Analysis and Resolution Team Tracking Matrix*

Kiewit	Decision Analysis and Resolution Team (DART) Tracking Matrix		DART #	001
			Proposer	Kiewit
			Date	8/17/2023

Discipline	☑ Civil	☐ Geotech	☐ Drainage
	☐ Structures	☐ Existing Utilities	☐ Electrical/I&C
	☑ Pipe	☐ Proposed Utilities	☐ Facilities
Area of Improvement	☑ Constructability/Phasing	☐ Material Substitution	☐ Standard Spec Change
	☐ Design Alternative	☐ General Conditions	☐ Other
Item Description	Reduce minimum depth of 54" Pipe from Reservoir to PR Water Treatment Facility, from 4' to 2'.		
Proposed Concept	By reducing depth requirement, quantity of excavation and backfill is reduced by ~50%.		

Impacts to Design Scope on a Dollar Basis	Impacts to Construction Scope on a Dollar Basis	Impacts to Owner on a Dollar Basis	Impacts to Schedule on CPM Basis
The change at the 30%/60% design will require minimal rework to adjust depth and identify existing utility conflicts, but is not an extraordinary modification at current phase of design.	The reduction in excavation and backfill quantities will accelerate construction schedule. If it is determined that there are additional utility conflicts, will require up front coordination with UAO and potential increase in Protect-in-Place scope.	Reduction in excavation and backfill quantities will offer cost saving, with minimal offsetting costs.	Reduction in quantities will allow for accelerated install in majority of locations. Up front SUE and coordination with UAOs will eliminate any potential impacts from utility conflicts.

Factor (Check appropriate box)			Factor (Check appropriate box)			Factor (Check appropriate box)			Factor (Check appropriate box)		
4		> $250K in Cost	4		> $250K in Cost	4		> $250K in Cost	4		> 5 Weeks added
3		$101K - $249K in Cost	3		$101K - $249K in Cost	3		$101K - $249K in Cost	3		2 – 4 Weeks added
2		$50K - $100K in Cost	2		$50K - $100K in Cost	2		$50K - $100K in Cost	2		1 – 2 Weeks added
1	1	$1 - $50K in Cost	1		$1 - $50K in Cost	1		$1 - $50K in Cost	1		< 1 Week add
0	0	No Impact	0	0	No Impact	0		No Impact	0		No Affect
-1		$1 - $50K in Savings	-1		$1 - $50K in Savings	-1		$1 - $50K in Savings	-1		< 1 Week reduction
-2		$50K - $100K in Savings	-2		$50K - $100K in Savings	-2		$50K - $100K in Savings	-2		1 – 2 Week reduction
-3		$101K - $249K in Savings	-3		$101K - $249K in Savings	-3	-3	$101K - $249K in Savings	-3	-3	2 – 4 Week reduction
-4		> $250K in Savings	-4		> $250K in Savings	-4		> $250K in Savings	-4		> 5 Week reduction

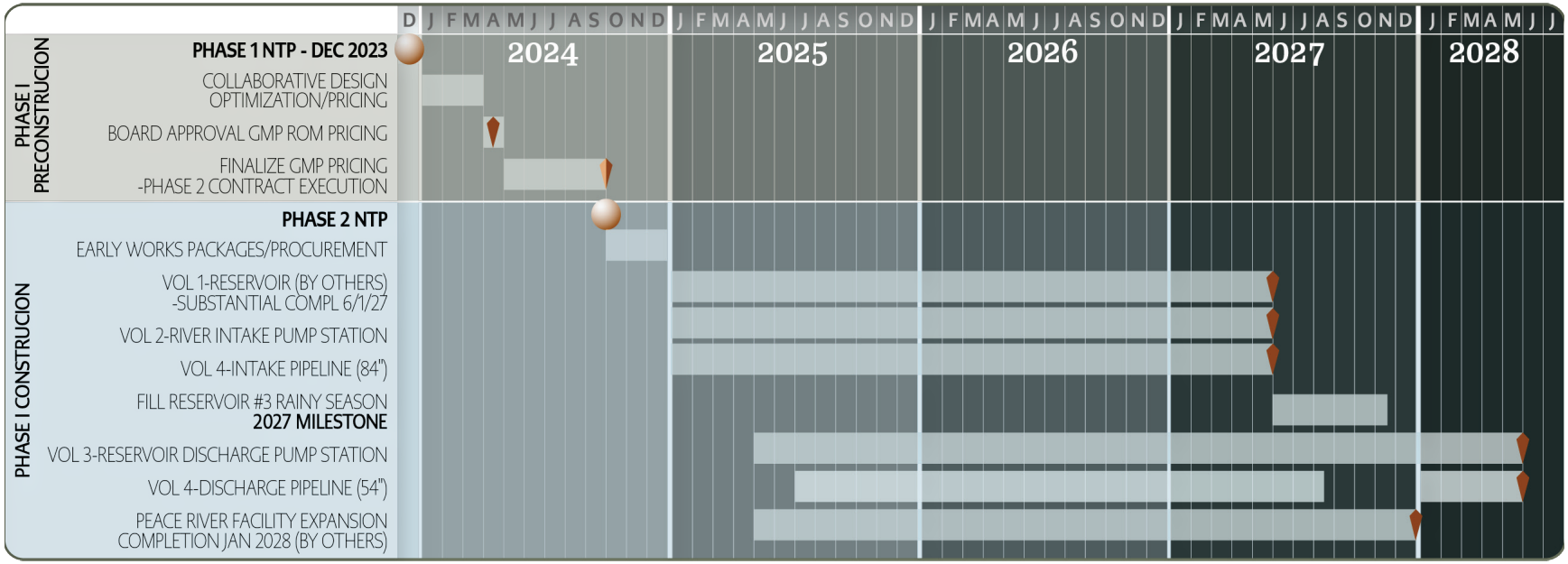
10	Weighted Score (Factor x 10)	0	Weighted Score (Factor x 30)	-90	Weighted Score (Factor x 30)	-90	Weighted Score (Factor x 30)
ROM Cost (thousand):	$ 10,000.00	ROM Cost (thousand):	$ -	ROM Cost (thousand):	$ (250,000.00)	ROM Time:	-30
Total ROM Cost:		**$**	**(240,000.00)**	**Total Score:**		**-170**	

Champion (s):	First Last(HDR), James Scholl (Kiewit), First Last(Authority)
Attachments:	Dart#0001 Attachment - Additional Info & ROM Analysis
DART Recommendations:	
Schedule to Follow-up:	
Final Resolution:	
Date Closed:	

"Kiewit's DART process was immensely useful throughout project planning and design. The tools and procedures Kiewit brought to the preconstruction phase helped us maintain accurate cost predictions and better understand potential variances as GMPs were negotiated."

Jill Crockett, PE, PMP, PgMP Project Manager, Jacobs (EOR) Northwater Treatment Plant - CMAR

Exhibit 2.6 *Preliminary overview of project schedule*



Early Work Packages

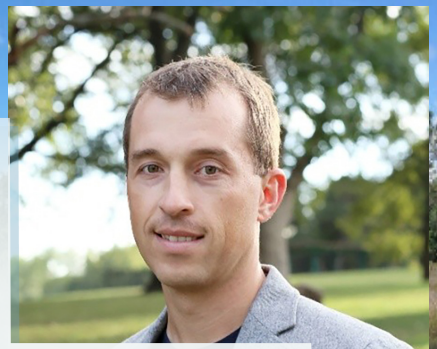
Early work packages (EWPs) and early procurement of long lead items remove critical path items out of the construction schedule and alleviate schedule risk. During the project kickoff meeting the Team will take an in-depth look at the baseline schedule and determine which activities can be broken out into EWPs to pull these items forward. We will create stand alone estimates for each package in the same manner that the ROM is established for the main project. Kiewit will ensure that competitive pricing is received from subcontractors when developing the early work package pricing. Our team will work with the Authority to identify potential Owner Direct Purchase opportunities. We have determined multiple critical early work packages during the pursuit phase and we will work closely with the Authority and HDR/Hazen & Sawyer to begin breakout contracts immediately following NTP.

Procurement Capabilities

Kiewit's central purchasing group, Kiewit Supply Network (KSN) is responsible for purchasing and expediting equipment and materials for projects. With over 450-staff, our procurement department leverages more than $7B in annual procurement spending from a network of more than 22,000 vendors. They will negotiate the best prices and secure on-time delivery to keep your project on schedule and on budget. Kiewit's quality checks are different from other contractors in that we visit the manufacturer's facility to conduct a thorough quality inspection before items are shipped. Making the effort to travel for pre-shipping quality checks keeps our projects on schedule and on budget.

BENEFITS OF KSN:

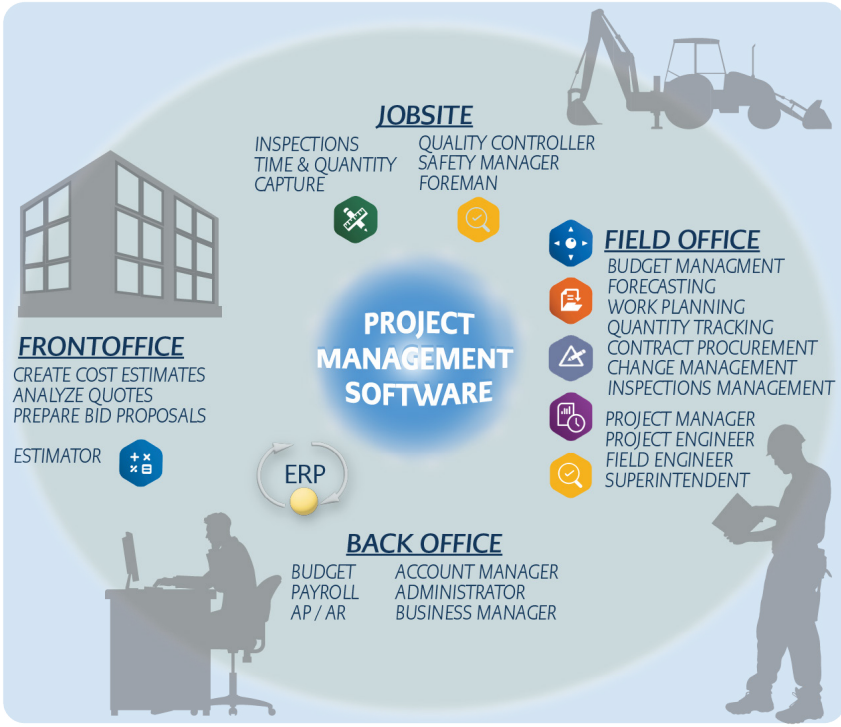
- REDUCES PROJECT COST BY LEVERAGING VOLUME SPENDING
- LEVERAGE ECONOMIES OF SCALE AND NATIONAL PURCHASING POWER
- MINIMIZES RISK OF ESCALATION AND SUPPLY CHAIN NEGATIVELY IMPACTING THE PROJECT
- INCREASES COST ACCURACY BY PROVIDING ESCALATION MODELS ACROSS ALL COST CATEGORIES
- PREVENT DELAYS IN PROCUREMENT OF PERMANENT MATERIALS, RESULTING IN COST SAVINGS. ULTIMATELY, THE CRYSTAL-CLEAR COMMUNICATION PROCESS, AND REFRAMING OF SCOPE, ALLOWS KIEWIT TO RISE ABOVE DIFFICULT FINANCIAL CIRCUMSTANCES.



EXCELLENCE IN OVERCOMING SUPPLY CHAIN CHALLENGES

*Proposed Key Personnel and Procurement Manager, **Josh Meyerpeter**, brings over 25 years of experience implementing long-lead item strategies to keep projects on schedule. On a recent $1.3B, 10MGD water reclamation facility in Texas, his team resolved significant procurement and supply chain issues including purchasing 1,000 pieces of equipment and securing delivery within two years. When a recent concrete shortage was encountered, we deployed our own concrete batch plant to the site with 13 Kiewit owned concrete trucks.*

Exhibit 2.7 *InEight Project Suite streamlines project controls*



GMP Proposal Development

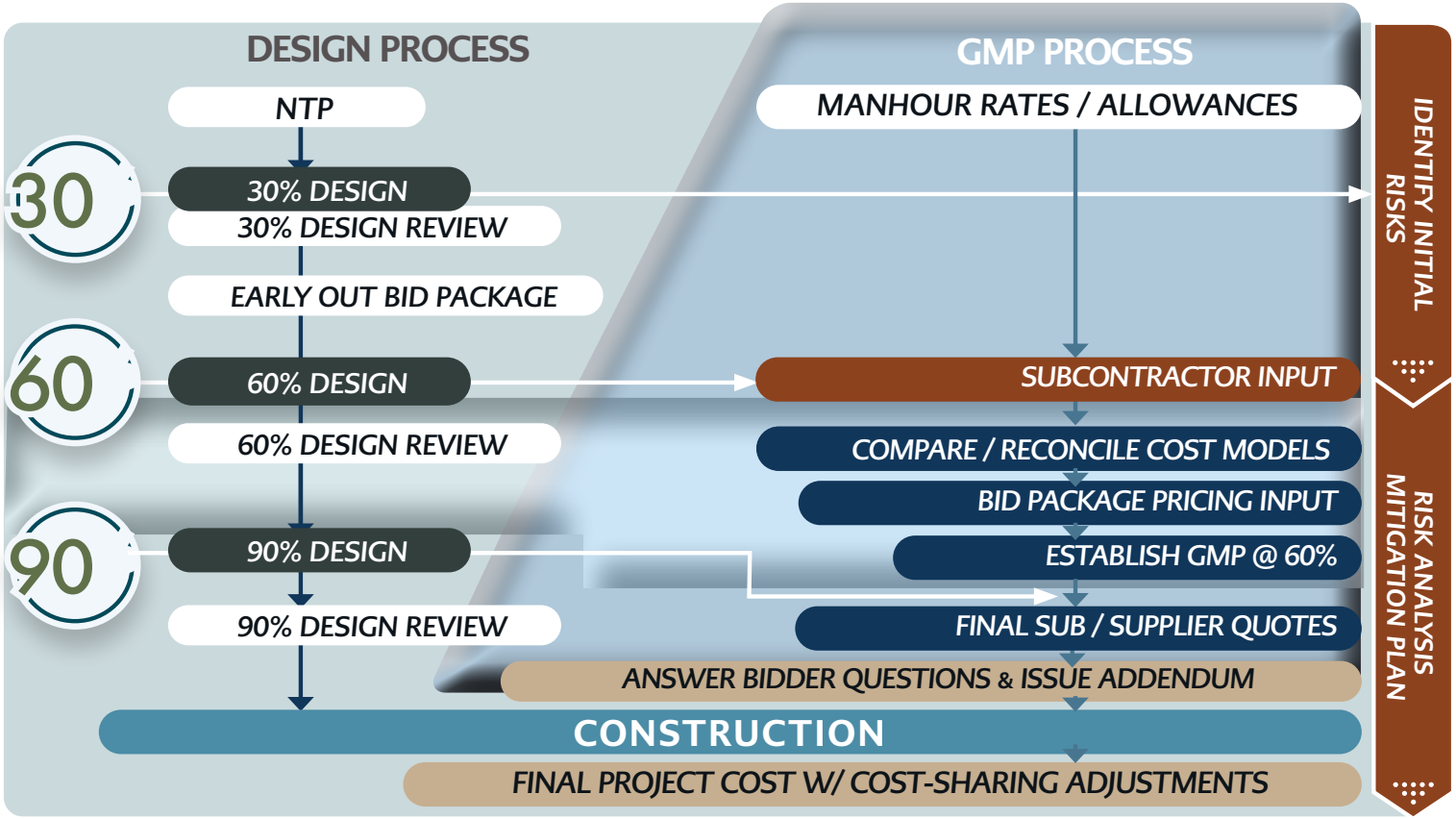
Our Cost Model is built utilizing Kiewit's proprietary and industry marketed estimating system- InEight Estimate ***(see Exhibit 2.7)***, offering the Authority transparency, accuracy, and flexibility with a level of detail that enables a thorough project estimate with no surprises. Our InEight tools allow for a quick transfer of information and provide a seamless way for the Authority to track progress.

We share our estimate line by line and hold estimate review workshops at every major milestone. Our cost model dashboards, including real-time updates and major design decisions, will be made available to the Authority, HDR/Hazen & Sawyer, and project stakeholders.

Throughout the preconstruction phase, Kiewit provides a high level of cost certainty. Our estimate cost development process (***Exhibit 2.8***) uses historical production data paired with labor and equipment rates from current, similar projects and market pricing to accurately price the work based on quantities developed at specific design milestones. We also take advantage of estimating support services from our in-house design groups such as KIE and Kiewit Industrial and Water Engineering (KIWE).

We will develop cost models for the 30%, 60%, and 90% design, using the most current design documentation and in collaboration with the Authority. Our database of current and past project costs assures accuracy, implements a series of checks and balances, and estimates each individual task with bottoms-up quantity take-offs. We assess constructability, VE concepts and operational considerations hand in hand with design progression, understanding this input can have the greatest impact at the 60% level of design. Our holistic cost models contain details on general costs; self-perform labor, equipment, and material costs; and subcontractor costs. To provide you with the best cost certainty, we factor in escalations and contingencies and apply our extensive scope-specific experience to reliably estimate items not yet designed.

Exhibit 2.8 *Cost development process - Kiewit's process for estimate development is backed by vast historical data and informed by thorough pre-construction activities.*



Subcontractor Involvement

Cost Estimator Abby Conner and her team will begin the subcontractor procurement process early in the preconstruction phase. Kiewit has begun to define each project work scope package and will continue to build on this list through the preconstruction process. Once these packages are defined, we will utilize our bid solicitation software, Building Connected, to advertise the solicitation to qualified subcontractors providing them with access to project information. We will also use the State of Florida Office of Successful Proposer Diversity Directory of MBE/DBE Firms and Internet sourcing sites to perform outreach. Using Building Connected, we will maintain detailed records showing contacted firms, M/W/DBE status, interested bidders, questions received, and other pertinent information. With Kiewit's history in Florida and our current regional contracts, we understand which companies can perform and are cost-competitive and responsive to project needs. We will work collaboratively with the Authority to determine the right subcontractors and level of engagement during preconstruction to provide the best value. For example, we recommend engaging with electrical subcontractors and pump equipment suppliers to participate in constructability reviews, helping create special provisions, set quality expectations, improve schedule accuracy and verify scope item pricing. For key subcontractors who are engaged during preconstruction, we will ensure their costs are competitive and transparent through the following methods:

- Mandatory site visits from subcontractors prior to bidding
- Prequalify competent subcontractors
- Visit other projects subcontractors are performing to ensure quality and safety culture aligns with our expectations
- Perform estimates for major subcontract packages to ensure pricing is competitive
- Solicit multiple quotes for the specific scope to ensure cost competitiveness
- Compare subcontractor pricing to past recent projects, and quotes Kiewit received on current projects
- Identify long lead items and schedule impacts accounted for based on subcontractor quotes and lead time commitments

In our discussion of scopes of work with various subcontractors, we recommend these firms participate in constructability reviews to provide the most value:

- Pump Manufacturer
- Large Diameter Pipe Supplier
- Electrical Subcontractor
- Microtunneling
- Cathodic Protection

Our plan considers both qualifications and competitive bid criteria. If several alternatives for qualified subcontractors or suppliers are available, we will implement our selection plan to prequalify, level, and evaluate bids to provide the best value to this Project involving the Authority's staff throughout the process. Kiewit will provide subcontractor quotes to the Authority to ensure transparency. Our goal is to receive multiple quotes for each scope package to ensure reasonable costs.

Environmental Considerations and Compliance

Kiewit and this local project team have extensive experience working in Florida on projects with high risk of environmental and wildlife impacts. We understand the role HDR/Hazen & Sawyer will play in preliminary environmental wildlife surveys to detect potential migratory birds and other protected species. Kiewit has recent experience at the C-23/24 STA project permitting and relocating gopher tortoises. We inspected over 50 burrows and relocated multiple gopher tortoises within a matter of months to ensure the project critical path was not impacted. For any of the 104 wetland impacts Kiewit will plan and schedule that work to meet any permit requirements to achieve the goal of using on-site mitigations.

We also have experience working around migratory birds, specifically the crested caracara, requiring a large buffer during mating season that could greatly impact clearing and grubbing operations. Kiewit has worked with USACE and FWC to keep similar projects on schedule through reducing buffer zones with added bird monitoring and modification of equipment type or operations performed to ensure no impact to mating and bird activities.

Permitting Understanding and Support

Kiewit understands HDR will obtain an Individual Statewide Environmental Resource Permit (ERP) thru FDEP South District. Kiewit will submit a Notice of Intent (NOI) to use the NPDES generic permit being obtained by HDR on behalf of the Authority. We will apply for and obtain a water use individual permit with Southwest Florida Water Management District to allow for groundwater dewatering to accommodate construction of the pump stations and conveyance pipes. Kiewit has experience in Florida obtaining these permits, along with fulfilling permit obligations during construction such as dewatering quantity and quality of discharge.

Due to working along Peace River for the intake structure, we understand the need for HDR to obtain a Section 404 Authorization by USACE for an individual permit to allow for dredging and backfilling. Kiewit will support HDR and the Authority for any meetings and information to help communicate our plan and schedule for construction to protect the WOTUS. Equipment selection and means or methods of construction will be discussed and agreed upon prior to start of work.

STEWARDSHIP THROUGH PROPER PLANNING AND EXECUTION

Located at the northeastern edge of South Florida's Lake Okeechobee, the S-191A Pump Station project serves a dual purpose: provide flood control in the L-47 basin and give the SFWMD the ability to control the amount of water being treated in the area. Proper planning and implementation of dewatering activities were critical for meeting surface water quality standard codes to prevent damage to the surrounding wetlands, farms and wildlife environments.

PHASE II CONSTRUCTION SERVICES APPROACH

The project will benefit from Kiewit's team continuity as we transition from preconstruction to construction. **Cody Jensen will continue serving as the Project Director with Project Manager Kent Oberle and Construction Manager Ron D'Orsi**. Kent will lead the transition from preconstruction to construction with **Abby Conner transitioning from Lead Cost Estimator to Project Engineer. Mark Thomas and Ryan Conner, Superintendents over the Pipelines and Pump Stations**, will take the lead in constructability reviews during preconstruction, facilitating a smooth transition to construction activities. We will build on the preconstruction momentum and communicate project knowledge and expectations to the team as construction personnel begin working on the project. Partnering and collaboration with the Authority and the project team will continue as we diligently work towards achieving all scopes of services described in the RFQ for successful completion. To support the Team during construction in achieving reduced cost, improved quality, and an efficient schedule, we will:

- Lock in material and subcontracts within 30 days of successful GMP negotiations to avoid escalation.
- Collectively monitor risk, ensuring implemented risk mitigation measures are effective.
- Schedule pre-activity meetings with the Authority prior to each major construction activity to communicate the work plan and hold points for inspection to ensure quality of work is confirmed and documented.
- Schedule initial inspection of work to establish acceptance criteria and ensure Authority expectations are met
- Engage the Authority in daily, weekly, and monthly schedule

meetings to ensure schedule progress and upcoming milestones are well communicated.

- Perform stakeholder outreach with the Authority to ensure concerns are addressed, as well as project status and potential impacts are communicated.
- Utilize labor from our experienced workforce from recent, local reservoir and pump station projects

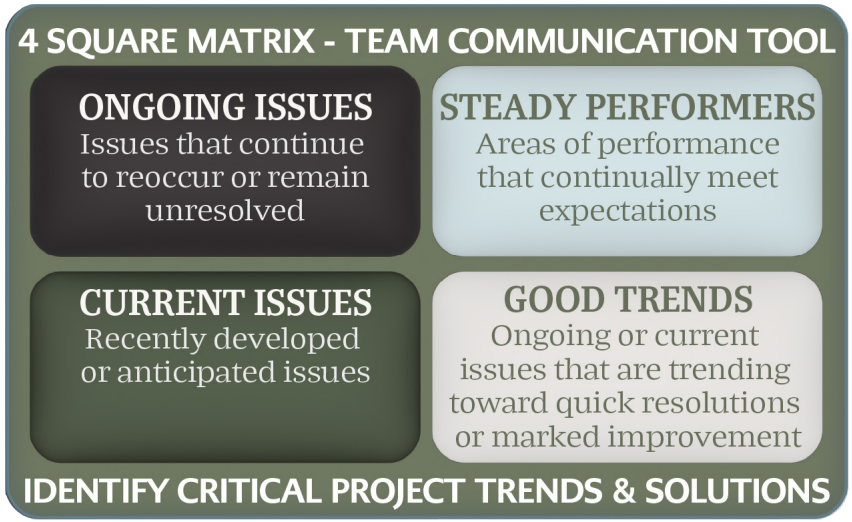
Communication

Project communication during construction will take place in the form of various formal and informal communication techniques described below:

- Daily Coordination / Status Updates (Varies - In- Person / Phone / Email)
- Weekly Progress Reports / Client Progress Meeting / 3 Week Schedule
- Monthly project schedule update and integration with other active projects
- Monthly payment application meetings to include graphics of completed work, as-builts, and quality control documents
- Quarterly Executive Check-In Meetings (The Authority / Kiewit Regional Manager)
- Kiewit Meeting Support As Necessary – Public Information, County Board Updates, Permitting, and other Stakeholder Meetings

During construction, the Four Square Matrix (***Exhibit 2.9***), used on all our projects, will be utilized as a project-wide communication tool at quarterly meetings. Our clients often find great value in implementing this tool to discuss, assign action, and address specific project concerns as they arise. The Four Square Matrix recognizes positive project attributes and tracks the evolution of project topics as they move from a challenge to success over time. Kiewit will implement this process, updated in a group setting quarterly at the manager meeting, as a valuable team communication tool throughout the project's life-cycle.

Exhibit 2.9 *Four Square Matrix*



Approach to Safety

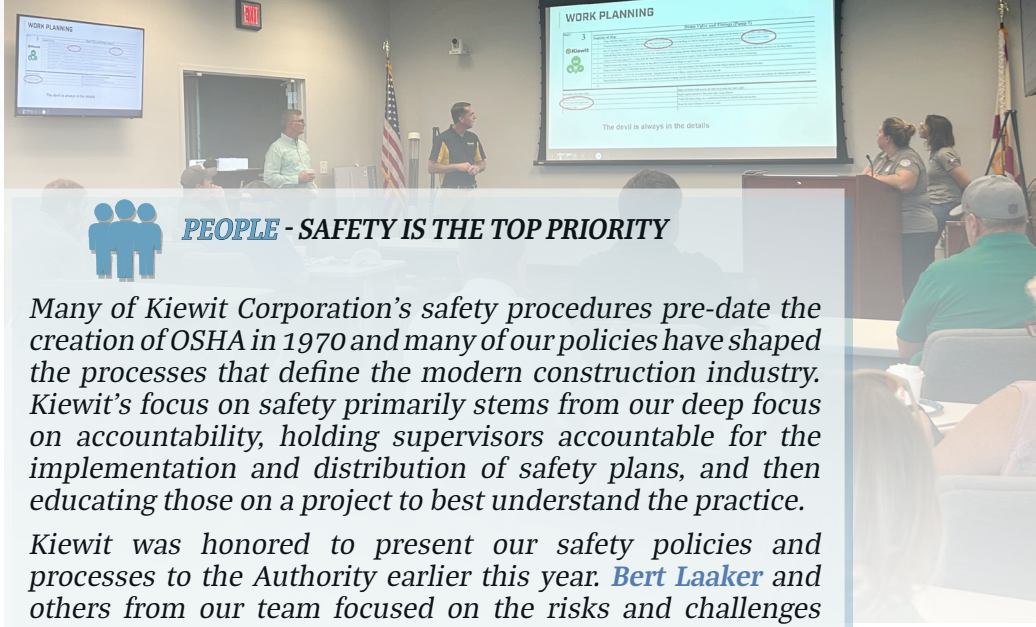
We believe all safety hazards can be eliminated through proper planning and effective communication, which is our key focus in developing project-specific safety plans. The safety programs that will be implemented on your Project go beyond craft engagement; they empower our craft workers to own the safety program. Our approach to safety will be developed around the following practices:

- Develop a project-specific safety plan during preconstruction and properly implement this plan during construction
- Define and communicate clear safety goals that are understood by all at the start of the project and as new subcontractors are added to job team
- Safeguard the environment, health, and safety of all staff and craft, subcontractors, visitors, and the public
- Require subcontractors and Authority personnel to follow site specific safety requirements and plans during construction through startup and commissioning and training activities.

Kiewit understands the potential challenges of working on a site adjacent to heavily utilized highways and within active municipal water facilities. During preconstruction we will identify and establish additional or expanded entrances, to ensure the construction operations do not interfere with the access of plant and facility workers. Maintenance of Traffic (MOT) and site access must be a constantly monitored and planned for component in all safety and construction operation meetings. Additionally, the existing underground utilities, including electrical lines and pressurized pipelines pose a major safety hazard if not properly identified, managed, and communicated to the crews and equipment operators working on the site. Utilities will be another top focus during safety and operations meetings.

Kiewit's safety management system adapts to project requirements while maintaining the integrity of the safety plan. From day-to-day operations to Crisis Management Plans, hurricane preparedness plans, training, communication, and planning will be critical to safety success. Safety is one part of "the way we do business". Some of the tools we use to maintain a safe work environment include:

Life-Saving Actions (LSA) a program that helps recognize the potential outcome of all incidents and develop meaningful plans to prevent those events. The core of this program is our Life-Changing Categories, which consist of activities with common contributing factors that have a high likelihood of causing incidents with serious outcomes. At the start of a project, project management selects the categories most appropriate for the project. The team then develops a safety plan for each selected category. All project employees will receive LSA training that focuses on these specific categories during new hire orientation.



PEOPLE - SAFETY IS THE TOP PRIORITY

Many of Kiewit Corporation's safety procedures pre-date the creation of OSHA in 1970 and many of our policies have shaped the processes that define the modern construction industry. Kiewit's focus on safety primarily stems from our deep focus on accountability, holding supervisors accountable for the implementation and distribution of safety plans, and then educating those on a project to best understand the practice.

Kiewit was honored to present our safety policies and processes to the Authority earlier this year. Bert Laaker and others from our team focused on the risks and challenges the Authority will face as the PR3 project comes to fruition. Kiewit will be instrumental in collaborating with HDR/Hazen & Sawyer to implement safety related design-work on this project, so maneuvering and communicating with the design team, utility entities and the Authority is paramount to prevent possible safety hazards from occurring.

Kiewit will work with the Authority to best address safety concerns, and identify challenges before they become an issue. Most importantly, Bert Laaker and the project team want to help all personnel involved on this project understand the necessary safety procedures, to ensure "Nobody Gets Hurt!" on your Project.

Craft Voice in Safety (CVIS) is a Kiewit-developed program that empowers everyone to support safety through communication, prevention, education, and awareness. The program is structured in a way where the CVIS leader, which is selected from the craft personnel, reports directly to Project Manager Kent Oberle, allowing for prioritized feedback , corrections, and prevention plans. We are dedicated to implementing a successful CVIS program as a proactive and empowering way to prevent incidents and educate project team members. Start Cards are hazard assessments performed on-site by craftsmen and front-line supervisors, either at the start of each day or to begin a new operation. All crew members actively participate and

own the development of the Start Card, which identifies the hazards and safeguards that apply to the crew's scope of work. Crew members review and sign the Start Card before work starts. Supervisors then review it and authorize the work to take place.

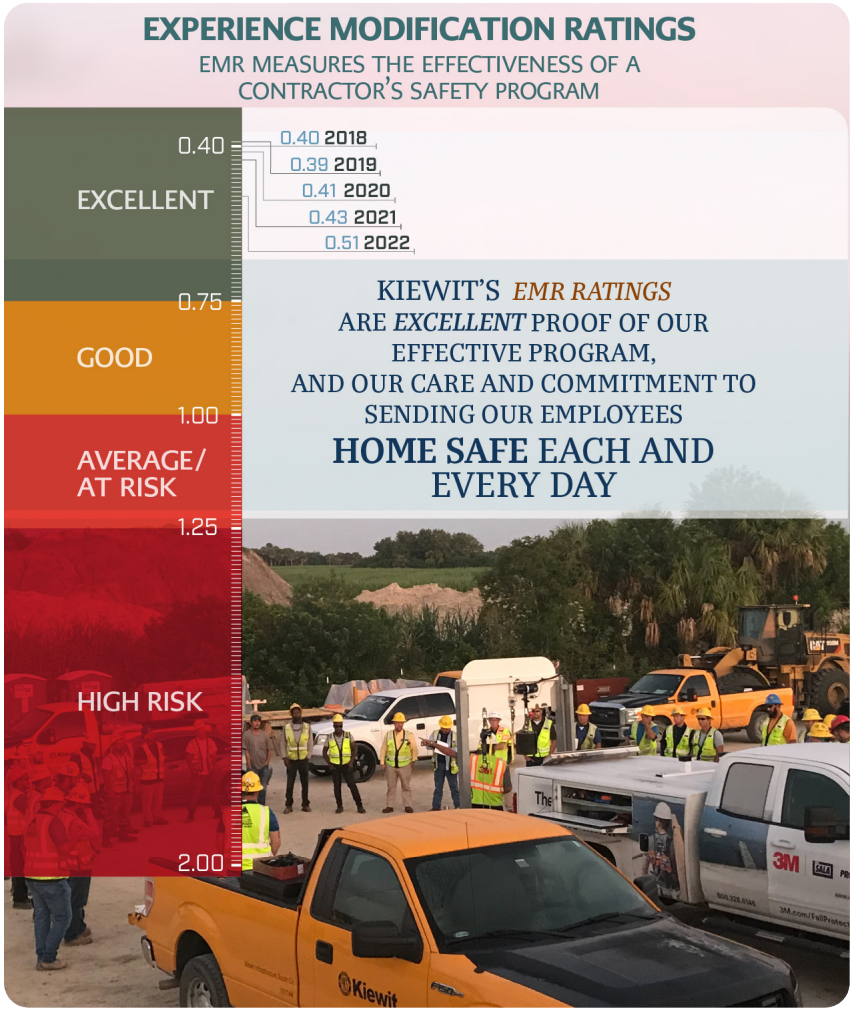
Monthly Mass Meetings are held to discuss that month's near misses and incidents, and provide a platform for the job team (Kiewit, the Authority, and subcontractors) to communicate plans for the upcoming month. These meetings are led by Management and Field Superintendents with participation from the CVIS members. They typically include safety demonstrations showing the effects of dropped objects, falls from heights, human-equipment interface accidents, and confined space incidents. They also provide an opportunity to highlight things that are going well, and points to focus on next month.

Safety Committee of the Week (SCOW) includes field tours which involve workers at all levels, including subcontractors, to participate in identifying potential hazards and discuss what is working and what might need improvement. Various operations are audited and scored, to identify good and bad trends. These scores and observations are shared with the project team weekly. These "fresh eye" reviews provide an opportunity for individuals who are not entrenched in the work to look at operations and provide immediate, honest feedback.

Stop Work Authority isn't just a phrase, it is an expectation that we all must live by. We give all persons on site, regardless of position or company affiliation, the authority, responsibility, and obligation to stop any activities that they feel are unsafe. Kiewit empowers project personnel to prevent and correct unacceptable or dangerous working conditions, and we expect them to exercise this authority.

Quality Management

Our principal quality objectives are to meet or exceed clients' expectations and to eliminate rework by performing the work **"Right the First Time"**. We monitor our performance against these objectives and require continual improvement. To achieve this, our team led by **Quality Control Manager, Jim Cochran**, will develop and implement a Quality Management Plan (QMP), which will outline how we intend to meet the Authority's expected quality objectives. Every operation will follow three steps – Work Plans, Pre- Activity Meetings,Initial Inspection Meetings, and Play of-the-Day Meetings.



Work Plans. The construction team will review construction documents to develop a Work Plan, clearly defining our plan to build the work. Details from the construction documents, such as material type, testing frequency, hold points, and tolerances, will be referenced in the Work Plan to ensure full compliance with the construction documents.

STEWARDSHIP - ENVIRONMENTALLY FRIENDLY SOLUTIONS TO LARGE INFRASTRUCTURE CHALLENGES

*The **OIA STC CMAR** was a massive undertaking to construct the new terminal complex. This environmentally friendly project made massive strides to the future of Orlando air travel. The project was created with innovative engineering methods to such a degree, that the project itself was awarded a US Green Building Council sustainability award for implementation in sustainable practices and environmentally friendly design improvements, and a LEED v4 certification is in progress. Innovations and extensive planning, allowed for a massive infrastructure implementation with minimal environmental impact, and stewardship for the future.*

Pre-Activity Meetings. Prior to the start of any operation, a Pre-Activity Meeting will be held with the Authority, HDR/Hazen & Sawyer, inspectors, and construction supervisors for all new scope or operations throughout the life of the project.

Initial Inspection Meetings. We hold these meetings to ensure work is being built to meet the Authority's expectations, including proper documentation and hold points.

Play-of-the-Day Meetings. These meetings will be held to coordinate Authority staff, quality control staff, and the project team to discuss construction activities to be completed each day.

At the beginning of the project, we will hold training to ensure that the entire project team, including subcontractors, understands the requirements of the QMP. All project personnel are trained to follow the core principles of implementing the QMP, such as:

- Individuals in work functions perform their tasks with a personal commitment to achieving the project quality requirements.
- Employees are empowered and responsible for ensuring the quality of their work.
- Supervisors are accountable for ensuring that each crew member has the training, skills, and tools to produce quality work.
- The concept of doing the job "Right the First Time, Every Time" is instilled and reinforced through supervision and training.

Environmental Management

To ensure that Kiewit employees working on projects always adhere to the Environmental Management System, Kiewit routinely conducts training in spill prevention and control, waste management, air quality, and process water management, among others. Our Corporate Office Environmental Department conducts ground and surface water management training for Environmental Managers annually, as well as offers periodic webinar-based training. The Environmental Managers are expected to train district employees on all areas of environmental compliance. The district training must identify and include all regulatory required training associated with permits and registrations. Environmental Managers will ensure all Project Environmental Coordinators are trained prior to project appointment. The Project Environmental Coordinator for this job will train project staff and craft employees using methods such as new hire orientation and frequent toolbox meetings. Trainings will include:

- Project specific Stormwater Pollution and Prevention Plan (SWPPP)
- Project specific Spill Prevention, Control and Countermeasure Plan (SPCCC)
- Turbidity monitoring at any discharge points to ensure we don't exceed 29 NTU's of background
- Weekly SWPPP inspections or after rain events in excess of 1/2"
- Project Specific Envision requirements

Our team is trained and experienced on working near Waters of the United States (WOTUS) and is familiar with restrictions on vibrations or noise and monitoring for protected species such as manatees. Kiewit will plan, schedule, communicate and coordinate project construction with the Authority, HDR/Hazen & Sawyer and government agencies such as FDEP and USACE to ensure permit compliance with all applicable laws and regulations. We will innovate to overcome challenges as they arise to keep the project on schedule while protecting the environment.

Ability to Self-Perform

Kiewit has the ability, equipment, and experience to self-perform most major operations, well over the required 25%. We typically self-perform operations that are on the critical path or where we can provide cost savings. We evaluate our cost competitiveness with subcontractors in order to give clients the best value. Multiple competitive bids are received and evaluated by the client on the work we compete on to self-perform. Kiewit is committed to ensuring best value on every project when it comes to self-performing and subcontracting.

Resources

Staff and Craft Resources. We have long-tenured craft employees who are local to Florida and the Southeast Region and have worked with Kiewit on multiple projects. As a regional contractor, we can access any additional labor resources required to meet the project schedule.

Equipment Resources. Kiewit stands as one of the largest construction companies in the nation, and resources reflect that. We boast one of the largest, most modern equipment fleets in North America, with over 25,000 units and a $3.2 billion dollar replacement value.

Material Procurement. Our team understands that the cost savings and ability to lock in early pricing, to eliminate schedule risk and potential escalation, are an important, value saving component of the preconstruction phase. To offset potential cost overruns and schedule delays, we highly recommend Early Procurement packages for conveyance pipe, river intake valves, river intake pumps, miscellaneous metals for river intake pump station, and reservoir geomembrane. We will identify opportunities for Owner Direct Purchase during the preconstruction phase.

PEOPLE - OUR NUMBER 1 RESOURCE TO THE BENEFIT OF OUR CLIENTS

The PCCP project spanned three separate project sites that had to be sequenced to maximize efficiency and achieve the client's schedule. Integrating a large, multi-faceted project team began before the official NTP; all three separate project sites were organized using a one-team approach to create a discipline-focused, hybrid structure that maximized efficiencies, reduced learning curves, offered efficient resource management, and enhanced safety and quality at each site. Workforce on the project peaked at nearly 400 personnel and was sustained at more than 200 personnel for approximately 3 years.

"PCCP management is constantly pushing the critical path with additional shifts and manpower as required. Additional equipment has also been brought on. At 17th St., work is well planned and staffed. The management at each site has a clear understanding of upcoming work. At the Orleans jobsite, PCCP continues to coordinate field operations and site meetings where the appropriate personnel are present to ensure that Contract requirements are being satisfied."
– USACE Construction Comments from Interim Evaluation

Construction Schedule Approach

The following scheduling tools are utilized during construction to ensure the project is on track:

P6 Schedule. Kiewit uses the most current software available to track our construction schedule. This web- based software operates in the Cloud, which provides greater flexibility to manage projects. Our schedule is monitored on a weekly basis and is used as the foundation for all other scheduling on the Project. We include all major submittals, procurement, permitting and temporary design tasks in our P6 schedule so that we never lose sight of critical tasks.

90-Day Schedule. Updated monthly, the P6 schedule breaks down the overall project schedule into a 90-day look-ahead that identifies critical submittals, material procurement, construction operations, resource needs, and potential conflicts so they can be mitigated early.

Three-Week Look-Ahead. At each Client meeting, Kiewit will provide a detailed three-week look-ahead. This provides the entire team with the opportunity to coordinate and communicate about any upcoming design reviews, comment resolution meetings, package submittal dates, pre-activity meetings, inspection resources coordination, etc. This schedule is updated and reviewed on a weekly basis.

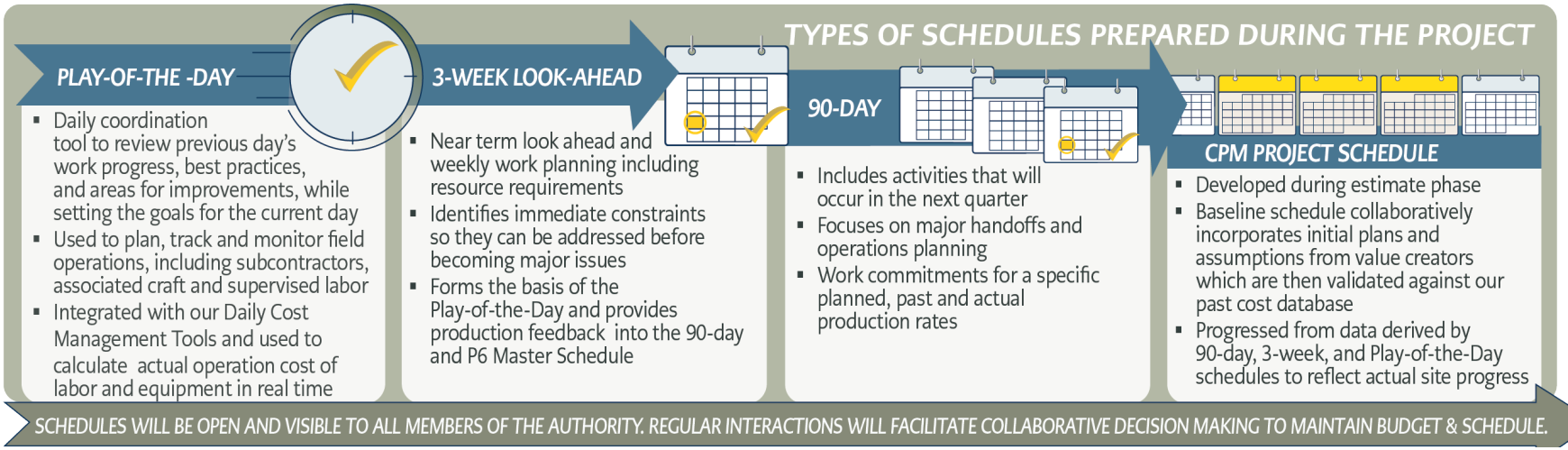
Hour-by-Hour Schedules. Our team uses hour-by-hour schedules for critical shutdown operations. Several months ahead of operations impacting tie-ins to new or existing facilities, our team will develop this hourly schedule in collaboration with the Authority, subcontractors and project stakeholders. These hourly schedules include every project detail, full staff and craft coverage, Plan B and C options in case of change, backup equipment and craft, and we adjust resources as needed during the shutdowns to keep the project on track.

Play-of-the-Day. Our field personnel meet daily with all individual disciplines and subcontractors to coordinate the next day's operations, and discuss any safety, environmental, quality or site access issues that have changed or are upcoming in the next 24 hours. This will be the opportunity to confirm inspections and testing requested at the three week look-ahead. We will continuously develop, manage, and overly communicate the schedule and critical path throughout construction with regular meetings and reviews. These meetings are crucial for team coordination, engagement, communication, and mitigating sequencing change effects on the overall project.

Subcontractor Plan

Kiewit will identify subcontracting opportunities by scopes of work, understanding what work we cannot self-perform and what work may be on a critical path. When subcontracting work, we will preserve the best cost for the Authority while ensuring safety, quality, and compliance.

Safety. Every subcontractor employee attends the mandatory site expectations and safety orientation before walking onto the project. Expectations for project-specific hazards, including traffic and human equipment interface, is clearly communicated. Just like Kiewit crews, each subcontractor is expected to prepare and utilize a start card for each specific operation, hold weekly toolbox meetings, and attend monthly project-wide mass safety meetings.

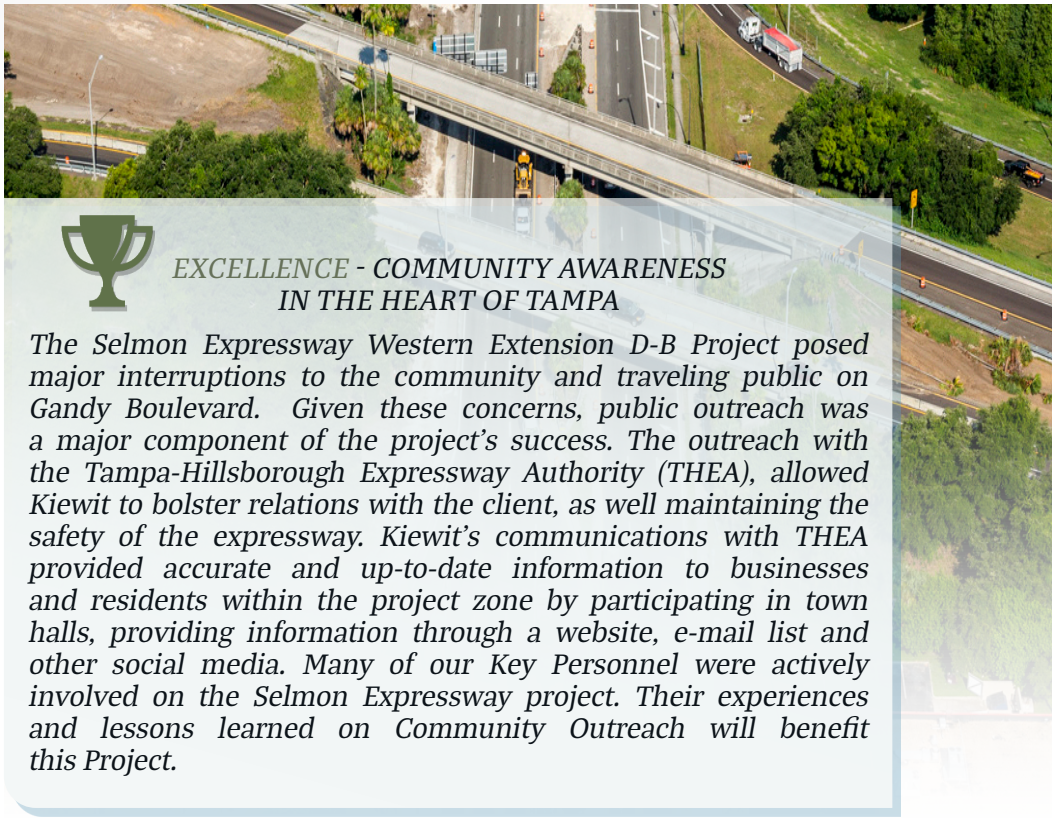


Compliance. Subcontractors are trained on compliance, including environmental, erosion control, and hazardous materials. They understand the requirements for adequate erosion control prior to performing their work. They will understand the environmentally sensitive elements they could encounter, such as wildlife and protected species, and know the proper implementation steps to mitigate potential impacts. Subcontractors will be held to the same high expectations as Kiewit employees to ensure overall project compliance.

Quality. We have a proactive approach to ensuring the high quality of our subcontractors. Subcontractor scopes play an integral part in the Project's QMP. We hold pre-activity meetings to address quality hold points and inspection and testing procedures prior to the start of the operation. Our on-site quality control team inspects subcontractor documents and work to ensure compliance with the design and project specifications before permanent material is placed. Quality expectations are clearly communicated prior to selection and verified during construction.

Schedule. Subcontract scopes are fully integrated into the baseline schedule. Milestones are tracked with monthly 90 day schedules and weekly 3 week schedules, and closely monitored to meet performance expectations. Schedule requirements and milestone dates are part of the subcontract bid package as well as the subcontract. We monitor subcontractor performance daily and track progress. If an activity falls behind schedule, we collectively develop an action plan to get this task back on track. Schedule action plans may include additional resources, extended hours, weekend work, or resequencing, as appropriate.

Cost Control. Through our extensive track record of partnering with subcontractors, Kiewit leverages lessons learned to anticipate and provide support and intervention of common issues encountered, such as financial and cash flow challenges, scope and change order management, and safety and quality performance issues. To avoid change orders, we clearly define bid package scopes. Kiewit takes on logistics support to minimize duplicate costs across multiple subcontractors such as E&S, dust control, water, ice, bathrooms, construction entrance maintenance, etc.



EXCELLENCE - COMMUNITY AWARENESS IN THE HEART OF TAMPA

The Selmon Expressway Western Extension D-B Project posed major interruptions to the community and traveling public on Gandy Boulevard. Given these concerns, public outreach was a major component of the project's success. The outreach with the Tampa-Hillsborough Expressway Authority (THEA), allowed Kiewit to bolster relations with the client, as well maintaining the safety of the expressway. Kiewit's communications with THEA provided accurate and up-to-date information to businesses and residents within the project zone by participating in town halls, providing information through a website, e-mail list and other social media. Many of our Key Personnel were actively involved on the Selmon Expressway project. Their experiences and lessons learned on Community Outreach will benefit this Project.

Public Information & Community Safety

Our team will coordinate with the Authority to ensure accurate, clear and concise project information is communicated to impacted stakeholders and the community. Kiewit is committed to supporting the Authority in all public outreach, including with public meetings during preconstruction and public information distribution that continues into the construction phase to stress our community-minded goals in safety, schedule, and impact reduction. Kiewit is dedicated to a positive public profile of the Project and will work with the Authority to ensure public safety throughout our time on site.

Kiewit understands the impact this project and the rest of the Surface Water Expansion Projects will have on the local roads and highways. During the preconstruction phase of the project, our team will work with the Authority to develop Maintenance of Traffic (MOT) and Temporary Traffic Control Plans to ease traffic congestion and improve driver safety during construction. Throughout construction, as our work progresses, we will monitor the impact to the local roads

and highways and provide clear communication to the Authority and residents of potential upcoming impacts and changes in MOT patterns. Kent and team are familiar with the ever-changing logistics associated with maintaining MOT throughout a multi-phase project and committed to providing a safe environment for the public in and around the project site. Kiewit will ensure residents and employees of the Authority are not disrupted or negatively impacted during our time on site.

Community Involvement

Kiewit's focus on community involvement aligns with Peace River Authority's values. We care about our communities, and we know Peace River does, too. Our local presence allows us to connect with the communities that we live and work in through volunteering and mentoring opportunities for the next generation of leaders. One of Kiewit's core values is stewardship, which prioritizes making a positive impact on our communities, developing new generations of leaders and conducting our business in a sustainable manner. We do not just want to be a company that operates in a place: we want to be an active and supportive part of it long after our projects are successfully completed.

Startup, Commissioning, Operation and Maintenance

The Kiewit Commissioning and Startup Team plans and executes pre-commissioning, commissioning, startup, and acceptance testing activities while maintaining the highest standards of safety, productivity, and quality. We embrace open communication and a strong safety culture based on the belief that the safety of our employees is our primary responsibility. We will "Begin with the End in Mind" by integrating with our engineering, procurement, and construction personnel to establish smooth interfaces and a positive team environment that optimizes execution of the work.

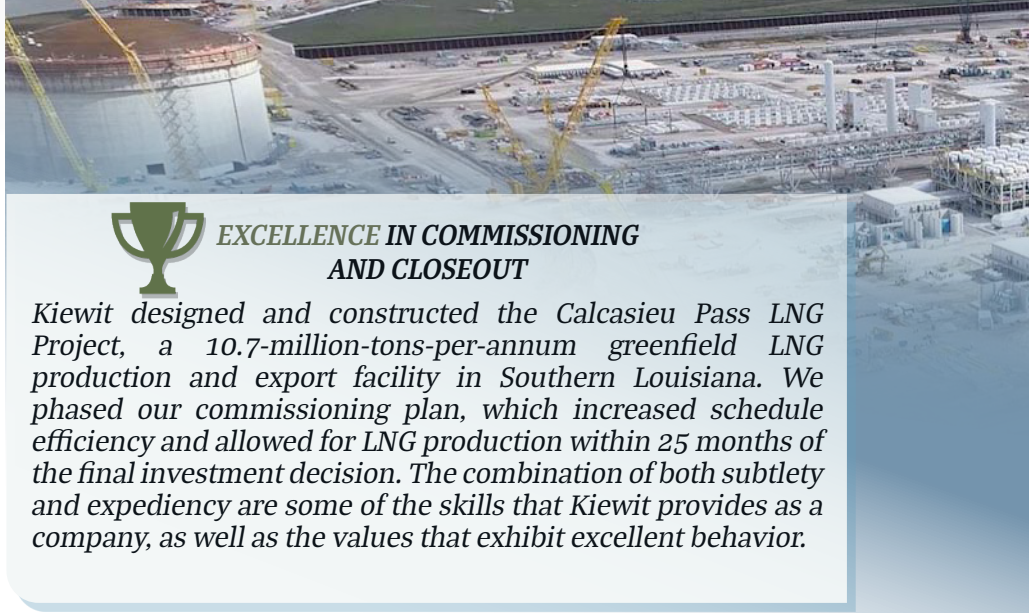
Our team will create a detailed, integrated, start up and commissioning schedule to meet your required project milestones:

1. June 2027 - River Pump Station Complete and 84" Conveyance Complete, ready for tie-in to new Reservoir (By Others). Allows Authority to fill Reservoir #3 during 2027 Rainy Season
2. June 2028 - Reservoir Pump Station Complete and 54" Conveyance complete, Ready for tie-in to expanded PRF.

This schedule will be continuously updated and communicated with the Authority. A commissioning task force including the Authority, Kiewit, and SMEs will consistently meet to collaborate and ensure a seamless hand-off of operations and maintenance at the completion of each stage of construction. Specifically, these task forces will include input from the Authority's operations team, the Design Team, Kiewit, vendors, manufacturers, key subcontractors, integration specialists, and any parties that share in the responsibility of delivering water through the system. Early task force meetings will focus on the Project's needs, and input on the commissioning plan to ensure project success.

The Operational Plan will include:

- System and equipment start up plan including operations training
- Testing and commissioning plans for each component
- Commissioning task force meetings held early in the preconstruction phase to establish and maintain relationships with equipment and control manufacturers, and incorporate input from the Authority's operations team
- Comprehensive checklists for creating, following, and maintaining the operational plan



EXCELLENCE IN COMMISSIONING AND CLOSEOUT

Kiewit designed and constructed the Calcasieu Pass LNG Project, a 10.7-million-tons-per-annum greenfield LNG production and export facility in Southern Louisiana. We phased our commissioning plan, which increased schedule efficiency and allowed for LNG production within 25 months of the final investment decision. The combination of both subtlety and expediency are some of the skills that Kiewit provides as a company, as well as the values that exhibit excellent behavior.

- As-built drawings completed in a timely manner as different systems come on-line
- Lessons learned from past projects implemented into the plan to streamline the startup and commissioning process

We will work closely with the Authority to streamline the commissioning and startup process, delivering a seamless handover of responsibilities after start-up and performance testing has concluded. Equipment Manufacturers and Vendors will be involved during testing. Kiewit will identify equipment manufacturer warranty, installation, and testing requirements that necessitate the equipment manufacturer's technical field assistance (TFA). We'll assign those vendor resources to the specific activities in the project schedule and produce a TFA schedule that dynamically adjusts with the project schedule. Suppliers' TFA forms a critical part of the testing program which ensures the need is identified in our schedule. Vendors typically perform an advisory role while our staff oversee the execution of the work by our craft and technicians.

Maintenance of Plant Operations Our team understands this Project is located at an active facility and site and is unable to be offline without coordinated tie-ins. **Construction Manager Ron D'Orsi** will work together with HDR/Hazen & Sawyer and the Authority's staff to prepare a sequence of work to maintain operations throughout the Project's duration. Our plan to transition from the existing system to the new will be one of the first design and construction workshops held with the Authority so the design makes the construction and startup transition effortless.

O&M Manuals

Our goal is to build pump stations and hydraulic structures that are easy to operate and maintain, while meeting the highest Envision Award possible. The primary objectives of the O&M manuals are to operate and maintain the facilities in a manner that provides for the safety of the employees during all conditions. We will provide effective training to maintain facility readiness. We optimize safe operations and maintenance factors through storm-proofing our site layout, design, and equipment choices, and a comprehensive training plan. Standard Operating Procedures (SOP) will be developed for operating systems, subsystems, and components and archived on the interactive O&M manual. The procedures will be used extensively in staff training. The O&M manuals will also be provided on tablet computers for ease of use by both operators and maintenance personnel; and the post construction Envision Certification/Verification process will be completed to establish the final project Envision Award level.

Closeout and Handover

The closeout process will be managed from the time of award and a closeout checklist will be used to manage handover. The team will conduct this process through a comprehensive program that ensures performance meets operational needs. Installation and operational testing will be completed before any functional acceptance and handover begins.

Envision

Kiewit is proud to partner with the Authority in their efforts to meet Envision requirements. Envision is a proponent of infrastructure projects that make exemplary progress and contribute to a more sustainable future. Understanding that Envision extends from design through operation and maintenance, Kiewit recommends the Authority pursue verification after the design phase and a post construction review to validate the commitments made in the planning and design stages of the project. Through the two-stage verification, it will be easier to align on the plan to achieve Envision early in the project.

Kiewit will assist in developing required submittals for credits being pursued. Narratives and supporting documentation will provide clear and direct responses to the evaluation criteria, to help achieve the Envision goals. We anticipate credits being earned for all 5 major categories of the Envision points table. However, some of the subcategories of these 5 may not apply to this project. To properly score the achievement level, the non-applicable points should be documented to allow formal removal of the points. Specifically, we anticipate earning most of the Envision points in the subcategories listed in ***Exhibit 2.10*** on the following page.

Exhibit 2.10 *Anticipated subcategories to earn Envision points*

ENVISION POINTS TABLE MAJOR CATEGORY		*ENVISION POINTS TABLE SUBCATEGORY*
	Quality of Life	• Wellbeing
	Leadership	• Collaboration • Planning, • Economy
	Resource Allocation	• Materials • Energy • Water
	Natural World	• Conservation • Ecology
	Climate Resilience	• Emissions • Resilience

KIEWIT SAFETY METRICS

Safety is our number one priority, and we tailor each safety plan to the specific job. We have received numerous awards for safety and are recognized as industry leaders. A strong safety program and practices are extremely important and our project teams implement stringent safety practices that exceed the industry standards to protect everyone on the site from harm. Team members follow the site specific practices detailed in the project's safety plan and participate in training and onsite safety meetings to enhance their understanding of safety issues and procedures. Our outstanding safety record shows the effectiveness of the safety culture and approach adopted by all team members. We place substantial emphasis on training all personnel to know what hazards are present and what precautionary steps they need to implement, and by caring about every team member and focusing on the importance of safety and personal loss when someone gets hurt.

Kiewit is unyielding in our commitment to safety; it is the principal driver behind everything we do. Our foremost objective on every project is **"Nobody Gets Hurt."** This safety culture is responsible for our corporate 2022 Experience Modification Rate (EMR) of 0.51, approximately half the industry average. In 2022, Kiewit's Recordable Incident Rate was 0.00. To achieve these results, we rely on a solid foundation of education, communication, and empowerment to provide all employees the skills they need to perform their jobs safely.

A. EXPERIENCE MODIFICATION RATE (EMR)
2022: 0.51 | 2021: 0.43 | 2020: 0.41
B. OSHA TOTAL RECORDABLE INCIDENT RATE (TRIR)
2022: 0.00 | 2021: 0.53 | 2020: 0.83
C. OSHA LOST-TIME INCIDENT RATE (LTIR)
2022: 0.00 | 2021: 0.00 | 2020: 0.09

3. RELEVANT EXPERIENCE AND QUALIFICATIONS

Kiewit

RELEVANT EXPERIENCE AND QUALIFICATIONS

Brief overview of qualifications and relevant experience

Kiewit delivers world-class solutions for complex projects critical to the quality of life in the communities in which we live and work. Kiewit is a Certified General Contractor in the State of Florida and our license has not been revoked in the past five years. We specialize in CMAR delivery and understand how to effectively institute a transparent and collaborative environment with procedures that will maximize the Authority's return on investment.

Kiewit and our affiliates have completed more than $3.6 billion in pump station projects and $16.7 billion in water supply projects. This extensive experience, which includes projects like the Gulf Intracoastal Waterway in New Orleans, LA, and Pump Station S-191A in Okeechobee, FL, has provided our team with a deep understanding of the unique characteristics of pump station construction and large diameter pipe installation. To demonstrate relevant work experience, we have listed several projects performed by Kiewit and our affiliates in the following Attachment A Key Personnel and Reference Project Table and Reference Form. We are "One Kiewit Company" that shares knowledge and resources to provide the Authority with the best value statement of qualifications for this opportunity.

Ron DeSantis, Governor

Melanie S. Griffin, Secretary

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE GENERAL CONTRACTOR HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

BROWN, JEFFREY PAUL

KIEWIT INFRASTRUCTURE SOUTH CO.
1550 MIKE FAHEY ST.
STACEY LAMB; LEGAL
OMAHA NE 68102

LICENSE NUMBER: CGC1511417

EXPIRATION DATE: AUGUST 31, 2024

Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

Attachment A

KEY PERSONNEL	KEY PERSONNEL ROLE ON PHASE I PRECONSTRUCTION SERVICES FOR PROJECT	KEY PERSONNEL ROLE ON PHASE II CONSTRUCTION SERVICES FOR PROJECT	CURRENT EMPLOYER*	YEARS OF EXP	ASSIGNED OFFICE CITY/STATE	REFERENCE PROJECT # & PROJECT NAME: 1. GULF INTRACOASTAL WATERWAY WEST CLOSURE COMPLEX	2. PERMANENT CANAL CLOSURES AND PUMPS	3. S-191A PUMP STATION	4. OIA SOUTH TERMINAL C- LANDSLIDE CMAR	5. CLAUDE BUD LEWIS CARLSBAD DESALINATION PLANT
CODY JENSEN	PROJECT DIRECTOR	PROJECT DIRECTOR	KISC	20	TAMPA, FL	PROJECT MGR	ESTIMATOR	PROJECT PRINCIPLE	ESTIMATOR	-
KENT OBERLE	PROJECT MANAGER	PROJECT MANAGER	KISC	21	TAMPA, FL	-	-	-	PROJECT MGR	-
RON D'ORSI	CONSTRUCTION MGR	CONSTRUCTION MGR	KISC	38	TAMPA, FL	-	-	-	-	-
RYAN CONNER	PS SUPERINTENDENT	PS SUPERINTENDENT	KISC	20	TAMPA, FL	GENERAL FOREMAN	-	SUPERINTENDENT	SUPERINTENDENT	-
MARK THOMAS	PIPING SUPERINTENDENT	PIPING SUPERINTENDENT	KISC	29	TAMPA, FL	-	SUPERINTENDENT	CONSTRUCTION SUPPORT	-	-
BRAD WILLIAMSON	PROJECT CONTROLS MGR	PROJECT CONTROLS MGR	KISC	19	TAMPA, FL	-	-	PROJECT MANAGER	-	-
JAMES SCHOLL	VALUE ENGINEERING LEAD	COMMISSIONING/START-UP	KIWE	47	TAMPA, FL	-	-	-	-	-
ABBY CONNER	LEAD ESTIMATOR	PROJECT ENGINEER	KISC	18	TAMPA, FL	SUPERINTENDENT	ESTIMATOR	ESTIMATOR	PROJECT ENGINEER/ COST ENGINEER	-
JOSH MEYERPETER	PROCUREMENT DIRECTOR	PROCUREMENT DIRECTOR	KSN	25	MESA, AZ	-	-	-	-	PROCUREMENT DIRECTOR
BERT LAAKER	SAFETY MANAGER	SAFETY MANAGER	KISC	36	TAMPA, FL	-	-	SAFETY MANAGER	SAFETY MANAGER	-
JIM COCHRAN	QUALITY CONTROL MGR	QUALITY CONTROL MGR	KQCS	18	TAMPA, FL	QUALITY MANAGER	QUALITY MGR	REGIONAL QUALITY MGR	REGIONAL QUALITY MGR	-
MARK O'DONNELL	PROJECT SCHEDULER	PROJECT SCHEDULER	KISC	15	TAMPA, FL				PROJECT SCHEDULER	
REFERENCE PROJECT WAS COMPLETED FOR THE AUTHORITY (X)										
REFERENCE PROJECT LOCATION						NEW ORLEANS, LA	NEW ORLEANS, LA	OKEECHOBEE, FL	ORLANDO, FL	CARLSBAD, CA
REFERENCE PROJECT BUDGET AT NTP ($ MILLION NOT INCLUDING CONTINGENCY AND ALLOWANCE)						$811.9	$614.7	$31.5	$1,438.9	$573.5
REFERENCE PROJECT COST AT COMPLETION ($ MILLION INCLUDING CONTINGENCY AND ALLOWANCE)						$1,091.1	$726.8	$32.8	$1,438.9	$592.4
CONTRACT EXTENSION (ACTUAL FINAL COMPLETION DATE MINUS SCHEDULED FINAL COMPLETION DATE AT NTP)						190	486	7	0	0
PROJECT STATUS - (COMPLETE, ONGOING, OTHER)						COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE
REFERENCE PROJECT DELIVERY METHOD - DESIGN BID BUILD (DBB), PROGRESSIVE DESIGN-BUILD (PDB), DESIGN-BUILD (DB), CONSTRUCTION MANAGEMENT AT RISK (CMAR), OTHER (O)						CMAR / ECI	DB	DBB	CMAR	PDB/CMAR
REFERENCE PROJECT PREFERENCE COLLABORATIVE DELIVERY (X)						X	X		X	X
REFERENCE PROJECT PREFERENCE LARGE DIAMETER PRESSURE PIPELINE >42-INCH DIAMETER (LARGEST INCH DIA.)						54"+	54"+	54"	84"	96"
REFERENCE PROJECT PREFERENCE DEWATERING IN HIGH GROUNDWATER CONDITIONS TYPICAL OF FLORIDA (X)						X	X	X	X	X
REFERENCE PROJECT PREFERENCE PUMP STATION >200 HP OR >50 MGD PUMPING CAPACITY (LARGEST MGD/HP)						10,300 MGD	6,750 MGD	323 MGD		104 MGD

* ***KISC- KIEWIT INFRASTRUCTURE SOUTH CO. KSN - KIEWIT SUPPLY NETWORK KQCS- KIEWIT QUALITY CONTROL SERVICES KIWE- KIEWIT INDUSTRIAL AND WATER ENGINEERING***

Kiewit

Not in Page Count

REFERENCE FORM
PROJECT NO. 1, GULF INTRACOASTAL WATERWAY WEST CLOSURE COMPLEX (GIWCC)

Respondent: Kiewit Federal Group (now Kiewit Building Group), an affiliate of Kiewit Infrastructure South Co. was a partner of this JV project.

Role on Reference Project (Prime, Sub-Contractor, Engineer of Record, etc.) Prime Contractor

Reference Entity: United States Army Corps of Engineer New Orleans District

Reference Contact Person: Kenneth Crumholt

Reference Address: 1500 Rock Island Drive, Rock Island, IL 61201

Reference Email Address: Kenneth.W.Crumholt@usace.army.mil

Reference Phone No.: 504-826-2489

Project Delivery Method: CMAR/ECI

Project Location: 990 N. Corporate Drive, Harahan, LA 70123

Respondent Project Manager: Cody Jensen

Project Engineer of Record: Arcadis

Date Project Commenced: 08/01/2009

Date of Final Completion or Status: 03/18/2014

Project Budget at NTP ($ million not including contingency and allowance): $811.9 Million

Project Cost at Final Completion ($ million including contingency and allowance): 1,109.1 Million

Preference Satisfied: ☑ 3.a. ≥42-inch Pipeline ☑ 3.b. ≥50-MGD Capacity or ≥200 HP Pump Station ☑ 3.c. Alternative Project Delivery ☑ 3.d High Groundwater Conditions

Description of Work Performed and Explanation of Differences in Budget and Final Cost:

Project Overview: As the 2012 ENR Civil Project of the Year, Kiewit and several of the key personnel on our proposed team constructed the world's largest drainage pump station of its kind and largest navigable floodgate in the U.S. The $1-billion GIWCC Project is a critical part of the Hurricane and Storm Damage Risk Reduction System that provides the New Orleans area with 100-year-event flood protection and storm surge defense.

Pump Station Capacity: This project consisted of a pump station built on the Gulf Intracoastal Waterway constructed of 11 – "Flower Pot Type" pumps powered by 5,000 HP Engines capable of pumping stormwater at over 19,000 CFS (enough to fill an Olympic sized swimming pool in 3 seconds), 56,900 cy of concrete and 12 million lb of rebar, a "combi-wall" cofferdam, a 225-ft sector gate with two leaves each weighing 660 tons, 275 linear ft of closure wall, a floodwall consisting of 17,249 cy of concrete, and over 1 million cy of levee embankment using processed borrow from on-site.

Collaborative Delivery: Using the advantages of the CMAR model and early work packages, Kiewit was able to accelerate the critical path of this project by getting early construction and procurement activities started while a Firm Fixed GMP Lump Sum contract was developed.

Differences in Budget: Differences in Budget and Final Cost was a result of added features and change orders directed by the client.

REFERENCE FORM
PROJECT NO. 2, PERMANENT CANAL CLOSURES AND PUMPS (PCCP)

Respondent: The bidding entity for this project was PCCP Constructors, AJV. The lead partner is Kiewit Louisiana Co., an affiliate of Kiewit Infrastructure South Co.

Role on Reference Project (Prime, Sub-Contractor, Engineer of Record, etc.) Prime Contractor

Reference Entity: United States Army Corps of Engineer New Orleans

Reference Contact Person: Toby Upson

Reference Address: 1500 Rock Island Drive, Rock Island, IL 61201

Reference Email Address: toby.upson@usace.army.mil

Reference Phone No.: 504-862-2012

Project Delivery Method: Design Build

Project Location: 17th St Canals, New Orleans, Louisiana

Respondent Project Manager: John Proskovec

Project Engineer of Record: Stantec

Date Project Commenced: 05/06/2013

Date of Final Completion or Status: 05/01/2018

Project Budget at NTP ($ million not including contingency and allowance): $614.7 Million

Project Cost at Final Completion ($ million including contingency and allowance): $726.8 Million

Preference Satisfied: ☑3.a. ≥42-inch Pipeline ☑ 3.b. ≥50-MGD Capacity or ≥200 HP Pump Station ☑ 3.c. Alternative Project Delivery ☑ 3.d High Groundwater Conditions

Description of Work Performed and Explanation of Differences in Budget and Final Cost:

Project Overview: As part of a storm damage risk reduction system for the greater New Orleans area, this complex, fast-track design-build project for the U.S. Army Corps of Engineers involved three separate closure structures and pump stations to block storm surges from Lake Pontchartrain at three flood-prone canals. During a tropical event that causes the lake level to rise four feet or more, the pumps operate concurrently or in series with existing drainage pump stations to move rainwater out of the canals, and into the lake.

Pump Station Capacity: Constructed adjacent to Lake Pontchartrain, the permanent gated storm surge barriers and three brick-facade pump stations included Orleans Ave. (2,700 cfs/3 pumps), London Ave. (9,000 cfs /6 pumps) and 17th St. (12,600 cfs /8 pumps). The pump stations are concrete substructures with steel/precast superstructures, an intake around 40 feet, and siphon-type pumps driven by electric motors (Patterson Pumps). Power is supplied by separate generator buildings equipped with a stand-alone emergency power supply to allow operation independent of any public utility. The project included control stations and associated flood protection (T-walls and levee tie-ins). The pump stations were built inside an innovative open cell cofferdam, eliminating the need for whalers and struts, saving both time and money on the project.

Difference in Budget: The difference between budget and final cost was due to money being saved by Kiewit, and the owner reinvesting the funds back into the project for design enhancements such as Variable Frequency Drive control for the pumps. This allowed for more frequent start up and shut downs as well as greater control of volumes of pumping for each facility.

REFERENCE FORM
PROJECT NO. 3, S-191A PUMP STATION

Respondent: Kiewit Infrastructure South Co.

Role on Reference Project (Prime, Sub-Contractor, Engineer of Record, etc.) Prime Contractor

Reference Entity: South Florida Water Management District (SFWMD)

Reference Contact Person: Lucine Dadrian

Reference Address: 301 Gun Club Road, West Palm Beach, Florida

Reference Email Address: ldadrian@sfwmd.gov

Reference Phone No.: 561-682-2685

Project Delivery Method: Bid Build

Project Location: Okeechobee, FL

Respondent Project Manager: Cody Jensen

Project Engineer of Record: CDM Smith

Date Project Commenced: 10/01/2018

Date of Final Completion or Status: 04/05/2021

Project Budget at NTP ($ million not including contingency and allowance): $31.5 Million

Project Cost at Final Completion ($ million including contingency and allowance): $32.8 Million

Preference Satisfied: ☑ 3.a. ≥42-inch Pipeline ☑ 3.b. ≥50-MGD Capacity or ≥200 HP Pump Station

☐ 3.c. Alternative Project Delivery ☑ 3.d High Groundwater Conditions

Description of Work Performed and Explanation of Differences in Budget and Final Cost:

Project Overview: Located at the northeastern edge of South Florida's Lake Okeechobee, the S-191A pump station serves a dual purpose: providing flood control in the L-47 basin and gives the South Florida Water Management District (SFWMD) the ability to control the amount of water being treated in the Lakeside Ranch Stormwater Treatment Area (STA).

Pump Station: This 600 cfs (388 MGD) pump station provides flood control and recirculation with four electric pumps ea rated for 150 cfs. In addition the project included the planning and executing of a large cofferdam, including soil anchors, struts, tiebacks, and tremie slab pour of over 1,400 CY. This pump station also included 5 generators (4ea 450 kw & 1ea 80 kw) for backup power in case of storm events, two 10,000 gal diesel tanks, fuel pumps, automatic trash rack system, as well as the associated switchgear, controls, and SCADA integration.

Piping: The discharge piping was 54" to 72" steel coated that was installed into the C-59 Canal.

Difference in Budget: There were multiple Client change orders due to the addition of scope, and design changes which increased the final cost past the original budget, however due to the open line of communication and constant coordination between the owner, designer and Kiewit, the changes were integrated into the final product seamlessly.

REFERENCE FORM
PROJECT NO. 4, OIA SOUTH TERMINAL C - LANDSIDE CMAR

Respondent: Kiewit-Turner JV was the bidding entity on this project, an affiliate of Kiewit Infrastructure South Co.

Role on Reference Project (Prime, Sub-Contractor, Engineer of Record, etc.) CMAR

Reference Entity: Greater Orlando Aviation Authority

Reference Contact Person: Ross Spence (OAR)

Reference Address: 11064 Canal Road, Orlando, FL 32827

Reference Email Address: ross.spence@aecom.com

Reference Phone No.: 407-825-4159

Project Delivery Method: CMAR

Project Location: Jeff Fuqua Blvd, Orlando, FL 32827

Respondent Project Manager: Kent Oberle

Project Engineer of Record: HNTB

Date Project Commenced: 01/01/2017

Date of Final Completion or Status: 09/20/2022

Project Budget at NTP ($ million not including contingency and allowance): $1,438.9 Million

Project Cost at Final Completion ($ million including contingency and allowance): $1,438.9 Million

Preference Satisfied: ☑ 3.a. ≥42-inch Pipeline ☐ 3.b. ≥50-MGD Capacity or ≥200 HP Pump Station
☑ 3.c. Alternative Project Delivery ☑ 3.d High Groundwater Conditions

Description of Work Performed and Explanation of Differences in Budget and Final Cost:

Project Overview: The scope of work for the South Terminal C project includes airfield civil, landside civil, and landside buildings. This includes 422,600 SY of airside concrete paving, the Landside Terminal building (approx. 932,000 gsf), the Ground Transportation Facility Phase 1 (approx. 109,913 gsf), the Parking Garage Phase 2 (approx. 402,000 gsf), the Landside Civil work (approx. 96 acres), Central Energy Plant, Emergency Power Generation Plant, Checkpoint Delta and the Site Logistics Relocation.

Collaborative Project Delivery: Kiewit provided preconstruction and construction phase services on this CMAR contract. The CMAR proposed over $59M in Value Engineering (VE) ideas of which ~$27M were implemented. 28 GMP packages were developed for approval and award consisting of over 400 subcontracts for the $1.4B contract. Total contracts for self-perform work exceeded $300M including airfield paving & utilities, precast pile driving, primary power ductbank, and an 86 AC site logistics compound for trailers and parking, 4 major box culverts and canal relocations.

Pipeline: The project included 20,000 LF of large diameter pipe, including pipe ranging from 18"-84", with several thousand linear feet of underdrain and trench drain, coordinating with the new roadwork and airfield for the project.

High Groundwater Conditions: Flooding protections including major upgrades to drainage technology were designed and implemented for weather related challenges and high water table.

Additional Features: The new South Terminal C at Orlando International Airport has been recognized as a 2023 Airport Business Project of the Year and was awarded ENR SE 2023 Best Project/: Airport/Transit. The expansion added a third, half-mile-long access point to the airport and 15 additional gates.

REFERENCE FORM
PROJECT NO. 5, CLAUDE BUD LEWIS CARLSBAD DESALINATION PLANT

Respondent: Kiewit Shea Desalination J.V., led by Kiewit Infrastructure West Co., an affiliate of Kiewit Infrastructure South Co.

Role on Reference Project (Prime, Sub-Contractor, Engineer of Record, etc.) Prime Contractor

Reference Entity: Poseidon Resources - Carlsbad

Reference Contact Person: Patrick Crain

Reference Address: 5780 Fleet Street, Suite 140 Carlsbad, CA 92008

Reference Email Address: PCrain@poseidonwater.com

Reference Phone No.: 760-889-2975

Project Delivery Method: PDB/CMAR

Project Location: 4600 Carlsbad Blvd, Carlsbad California 92008

Respondent Project Manager: Chris Krumwiede

Project Engineer of Record: Arcadis & Tetra Tech

Date Project Commenced: 12/26/2012

Date of Final Completion or Status: 12/23/2015

Project Budget at NTP ($ million not including contingency and allowance): $573.5 Million

Project Cost at Final Completion ($ million including contingency and allowance): $592.4 Million

Preference Satisfied: ☑ 3.a. ≥42-inch Pipeline ☑ 3.b. ≥50-MGD Capacity or ≥200 HP Pump Station ☑ 3.c. Alternative Project Delivery ☑ 3.d High Groundwater Conditions

Description of Work Performed and Explanation of Differences in Budget and Final Cost:

Project Overview: Kiewit designed and constructed this new water treatment facility in just 3 years. The award-winning facility is key to San Diego County Water Authority's (SDCWA) long-term strategy to diversify its water supply and provide a droughtproof core water supply and serves up to 400,000 residents. Three main scopes of work included: intake pump station, conveyance pipeline, and desalination plant; and tied into the existing regional supply system.

Pipeline: Included 10-miles of 54in. welded steel pipeline, passed under a freeway, and had over 900 existing utility crossings. The average depth was 22ft. Kiewit worked closely with stakeholders to communicate construction operations to the public because the pipeline ran adjacent to traffic. To minimize impacts, the jack and bore method was used for major intersections to minimize closures and reduce utility conflicts. On open cuts, a retrofitted excavator was used to straddle the trench for pipe installation. This reduced the work zone footprint and minimized lane closures.

Pump Station Capacity: Installing the three new 99-MGD pumps in the pump station required demolishing the existing intake structure, installing 54-inch duplex and FRP pipe, a PDC electrical building, extensive 63in. HDPE pipe, and nine bulkheads throughout intake-discharge channels. The pump station extended 60' below ground level and required a sheet pile cofferdam.

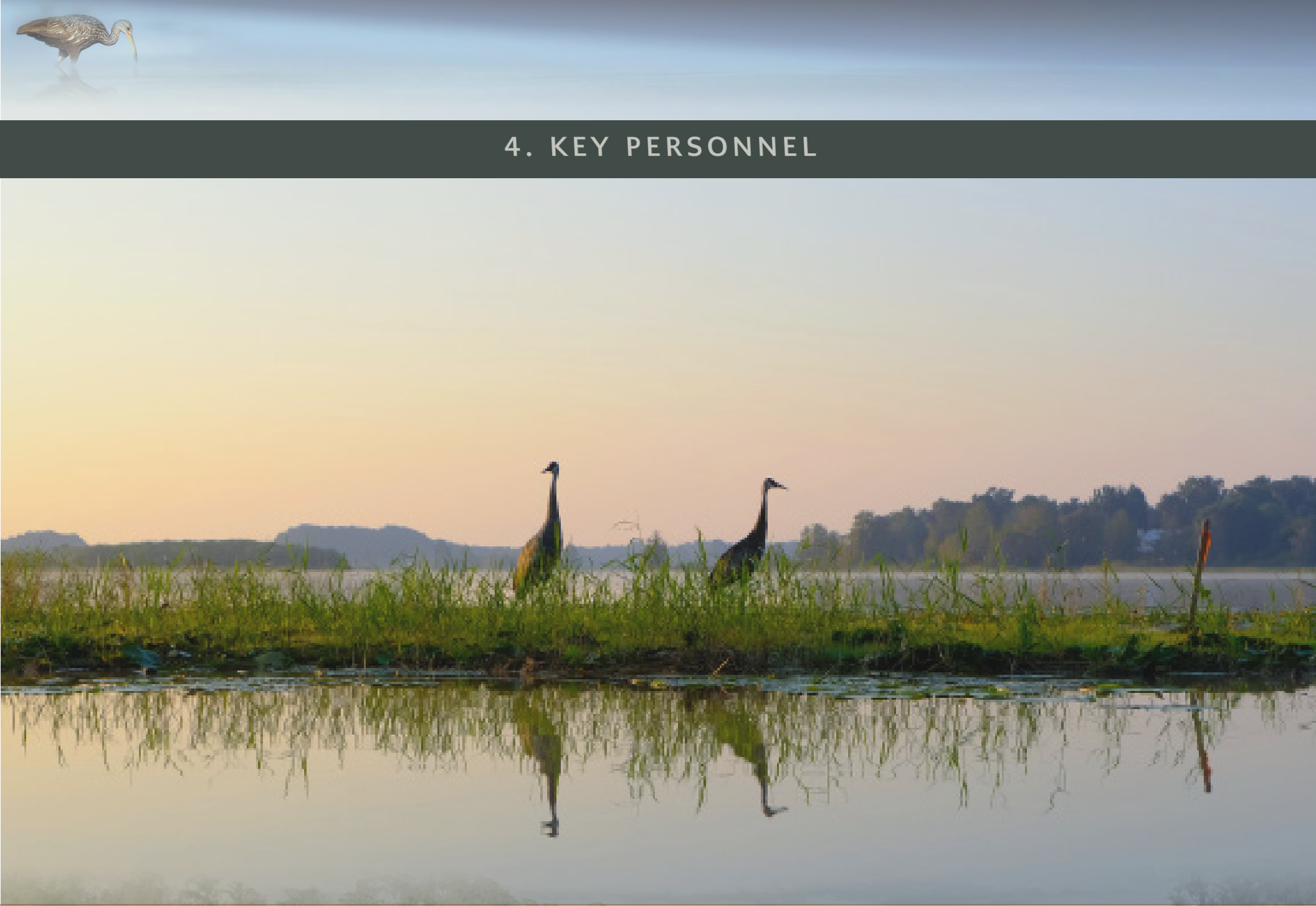
Collaborative Project Delivery: Delivered using a novel hybrid PDB/CMAR delivery model. Precon efforts reduced quantities, optimized design, mitigated scope growth, and saved over $50M.

High Groundwater Conditions: Adjacent to the Pacific Ocean, required cofferdams and dewatering.

Additional Features: Won the DBIA Project of the Year Award (2016) - the only water/wastewater facility to receive the DBIA National Project of the Year Award in all categories.

Difference In Budget: Owner-directed added scope.

4. KEY PERSONNEL

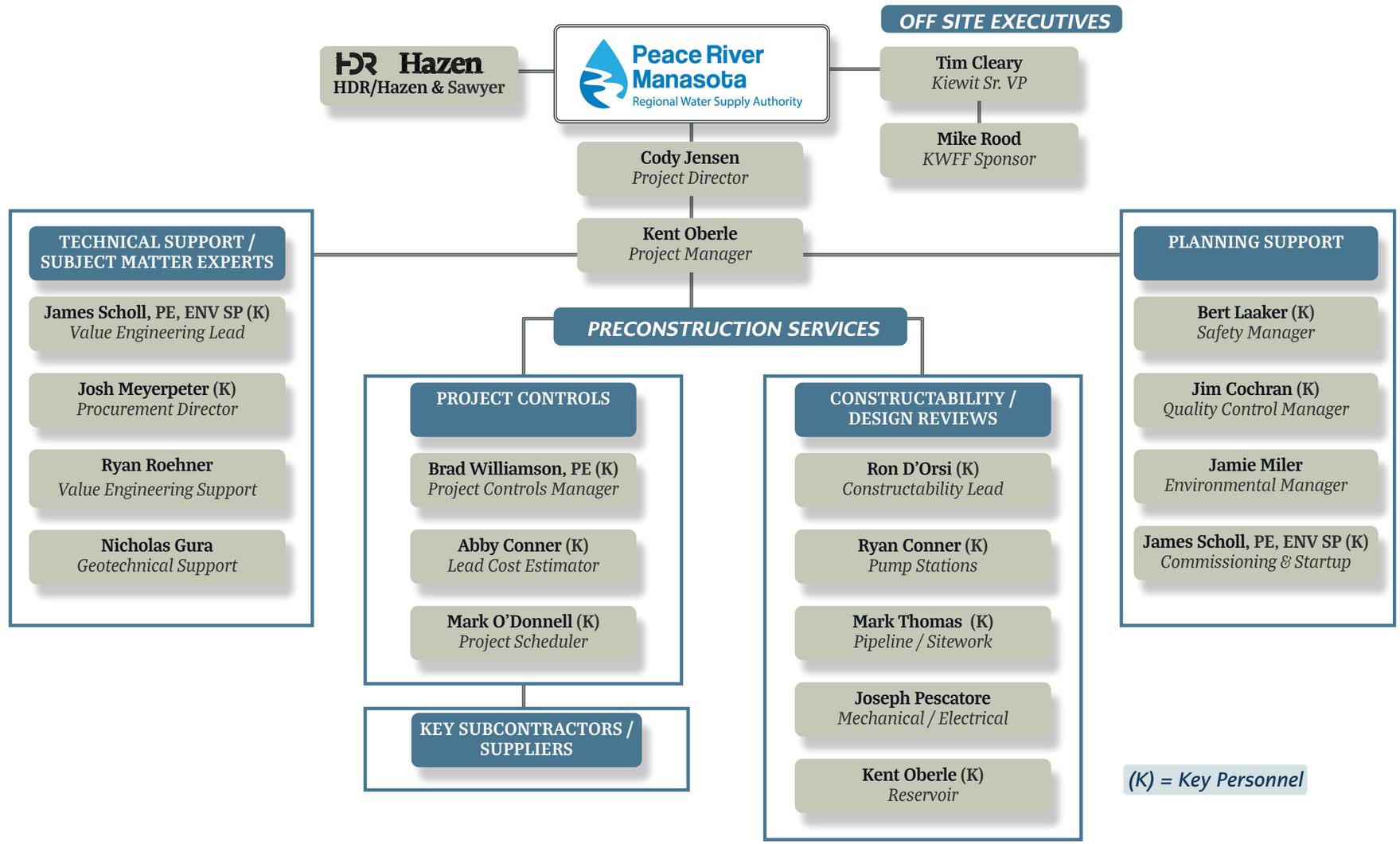


KEY PERSONNEL

Kiewit has thoughtfully assembled a team of local professionals complemented by highly specialized experts from across the US. **All Key Personnel on our team are Kiewit employees.** This team began intensely studying the PR3 Project over a year ago. We have attended multiple board meetings and met with the Authority to gain more insight, and we came to understand your drivers, immediate needs and vision for the future. We met with Authority operations staff to understand current conditions of the site and discuss safety precautions. We have held numerous internal technical meetings to brainstorm innovative and cost-saving options that align with your needs. Our Key Personnel are prepared to collaborate with you on Day 1 to achieve your goals on the PR3 Project and continue the momentum of the Surface Water Expansion Project.

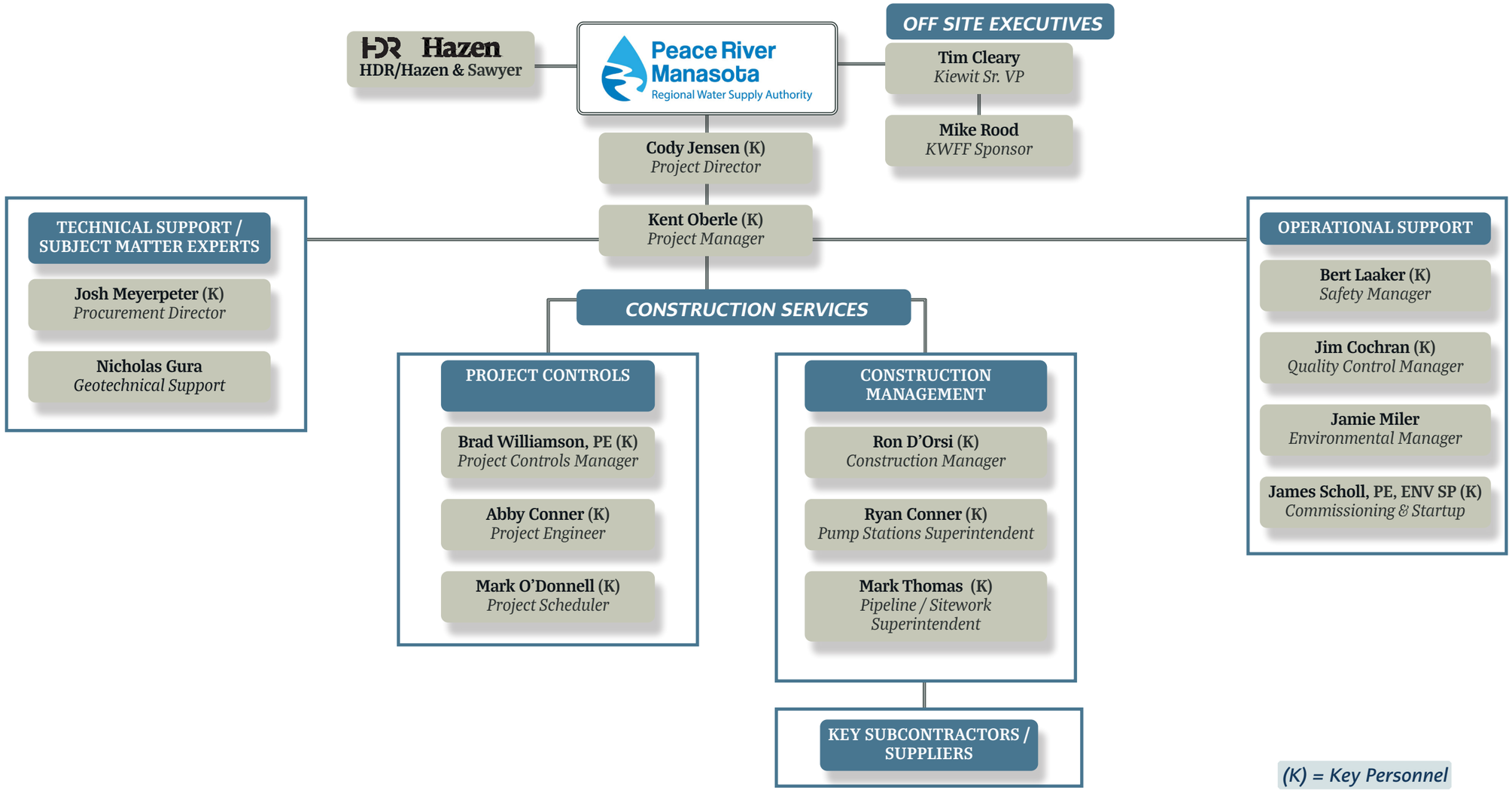
Kiewit's approach to management of Key Personnel is identified throughout each phase in Section 2. The preconstruction role and construction role of our Key Personnel is described in the tables following the organization charts.

PRECONSTRUCTION PHASE ORGANIZATION CHART



(K) = Key Personnel

CONSTRUCTION PHASE ORGANIZATION CHART



(K) = Key Personnel

Key Personnel & Approach to Management

CODY JENSEN, PROJECT DIRECTOR
20 YEARS OF EXPERIENCE

Cody will lead the team through preconstruction services and construction until completion, as well as executive management of the entire project.

PRECONSTRUCTION ROLE:

Oversight of the estimating team, stakeholder and community outreach, risk analysis, and executive management

CONSTRUCTION ROLE:

Ensures adequate resources, closely monitor schedule, partners with the Authority's management team, and ensures a high quality and safe project, as well as steering the direction of the project

BENEFITS TO THE AUTHORITY

- Experience serving in similar role on numerous collaborative delivery and pump station projects, will benefit the project with his ability to successfully manage large, complex projects.
- Will establish high expectations to ensure his team completes the Project both ahead of schedule and under budget.
- Believes that a successful project must be guided by safety, teamwork, and quality and implements open lines of communication with all participants
- Well versed in the policies and regulations in the State of Florida
- Worked with almost every Key Team Member on past projects

RELEVANT PROJECT EXPERIENCE

- Tampa PIPES PDB | Project Principal
- Selmon Expressway W. Expansion D-B | Project Principal
- Herbert Hoover S-267 Dike Recon | Project Principal
- S-191A Pump Station | Project Principal
- Lake Manatee Dam CMAR Preconstruction | Project Principal
- GIWCC ECI/CMAR | Project Manager
- Kingfish CMAR Preconstruction | Project Principal
- C-23/24 STA | Project Principal
- Herbert Hoover S-288/HP-1 | Project Manager
- Herbert Hoover S-284/HP-5 | Project Manager
- OIA South Terminal C CMAR | Project Manager
- WBV-09A Pump Station | Project Manager

KENT OBERLE, PROJECT MANAGER
21 YEARS OF EXPERIENCE

Kent will be responsible for building relationships with the Authority and Stakeholders, overseeing management of all preconstruction and construction services.

PRECONSTRUCTION ROLE:

Leads the preconstruction services for the Project, participates in constructability reviews, develops and tracks innovations, oversees the estimating team in preparing cost analysis, works with design team to help bring the design to 100% completion in order to develop the GMP, and supports permitting efforts

CONSTRUCTION ROLE:

Responsible for management of all construction operations, safety, quality, scheduling, cost control, resource allocation, and subcontractor management.

BENEFITS TO THE AUTHORITY

- Reduces risk, schedule, and project cost through innovative design and construction techniques developed over decades of construction experience
- Achieves safety/schedule/cost/quality goals through leadership
- Improves constructability with understanding of the CMAR role during preconstruction
- Provides effective and continuous public outreach through responsibility and commitment
- Establishes relationships with the Authority and HDR/Hazen & Sawyer, providing transparency with informed decision-making
- Ensures a seamless transition from preconstruction to construction while maximizing project goals through collaboration and partnering

RELEVANT PROJECT EXPERIENCE

- C-23/24 STA | Project Manager
- OIA STC CMAR | Project Manager
- CW Bill Young Reservoir | Project Manager
- Dulles Corridor Metrorail Phase 2 D-B | Superintendent
- Intercounty Connector Contract B | Superintendent

RON D'ORSI, CONSTRUCTION MANAGER
38 YEARS OF EXPERIENCE

Ron will supervise all operations with planning/ construction - safety, quality, schedule, cost, and productivity. He will coordinate with the Authority and adjacent contractors working on the Reservoir and other adjacent projects. He will also coordinate with the Authority for all final tie-ins to the facilities.

PRECONSTRUCTION ROLE:

Coordinates partnering efforts, Conducts constructability reviews and coordination, provides input and mitigation strategies on project challenges and risks, and will assist with development of the GMP

CONSTRUCTION ROLE:

Supervises budget development and oversight, project scheduling, phasing, and crew management, sub outreach and coordination activities, schedule updates, adjusts resources to meet project milestones

BENEFITS TO THE AUTHORITY

- Improves innovation through past construction experience
- Leadership to achieve safety/schedule/cost/quality goals
- Confidence in planning / executing projects of all scopes and sizes
- Implementation of accelerated construction techniques to improve the project schedule and reduce construction risk
- Committed to effective and continuous public outreach
- Proven history of on-time and high quality construction for collaborative delivery projects
- Well versed in the policies and regulations in the State of Florida
- Lives in Manatee County, FL

RELEVANT PROJECT EXPERIENCE

- Tampa PIPES PDB | Superintendent
- Selmon Expressway W. Expansion D-B | Superintendent

BRAD WILLIAMSON, PE, PROJECT CONTROLS MANAGER
19 YEARS OF EXPERIENCE

Brad is responsible for helping manage project costs, and preparation of monthly cost projections using information from project management systems.

PRECONSTRUCTION ROLE:

Assists with document control, generates Daily Reports, performs Submittal Reviews, creates QA/QC Reports, performs Plans and Spec Reviews, create Work Plans, perform Take Offs, assist with schedule development and management, and supports Bert and Jim in developing project specific safety and quality protocols for construction

CONSTRUCTION ROLE:

Helps drive safety, environmental, and quality programs on the project, monitors field activities and helps resolve issues, ensures compliance with the contract plans and specifications, helps manage field operation and quantity tracking to help meet schedule and budget

BENEFITS TO THE AUTHORITY

- Experience on pump station projects provides the team with high quality submittal reviews, timely material procurement, and subcontractor management during early stages of project
- Supports crews and subcontractors with document management to make sure all team members are working from the current documents and specifications
- Ensures availability of resources and compliance with specifications and safety, quality, and environmental regulations
- Brings experience for overcoming environmental risks on projects
- Relationships with subcontractors ensures work plans and quality processes will be implemented and properly managed
- Well versed in the policies and regulations in the State of Florida
- Worked with almost every Key Team Member on past projects

RELEVANT PROJECT EXPERIENCE

- Tampa PIPES PDB | Project Manager
- Selmon Expressway W. Expansion D-B | Project Manager
- S-191A Pump Station | Project Manager
- C-23/24 STA | Project Manager
- Dulles Corridor Metrorail Phase 2 D-B | Project Engineer
- Intercounty Connector Contract B | Project Engineer

RYAN CONNER, PUMP STATION SUPERINTENDENT
20 YEARS OF EXPERIENCE

Ryan will oversee all construction operations related to pump station construction. He will be focused on safety, quality and schedule performance throughout the entire project. He brings a strong local craft following which ensures sufficient and experienced manpower available to build the work.

PRECONSTRUCTION ROLE:

Assists with constructability reviews and project planning as design is developed

CONSTRUCTION ROLE:

Responsibilities include supervision of all pump station construction activities, safety and quality issues associated with field activities of the pump station, and managing the coordination of subcontractors

BENEFITS TO THE AUTHORITY

- Experience in pump station construction provides thorough constructability reviews during preconstruction and ensures project elements during construction will meet or exceed the Authority's goals and expectations
- Well versed in the policies and regulations in the State of Florida
- Worked with almost every Key Team Member on projects in the past

RELEVANT PROJECT EXPERIENCE

- Tampa PIPES PDB | Superintendent
- Selmon Expressway W. Expansion D-B | Project Principal
- Herbert Hoover S-267 Dike Recon | Lead Foreman
- S-191A Pump Station | Superintendent
- Herbert Hoover S-288/HP-1 | Superintendent
- Herbert Hoover S-284/HP-5 | Superintendent
- GIWCC ECI/CMAR | Lead Foreman
- Kingfish CMAR Preconstruction | Project Manager
- OIA South Terminal C CMAR | Superintendent

MARK THOMAS, PIPELINE SUPERINTENDENT
29 YEARS OF EXPERIENCE

Mark will assist with constructability and project planning of all conveyance pipe activities during Preconstruction. This includes the Support of Excavation (SOE), pipe installation, utility coordination, MOT planning and maintenance, and dewatering activities.

PRECONSTRUCTION ROLE:

Assists with constructability reviews and project planning as design is developed

CONSTRUCTION ROLE:

Planning and coordinating the production efforts of conveyance pipe construction crews to accomplish the work safely, correctly, and efficiently; Liaison between subcontractors, field engineers and craft employees (on self-performed work) to ensure the construction complies with drawings and specifications

BENEFITS TO THE AUTHORITY

- Ensures project success with experience in civil and water infrastructure construction
- Reduces cost and environmental impacts through the ability to implement innovative and accelerated techniques
- Significant experience in planning and implementing MOT in high profile locations, brings practical solutions to minimize impacts to the facilities and surrounding community
- Ensures adequate craft resources with strong craft following as well as subcontractor relationships
- Well versed in the policies and regulations in the State of Florida
- Worked with almost every Key Team Member on projects in the past

RELEVANT PROJECT EXPERIENCE

- Selmon Expressway W. Expansion D-B | Superintendent
- S-191A Pump Station | Construction Support
- Herbert Hoover S-267 Dike Recon | Superintendent
- Lake Manatee Dam CMAR Preconstruction | Superintendent
- CW Bill Young Reservoir | Superintendent
- PCCP D-B | Superintendent
- Herbert Hoover S-288/HP-1 | Superintendent
- Herbert Hoover S-284/HP-5 | Superintendent

ABBY CONNER, LEAD ESTIMATOR / PROJECT ENGINEER
18 YEARS OF EXPERIENCE

Abby will be involved with preconstruction services and cost estimating for this CMAR project, then transition to the Project Engineer, where she will manage cost reporting, subcontracts, and implementation of safety, environmental, and quality programs on the project.

PRECONSTRUCTION ROLE:

Attends design meetings, develops VE options, creates detailed estimates to establish the GMP, conducts pre-bid meetings, bid interviews, manages all bidding and negotiations with subcontractors and suppliers, manages document control for the projtect

CONSTRUCTION ROLE:

Inspects field conditions, identifies issues and cost saving opportunities, ensures compliance with contract plans and specifications during submittal reviews and in the field, manages field operation quantities, Cost v. Budget projections, and production curves to help meet schedule and budget

BENEFITS TO THE AUTHORITY

- Provides transparent, reliable, and accurate cost estimates through experience on projects of similar complexity and scopes
- Reduces project costs through risk identification and mitigation, potential value engineering and innovations, and identifying low-cost construction methods
- Provides seamless transition from preconstruction to construction with involvement of constructability and design resolutions, estimate reviews, GMP development, creation of project schedule, and project planning
- Brings team synergy from working with other engineers and superintendents on previous projects
- Well versed in the policies and regulations in the State of Florida

RELEVANT PROJECT EXPERIENCE

- Tampa PIPES PDB | Lead Estimator
- Selmon Expressway W. Expansion D-B | Project Engineer
- Lake Manatee Dam CMAR Precon | Project Manager
- GIWCC ECI/CMAR | Project Engineer
- Kingfish CMAR Preconstruction | Lead Estimator
- C-23/24 STA | Lead Estimator
- Herbert Hoover S-288/HP-1 | Lead Estimator
- Herbert Hoover S-284/HP-5 | Lead Estimator
- OIA South Terminal C CMAR | Cost Engineer

MARK O'DONNELL, PROJECT SCHEDULER
15 YEARS OF EXPERIENCE

Mark will be responsible for managing the project schedule. On Day 1 of preconstrcution he will build the baseline schedule and continue scheduling efforts until project completion.

PRECONSTRUCTION ROLE:

Develops the initial baseline schedule for the project, manages the design schedule to ensure preconstruction milestones are being met, resource loads the CPM with labor, material, and equipment

CONSTRUCTION ROLE:

Works with subcontractors and superintendents to manage and maintain the P6 CPM schedule

BENEFITS TO THE AUTHORITY

- Comprehensive schedule developed early in preconstruction
- Ongoing collaboration with team for schedule accuracy, innovative phasing/sequencing, evaluating alternatives
- Provides schedule options during preconstruction to ensure the best possible construction elements are selected
- Worked with almost every Key Team Member on projects in the past

RELEVANT PROJECT EXPERIENCE

- Selmon Expressway W. Expansion D-B | Scheduler
- Herbert Hoover S-267 Dike Recon | Scheduler
- C-23/24 STA | Scheduler
- OIA South Terminal C CMAR| Scheduler

BERT LAAKER, SAFETY MANAGER
36 YEARS OF EXPERIENCE

Bert will be involved in all safety related aspects of the project beginning in Phase 1 to ensure safety is a top priority. He will conduct routine safety inspections of the project, machinery, and safety equipment in order to identify and correct potential hazards, and to ensure safety regulation compliance with federal, local, the Authority, and Kiewit policies

BENEFITS TO THE AUTHORITY

- During preconstruction, develops and implements all applicable safety rules, including coordination of safety services and trainings
- Regularly performs safety checks to ensure implementation of safe working procedures and best practices are in order
- Well versed in the policies and regulations in the State of Florida
- Worked with almost every Key Team Member on projects in the past

PRECONSTRUCTION ROLE:

Provides safety input during constructability reviews, ensuring the design considers all realms of safety for the general public and for the crews; develops project specific safety plan in preparation for the construction phase

CONSTRUCTION ROLE:

Performs daily fall protection, scaffolding, excavation and other required inspections, while monitoring the workforce for unsafe behaviors and coaches employees on the correct behaviors when observed

RELEVANT PROJECT EXPERIENCE

- Tampa PIPES PDB | Safety Manager
- Selmon Expressway W. Expansion D-B | Safety Manager
- Herbert Hoover S-267 Dike Recon | Safety Manager
- S-191A Pump Station | Safety Manager
- Lake Manatee Dam CMAR Preconstruction | Safety Manager
- Kingfish CMAR Preconstruction | Safety Manager
- C-23/24 STA | Safety Manager
- Herbert Hoover S-288/HP-1 | Safety Manager
- Herbert Hoover S-284/HP-5 | Safety Manager
- OIA South Terminal C CMAR | Safety Manager
- WBV-09A Pump Station | Project Manager
- CW Bill Young Reservoir | Project Manager
- Intercounty Connector Contract B | Safety Manager

JIM COCHRAN, QUALITY MANAGER
18 YEARS OF EXPERIENCE

Jim manages the business functions of the quality and environmental programs and ensures that proper procedures and policies are in place. He maintains thorough records of all quality issues.

BENEFITS TO THE AUTHORITY

- Confirms that compliance activities are properly executed by the project team
- Works with you to ensure quality and compliance meet or exceed your expectations
- Will develop, implement, and maintain a project specific Quality Management Plan (QMP) and environmental compliance measures
- Well versed in the policies and regulations in the State of Florida
- Worked with almost every Key Team Member on past projects

PRECONSTRUCTION ROLE:

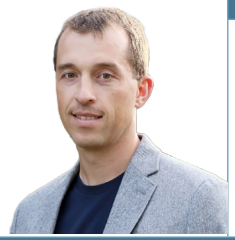
Provides oversight and reviews the quality program and provides guidance to the team during design development and constructability

CONSTRUCTION ROLE:

Assists the team with project compliance to contract specifications and follows procedures for auditing quality and environmental compliance

RELEVANT PROJECT EXPERIENCE

- Tampa PIPES PDB | Quality Manager
- Selmon Expressway W. Expansion D-B | Quality Manager
- GIWCC ECI/CMAR | Quality Manager
- PCCP D-B | Quality Manager
- C-23/24 STA | Quality Manager
- Herbert Hoover S-288/HP-1 | Quality Manager
- Herbert Hoover S-284/HP-5 | Quality Manager
- OIA South Terminal C CMAR | Quality Manager
- WBV-09A Pump Station | Quality Manager



JOSH MEYERPETER, PURCHASING DIRECTOR
25 YEARS OF EXPERIENCE

As Procurement Director for Kiewit's Supply Network, Josh is responsible for overseeing procurement staff with material procurement and management, including controlling and caring for project materials and supplies, providing project process trainings, and creating and maintaining a safe work environment. Along with project management, Josh oversees KSN resources that perform onsite procurement functions.

PRECONSTRUCTION ROLE:

Assists with negotiation and execution of contracts with suppliers/subcontractors, drafting change orders, administering payments and tracking/reporting spend with diverse suppliers

CONSTRUCTION ROLE:

Assists with supporting site mobilization efforts including receiving equipment and materials at the job site, issuing the equipment and materials to the site as needed to support the construction schedule, and demobilizing from the site

BENEFITS TO THE AUTHORITY

- Provides a material management plan to address and mitigate long lead materials
- Track, monitor, and update Project team members on critical material costs and schedule
- Provides market analytics and forecasts of Project commodities to assist project decision making and selection
- Provides market intelligence regarding pricing and availability of key commodities

RELEVANT PROJECT EXPERIENCE

Claude Bud Lewis Carlsbad Desalination Plant | Procurement Manager

JAMES SCHOLL, PE, ENV SP
VALUE ENGINEERING LEAD, COMMISSIONING & START-UP LEAD
47 YEARS OF EXPERIENCE

With over 40 years of experience in environmental engineering and industrial water experience, James is a master at his craft, implementing Kiewit values along with rife knowledge of water construction projects. James is experienced with large diameter pipe projects, CMARs, and is familiar with problems that may occur within a water project.

PRECONSTRUCTION ROLE:

Advise the team on VE options and provide input on innovative methods to improve design and construction methods, perform constructability reviews and risk factor analysis, provide input on planning and scheduling, assist with permitting needs

CONSTRUCTION ROLE:

Support the team by providing continuous VE ideas and solutions, perform submittal reviews, and coordinate subcontractor VE implementation; Oversees the coordination, scheduling, and implementation of project startup and commissioning

BENEFITS TO THE AUTHORITY

- Holds ENV SP Certification and will lead the assessment of the Envision Credits and Certification Process
- Experience serving in similar role on numerous collaborative delivery and pump station projects, will benefit the project with his ability to successfully implement VE on large, complex projects.
- Will collaborate with the Authority, HDR/Hazen & Sawyer to determine which VE options benefit the project
- Works with Abby and the estimating team to provide cost analysis on VE options to help the Authority make decisions

VALUE ADDED PERSONNEL AND SUBJECT MATTER EXPERTS

Name, Position, Kiewit Entity, Industry Experience	Job Description/ Individual Responsibilities	Benefit to the Project
Ryan Roehner / Value Engineering Support KIE 17 Years of Experience	• Is responsible for supporting and assisting with construction plan analysis, as well as developing engineering solutions • Will effectively find innovations to help best allow for engineering cost reduction and time management	• Has experience with multiple water projects, including several large output pump stations • Contributes proven practices to enhance cost/schedule savings through innovations and value engineering options • Essential in providing VE opportunities during constructability reviews
RELEVANT PROJECT EXPERIENCE		
GIWCC ECI/CMAR | VE Support	PCCP D-B | VE Support	Lake Manatee Dam CMAR Preconstruction | Estimator
Nicholas Gura Geotechnical Support KIE 13 Years of Experience	• Nicholas reviews designs for constructability, identifying risks and opportunities associated with the geology of the project. • Designs SOE for Pump Stations and pipeline trenches • Provide project concepts, designs, and estimates • Plans for and monitors settlement behavior • Performs analysis and provides input on possible geotechnical constructability issues	• Strong experience in preconstruction phase and identifying value engineering opportunities and selecting the most cost effective SOE construction means and methods • Identify SOE alternatives that save time, reduce costs, and/or improve constructability/safety • Assists in determining if vibration monitoring is necessary for nearby facilities in close proximity to pile driving operations
RELEVANT PROJECT EXPERIENCE		
Tampa PIPES PDB | Design Engineer Selmon Expressway W. Expansion D-B | Design Engineer Herbert Hoover S-267 Dike Recon | Design Engineer S-191A Pump Station | Design Engineer	Lake Manatee Dam CMAR Precon | Design Engineer GIWCC ECI/CMAR | Field Engineer PCCP D-B | Design Engineer C-23/24 STA | Design Engineer	Herbert Hoover S-288/HP-1 | Design Engineer Herbert Hoover S-284/HP-5 | Design Engineer OIA South Terminal C CMAR | Design Engineer WBV-09A Pump Station | Design Engineer

VALUE ADDED PERSONNEL AND SUBJECT MATTER EXPERTS		
Name, Position, Kiewit Entity, Industry Experience	**Job Description/ Individual Responsibilities**	**Benefit to the Project**
Joseph Pescatore / Electrical/Mechanical Lead Kiewit 14 Years of Experience	• Works with construction and design teams to identify value engineering opportunities with the electrical and mechanical systems. • Will act as liaison between the electrical subcontractor, design, and construction team to ensure best practices are incorporated into each phase of electrical design and construction.	• Working as an employee of Kiewit's electrical division, Mass Electric Construction, Joe has led field operations in various projects including large collaborative delivery projects and Large Diameter Pipe projects • Through management of electrical and mechanical scopes on various projects, Joe is able to identify value engineering opportunities throughout the design process.
RELEVANT PROJECT EXPERIENCE		
Tampa PIPES PDB | Cost Estimator	PCCP D-B | Estimator	
Jamie Miller **Environmental Manager** Kiewit 25 Years of Experience	• Oversees the development of the Environmental Compliance Plan for the project • Manages the business functions of the environmental programs and ensures that proper procedures and policies are in place • Assists the team with project compliance to contract specifications and follows procedures for auditing environmental compliance	• Confirms that compliance activities are properly executed by the project team and will partner with the Authority to ensure compliance expectations are met or exceeded • Monitors latest state and federal regulations revisions and updates to ensure compliance is maintained throughout the project lifecycle and will develop, implement, and maintain project specific environmental compliance measures based on this latest information
RELEVANT PROJECT EXPERIENCE		
Tampa PIPES PDB | Environmental Manager Selmon Expressway W. Expansion D-B | Environ. Manager Herbert Hoover S-267 Dike Recon | Environmental Manager	S-191A Pump Station | Environmental Manager Kingfish CMAR Preconstruction | Environmental Manager C-23/24 STA | Environmental Manager	Herbert Hoover S-288/HP-1 | Environmental Manager Herbert Hoover S-284/HP-5 | Environmental Manager OIA South Terminal C CMAR | Environmental Manager

Attachment A

KEY PERSONNEL	KEY PERSONNEL ROLE ON PHASE I PRECONSTRUCTION SERVICES FOR PROJECT	KEY PERSONNEL ROLE ON PHASE II CONSTRUCTION SERVICES FOR PROJECT	CURRENT EMPLOYER*	YEARS OF EXP	ASSIGNED OFFICE CITY/STATE	REFERENCE PROJECT # & PROJECT NAME: 1. GULF INTRACOASTAL WATERWAY WEST CLOSURE COMPLEX	2. PERMANENT CANAL CLOSURES AND PUMPS	3. S-191A PUMP STATION	4. OIA SOUTH TERMINAL C- LANDSLIDE CMAR	5. CLAUDE BUD LEWIS CARLSBAD DESALINATION PLANT
CODY JENSEN	PROJECT DIRECTOR	PROJECT DIRECTOR	KISC	20	TAMPA, FL	PROJECT MGR	ESTIMATOR	PROJECT PRINCIPLE	ESTIMATOR	-
KENT OBERLE	PROJECT MANAGER	PROJECT MANAGER	KISC	21	TAMPA, FL	-	-	-	PROJECT MGR	-
RON D'ORSI	CONSTRUCTION MGR	CONSTRUCTION MGR	KISC	38	TAMPA, FL	-	-	-	-	-
RYAN CONNER	PS SUPERINTENDENT	PS SUPERINTENDENT	KISC	20	TAMPA, FL	GENERAL FOREMAN	-	SUPERINTENDENT	SUPERINTENDENT	-
MARK THOMAS	PIPING SUPERINTENDENT	PIPING SUPERINTENDENT	KISC	29	TAMPA, FL	-	SUPERINTENDENT	CONSTRUCTION SUPPORT	-	-
BRAD WILLIAMSON	PROJECT CONTROLS MGR	PROJECT CONTROLS MGR	KISC	19	TAMPA, FL	-	-	PROJECT MANAGER	-	-
JAMES SCHOLL	VALUE ENGINEERING LEAD	COMMISSIONING/START-UP	KIWE	47	TAMPA, FL	-	-	-	-	-
ABBY CONNER	LEAD ESTIMATOR	PROJECT ENGINEER	KISC	18	TAMPA, FL	SUPERINTENDENT	ESTIMATOR	ESTIMATOR	PROJECT ENGINEER/ COST ENGINEER	-
JOSH MEYERPETER	PROCUREMENT DIRECTOR	PROCUREMENT DIRECTOR	KSN	25	MESA, AZ	-	-	-	-	PROCUREMENT DIRECTOR
BERT LAAKER	SAFETY MANAGER	SAFETY MANAGER	KISC	36	TAMPA, FL	-	-	SAFETY MANAGER	SAFETY MANAGER	-
JIM COCHRAN	QUALITY CONTROL MGR	QUALITY CONTROL MGR	KQCS	18	TAMPA, FL	QUALITY MANAGER	QUALITY MGR	REGIONAL QUALITY MGR	REGIONAL QUALITY MGR	-
MARK O'DONNELL	PROJECT SCHEDULER	PROJECT SCHEDULER	KISC	15	TAMPA, FL				PROJECT SCHEDULER	
REFERENCE PROJECT WAS COMPLETED FOR THE AUTHORITY (X)										
REFERENCE PROJECT LOCATION						NEW ORLEANS, LA	NEW ORLEANS, LA	OKEECHOBEE, FL	ORLANDO, FL	CARLSBAD, CA
REFERENCE PROJECT BUDGET AT NTP ($ MILLION NOT INCLUDING CONTINGENCY AND ALLOWANCE)						$811.9	$614.7	$31.5	$1,438.9	$573.5
REFERENCE PROJECT COST AT COMPLETION ($ MILLION INCLUDING CONTINGENCY AND ALLOWANCE)						$1,091.1	$726.8	$32.8	$1,438.9	$592.4
CONTRACT EXTENSION (ACTUAL FINAL COMPLETION DATE MINUS SCHEDULED FINAL COMPLETION DATE AT NTP)						190	486	7	0	0
PROJECT STATUS - (COMPLETE, ONGOING, OTHER)						COMPLETE	COMPLETE	COMPLETE	COMPLETE	COMPLETE
REFERENCE PROJECT DELIVERY METHOD - DESIGN BID BUILD (DBB), PROGRESSIVE DESIGN-BUILD (PDB), DESIGN-BUILD (DB), CONSTRUCTION MANAGEMENT AT RISK (CMAR), OTHER (O)						CMAR / ECI	DB	DBB	CMAR	PDB/CMAR
REFERENCE PROJECT PREFERENCE COLLABORATIVE DELIVERY (X)						X	X		X	X
REFERENCE PROJECT PREFERENCE LARGE DIAMETER PRESSURE PIPELINE >42-INCH DIAMETER (LARGEST INCH DIA.)						54"+	54"+	54"	84"	96"
REFERENCE PROJECT PREFERENCE DEWATERING IN HIGH GROUNDWATER CONDITIONS TYPICAL OF FLORIDA (X)						X	X	X	X	X
REFERENCE PROJECT PREFERENCE PUMP STATION >200 HP OR >50 MGD PUMPING CAPACITY (LARGEST MGD/HP)						10,300 MGD	6,750 MGD	323 MGD		104 MGD

* ***KISC- KIEWIT INFRASTRUCTURE SOUTH CO. KSN - KIEWIT SUPPLY NETWORK KQCS- KIEWIT QUALITY CONTROL SERVICES KIWE- KIEWIT INDUSTRIAL AND WATER ENGINEERING***

Kiewit

Not in Page Count

KEY PERSONNEL RESUMES

INDUSTRY TENURE 20 years
KIEWIT TENURE 20 years
EDUCATION
B.S. Civil Engineering,
South Dakota School of Mines
2005

20 YEARS WITH KIEWIT
7 PUMP STATIONS/WTR CONTROL STRUCTURES
220,000 LF OF UNDERGROUND PIPE
$2.4B OF ALTERNATIVE DELIVERY WORK

CODY JENSEN
Project Director

CERTIFICATIONS/TRAINING/AWARDS

- Florida ACEC Grand Award (2022)
- American Segmental Bridge Institute ASBI Award Of Excellence (2021
- Florida Transportation Builders Association Best In Construction (2021),
- Engineering News-Record (ENR)- Texas & Louisiana, (2012)

PROFESSIONAL EXPERIENCE

Cody brings 20 years of Kiewit experience successfully overseeing and delivering large, complex, and schedule intensive heavy civil projects. He has worked with all of Kiewit's team members presented for the PR3 project and understands how to utilize each of those members strengths to be successful. His responsibilities on the PR3 Project Cody will be to serve as the Authority's first level of senior management beginning with Kiewit's contract negotiations and ensuring our team delivers a well thought out Initial Estimate for this Project. Following that Cody will utilize his experience and hands on leadership style to oversee our team throughout the Design and GMP Establishment process, meeting weekly with key stakeholders, and guiding the team as they progress design deliverables and prepare a schedule, execution plan, and estimate that meets the Authority's Goals and Objectives. During construction Cody will use his construction experience while overseeing our team and leveraging his knowledge and access to Kiewit's vast amount of resources and streamlined tools and standard operating procedures to ensure our safety, quality, and production goals are achieved.

PROJECT EXPERIENCE

Project Principal | Tampa Progressive Infrastructure Planning to Ensure Sustainability (PIPES) Progressive Design-Build | City of Tampa | Tampa, FL, | $91 Million

As the Project Principle, Cody oversaw Kiewit's team throughout the development of the basis of design, preconstruction, preparation of Kiewit's estimates and GMP deliverables, and presentation / negotiations of those GMP's for contract execution. During construction Cody ensures our team executes Kiewit's fundamentals with building our work including overseeing Safety, Quality, Schedule, and Cost Control on this project. Cody guided Kiewit's team to a successful completion of preconstruction and design on this Progressive Design-Build project for the City of Tampa. His team negotiated an early works GMP package that allowed Kiewit and the City to begin work a full year ahead of the full construction GMP. This project involved design and preconstruction services including the establishment of a GMP construction fee, and the construction of new and rehabilitated water, wastewater, stormwater, and transportation improvements throughout four of Tampa's neighborhoods.

Project Principal | Selmon Expressway Western Extension Design-Build | Tampa-Hillsborough Expressway Authority | Tampa, FL | $230 Million

Cody spearheaded the design and construction for the Selmon Expressway project, leading the way through his executive decision-making, and contributions on the pre-build design. This project included designing and constructing a 1.9-mile elevated tollway extension connecting Lee Roy Selmon Expressway to Gandy Bridge. The new elevated roadway included a pre-cast segmental concrete box girder viaduct with an extradosed post-tensioned fin, constructed using top-down methods. In addition to the bridge, scope included cast-in-place and precast box culvert extensions, over 8,000 LF of 2" to 18" PVC, over 10,500 LF of 18" to 60" RCP, 4 ft. by 5 ft. and 4 ft. by 8 ft. box culverts, 180 inlets, 61 manholes, over 100,000

SY of roadway reconstruction, and replacement of municipal utilities, sidewalks, driveways, curbs, gutters and other roadway features. The project involved extensive stakeholder coordination and public involvement.

CODY JENSEN
Project Director

Project Manager | Gulf Intracoastal Waterway West Closure Complex CMAR | USCACE New Orleans District | New Orleans, LA | $1.09 Billion

Cody started as a Project Superintendent during the preconstruction phase and transitioned to the Project Manager role during construction on this $1.09 Billion hurricane protection system project for the U.S. Army Corps of Engineers. The project included preconstruction services through the Early Contractor Involvement (ECI) process which included the establishment of a GMP Lump Sum contract for construction. ECI allowed the client to finalize the project's design while implementing Kiewit's value engineered approach to reduce construction costs and speed up delivery of this project. Major scope elements for this project included construction and commissioning of a 20,000 cfs pump station, a 225-ft. sector gate, concrete T-Walls, and new levee system. Kiewit worked around the clock from the Fall of 2009 to June 1st of 2011 to construct and commission this pump station so it was operational for the 2011 Hurricane season, an accomplishment that surprised many within the construction industry. This project received numerous awards and recognition for its successes in safety and small business efforts, as well as ENR's 2012 Best Civil Works/Infrastructure Project and Best Project of the Year for Texas and Louisiana.

Project Principal| C-23/c-24 STA | USACE | Okeechobee, FL | $137 Million

Cody's role on the administration of the C-23/24 STA is to provide his executive skills to the project, as well as coordinating resources with Kent. The C-23/C-24 STA is the first major construction project addressing the C-23 and C-24 basins in St Lucie County. The project intends to add several thousand acre feet of storage, along with a water treatment plant that will help feed water to the surrounding areas in St. Lucie County and beyond. The primary use of C-23/24 STA is to both treat the water from hazardous minerals in the surrounding area, as well as implementing water processing procedures to use the water elsewhere. The C-23/C-24 Stormwater Treatment Area is the first major construction project to capture run-off from the C-23 and C-24 basins, reducing annual total nutrient loads to the St. Lucie River Estuary and the southern portion of the Indian River Lagoon. The project is currently 35% complete. The project had environmental challenges to overcome early during clearing and grubbing due to migratory birds and gopher tortoises. Kiewit and USACE were able to coordinate construction to avoid any critical path delays, while working with US FWC to protect all wildlife. This project has extensive dewatering and discharges off-site. Kiewit effectively obtained all dewatering permits from SFWMD and FDEP to keep the project on-schedule.

Project Director | Principle | Wheatstone LNG Plant General Services #3 Design-Build | Bechtel | Onslow, WA (Western Australia) | $1 Billion

Cody served as the Project Director on this $1 billion Wheatstone LNG project in Onslow, Western Australia from Nov. 2013 to March 2017. Chevron was the operator of the $29 Billion Design-Build EPC Wheatstone Project, which included a two-train LNG facility capable of producing a combined 8.9 million metric tons of LNG per year. Scope included working through design reviews with the Chevron/Bechtel team, and construction of over 196,000 LF of temporary and permanent underground pressure pipe including; 24" Fire Water Main, Construction and Potable Water Mains, Ductile Iron Oily Water Piping, 13,120 LF of welded Carbon Steel Piping, and the hydrostatic pressure testing, flushing/cleaning, and commissioning of over 131,200 LF of those systems. Kiewit's scope also included the construction, commissioning, and O&M of the project's desalination plant, wastewater treatment plant, and other site services that supported the 7,500+ personnel working on-site at any given time. Kiewit's workforce included over 800 employees on this project.

Project Manager | WBV-09a Hero Pump Station & Levee Improvements | USACE | New Orleans, LA | $36 Million

Cody oversaw all aspects of this project including safety, quality, schedule, and cost control. The goal of this project was to raise and construct a levee and small pump station to 100-year level of risk reduction. Kiewit constructed 5,500 feet (375,000 cubic yards) of earthen levee embankment, 300 LF of pile-founded concrete T-wall and a 300 CFS pump station. USACE asked Kiewit to propose an acceleration plan that would allow all structures and levees to be completed by June 2011. The team successfully completed the project in just over one year.

KEY PERSONNEL RESUMES

INDUSTRY TENURE 21 years
KIEWIT TENURE 21 years
EDUCATION
B.S. Civil Engineering,
University of Wisconsin-Platteville,
2002

21 YEARS WITH KIEWIT
1M+ MH's OSHA RECORDABLE FREE
MULTIPLE PROJECT SAFETY AWARDS
$3.2B ALTERNATIVE DELIVERY WORK
200,000+ LF UNDERGROUND PIPE
TWO $100M RESERVOIRS

KENT OBERLE
Project Manager

CERTIFICATIONS/TRAINING/AWARDS

- 2023 ENR SE Best Project: Airport/Transit
- US GBC Sustainable Technology Award 2018 Honor Award
- American Council of Engineering Companies, 2017 Grand Award
- Florida Institute of Consulting Engineers 2017 Project Kiewit Goose Egg Award

PROFESSIONAL EXPERIENCE

Kent Oberle, with over two decades of dedicated construction experience, is an expert in planning site work, coordinating projects, and meeting challenging schedules. His background ranges from the $100 million Tampa Bay reservoir to the massive $1.4 billion dollar project at the Orlando International Airport. This experience has given him a thorough understanding of grading, drainage and utility work as well as water management and coordination with multiple general contractors. In addition, Kent is well versed in material procurement, quality control procedures, and understanding the capacities and capabilities of subcontractors. Kent has demonstrated on each project that he is an excellent communicator with clients and project stakeholders, repeatedly developing strong relations based on shared goals and honest feedback.

PROJECT EXPERIENCE

Project Manager | OIA South Terminal C – Landside CMAR | Greater Orlando Aviation Authority | Orlando, FL | $1.4 Billion

Kent managed 25 staff, 125 Kiewit craft, and 30 subcontractor craft. The project team worked over 650,000 self-perform hours accident free, earning a Kiewit Goose Egg Award in 2 consecutive years. He worked with designers to overcome conflicts in the field and managed the complex logistics and paving operations associated with new terminal construction. Kent collaborated with airfield personnel during weekly airport operations meetings to minimize impacts and coordinate taxiway closures at three locations on a critical Florida airport to tie into the existing airfield. The project included 19,500 LF of drainage using Class V RCP pipe and 85 aircraft-rated storm manholes with 1' thick walls in an environmentally sensitive area. The overall project involved extensive airside civil work, including 420,000 SY of concrete paving surface, completion of sitework and utilities for the airside, airfield markings and lighting, underground electric work and various site logistics required for airside terminal construction.

Design/Construction Manager | Dulles Corridor Metrorail Ph 2 D-B |Metro Washington Airports Authority (MWAA) | Washington, DC | $1.6 Billion

Kent worked with the design team to develop and construct the $400M civil design package. He participated in constructability reviews and task force meetings to solve technical design challenges involving differing site conditions, stormwater management criteria changes, and coordination with adjacent jurisdictions and projects. Kent kept the aggressive design schedule on track and oversaw the highly phased construction of more than 11 miles of a new double track rail line, five ground level stations, and one aerial station at the Dulles International Airport. The project's pipe design and construction included 81,614 LF of storm pipe, 8,135LF of sanitary pipe, and13,520 LF of water pipe. The project required highly coordinated utility relocations to eliminate conflicts with the new construction facilities. The project also included jack and bores, directional bores and hand mining to accommodate roadway crossings of new water pipe utilities. The project also included utility relocations, pedestrian bridges and tunnels, access roadways, surface parking and bus facilities, systems integration for power substations, communications equipment, and train control equipment.

PROJECT EXPERIENCE CONTINUED

KENT OBERLE
Project Manager

Construction Manager | C.W. Bill Young Reservoir Design-Build | Tampa Bay Water Regional Water Supply Authority | Lithia, FL | $106 Million

Kent was responsible for oversight of all field operations, schedule management, subcontractor management, and environmental coordination. The project reconstructed the 15-billion-gallon CW Bill Young Reservoir (also known as the TBW Reservoir) which supplies water to customers in Hillsborough, Pasco, and Pinellas Counties, FL. The reconstruction was similar in design to 30% drawings at Peace River for Reservoir 3, with geomembrane and stair-step soil cement.

Segment Superintendent | Intercounty Connector Contract B (ICC-B) Toll Road Design-Build | Maryland State Highway Administration | Silver Spring, MD | $561 Million

Kent oversaw the relocation and installation of all utilities including electrical, water, sanitary sewer, and natural gas. He assisted in the field coordination of 300 staff ensuring that existing and newly placed utility packages were correctly identified and protected. He managed the work of 20 subcontractors and third-party utilities. The ICC-B design-build project included the construction of approximately seven miles of new six-lane highway. Key elements included 2.4 million CY of excavation, 1.7 million CY of embankment, more than 59,000 LF of drainage pipe up to 72-in diameter, 500,000 SY of new pavement section, 20 retaining walls, and 15 bridges totaling over 600,000 SF of deck over environmentally sensitive land. There were multiple stream crossings encountered and stringent environmental protections implemented through phased construction and temporary stabilization.

Project Manager | C-23/c-24 STA | USACE | Okeechobee, FL | $137 Million

The C-23/C-24 Stormwater Treatment Area is the first major construction project to capture run-off from the C-23 and C-24 basins, reducing annual total nutrient loads to the St. Lucie River Estuary and the southern portion of the Indian River Lagoon. Kent, as project manager, has managed a team of 12 staff and 90 craft to effectively construct the first 25% of the project over the last 18 months. The project had environmental challenges to overcome early during clearing and grubbing due to migratory birds and gopher tortoises. Kent and USACE were able to coordinate construction to avoid any critical path delays, while working with US FWC to protect all wildlife. This project has extensive dewatering and discharges off-site. Kent and the team effectively obtained all dewatering permits from SFWMD and FDEP to keep the project on-schedule.

Construction Manager | Western Beltway Authority Toll Road Part C | Florida Department of Transportation | Orange County, FL | $74.5 Million

Kent was the Construction Manager, on the SR-429 Project which involved the construction of a new five-mile, toll road near Disney World, FL. In addition to the 1,000,000 CY of excavation and embankment, 366,000 SY of roadway base and paving and 33,000 LF of storm drainage, the project included a major fly over structure at I-4 near Disney World, FL. This was a green field job, and required extensive clearing, grubbing and demucking of wetlands for roadway construction. Environmental surveys were performed early on to ensure no schedule impacts due to wildlife. Extensive dewatering was required for stormwater pond construction and storm drainage. This project worked accident free over two years and opened on schedule.

Construction Manager | I-95 Cocoa Beach Widening and Expansion D-B | FDOT District 5 | Cocoa Beach, FL | $172 Million

Kent was responsible for all field operations for this 10-mile concrete widening and paving project on I-95. He served as the main field contact with FDOT, controlled the project schedule and resources, and led Kiewit's safety, quality, and environmental compliance efforts in the field. The goal of this project was to widen a 10-mile section of the existing four-lane I-95 highway to six lanes. Taking advantage of the design-build delivery method, the team developed a concept that limited the impact to wetland areas adjacent to the project, and involved an intricate MOT scheme including more than 1,500 lane closures on mainline I-95. This fast-paced project was completed nearly five months ahead of schedule.

KEY PERSONNEL RESUMES

INDUSTRY TENURE 38 years
KIEWIT TENURE 15 years
EDUCATION
BBA, Pace University

38 YEARS INDUSTRY/KIEWIT EXPERIENCE
SIGNIFICANT PR3 SCOPE EXPERIENCE
ALTERNATIVE DELIVERY EXPERIENCE
LIVES LOCALLY IN MANATEE COUNTY

RON D'ORSI
Construction Manager

PROFESSIONAL EXPERIENCE

With over 38 years' in the construction industry, along with a dozen years as a Construction Manager and 26 years' as a Labor Foreman, Ron brings experience from not only his participation in both planning and executing complex operations, but his ability to effectively manage his crews. An expert in his field, Ron has a vast wealth of experience managing crews, both executing high quality work as well as cost effective projects. His attention to detail while keeping his operations on schedule and his team safe make him an excellent addition to any project team.

PROJECT EXPERIENCE

Construction Manager | Tampa Progressive Infrastructure Planning to Ensure Sustainability (PIPES) Progressive Design-Build, City of Tampa, Tampa, FL, | $91 Million

Ron is responsible for overseeing the planning, coordination, and execution of construction operations. He oversees quality and safety and performs schedule management and cost tracking to ensure the project is completed on time and within budget. Ron also was responsible for the management of much of the equipment along with dozens of construction workers. Work consists of infrastructure upgrades of storm, water, and sewer lines in four different neighborhoods in Tampa, FL. It includes over 19 miles of water distribution piping located in densely populated areas with challenging trenchless major roadway and railroad crossings.

Construction Manager | Loveland Grand Master Lift Station | Port Charlotte County, Charlotte, FL | $22 Million

Ron's primary role throughout this project was to supervise craft and subcontractors, as well as client communication. This project involved $20.8M major pump station and gravity sewer improvements for Charlotte County. The Loveland Grand Master Lift Station and Interceptor project will improve the operation and efficiency of a substantial number of the utility's lift stations under the Utility Department and the East Port Water Reclamation Facility (WRF). The new lift station contains 6 new submersible, non-clog 115HP pumps with VFDs and a SCADA system. The project consists of 16,510 LF of 24"-48" PVC piping. Most of the piping was installed utilizing open cut trenches, which exceeded 17' depth, and up to 32' deep. This took significant SOE, dewatering, and logistical planning.

CERTIFICATIONS/TRAINING/AWARDS

- Florida Transportation Builder's Association Best In Construction
- Road and Bridges Top 10 Bridges
- Foreman of the Year 2013
- Craft Safety Ambassador
- Lead Foreman for Safety Task Force

Construction Manager | Selmon Expressway Western Ext. Design-Build | Tampa Hillsborough Expressway Authority | Tampa, FL | $230 Million

Ron supervised the foremen on this project and coordinated the daily construction activities. He planned work schedules and ensured conflicts do not occur between multiple operations. Ron also acted as a liaison between field employees and the management team, bringing critical decisions to the forefront for the management team. This project included designing and constructing a 1.9-mile elevated tollway extension connecting Lee Roy Selmon Expressway to Gandy Bridge. The new elevated roadway included a pre-cast segmental concrete box girder viaduct with an extradosed post-tensioned fin, constructed using top-down methods. In addition to the bridge, scope included cast-in-place and precast box culvert extensions, over 8,000 LF of 2" to 18" PVC, over 10,500 LF of 18" to 60" RCP, 4 ft. by 5 ft. and 4 ft. by 8 ft. box culverts, 180 inlets, 61 manholes, and over 100,000 SY of roadway reconstruction.

PROJECT EXPERIENCE CONTINUED

Construction Manager | WMATA Station Platform Rehabilitation Program Contract 1 Design-Build, Washington Metropolitan Area Transit Authority | Alexandria, VA | $276 Million

Ron was responsible for supervising all construction operations and enforcing safety and quality procedures. He implemented means and methods to improve production, equipment performance, final product quality and safety. Ron managed and coordinated 15 subcontractors in performing all electrical and communication scopes, roofing, elevator cladding, glass for wind screens, bus shelters, painting, lighting, installation of digital displays, wind screens, top of wall rail, handrail, tile, doors, and granite. Crews rehabilitated six train stations in 15 weeks by self-performing work including main yard set up, receiving, and storing permanent materials, installing temporary power and lighting, demolition and replacement of station platform edge, repairing track bed concrete spalls, installing permanent fall arrest systems and light pole foundations, and conducting conduit repairs. All six stations were completed and opened to the public on schedule.

Construction Manager | Goethals Bridge Replacement| The Port Authority of New York And New Jersey | Elizabeth, NJ | $990 Million

Ron's role on the Goethals's Bridge Construction primarily consisted of overseeing the construction of the project, while managing the schedule and field operatives. This Kiewit Infrastructure Co. (KIC) led project was a P3 design-build-finance-maintain contract to replace a major bridge spanning the Arthur Kill, NJ Turnpike, Conrail mainline, and city streets and wetlands between NY and NJ. The new Interstate 278 crossing consists of two parallel, 1,900-foot-long cable-stayed bridges, both with 900-foot main spans and 7,000-foot-long prestressed concrete girder approaches. The scope of work also included the removal of the existing bridge. The waterfront project site had significant environmental challenges with deep foundations built within tidal marshes and former industrial sites in accordance with 132 environmental and regulatory commitments, and in the Arthur Kill waterway with heavy marine traffic wakes, tides, and swift current.

RON D'ORSI
Construction Manager

Construction Manager | Hillsborough River Dam Gate | City of Tampa, FL | Tampa, FL | $1.6 Million

As Construction Manager, Ron oversaw all construction activities, including coordination of self-perform and subcontractor scopes, scheduling, and implementation of an effective safety plan. The Hillsborough River Dam Project was delivered to the client with zero safety incidents, ahead of schedule, and under budget. The scope of work for this project included the design and fabrication of a portable cofferdam, installation and dewatering of the cofferdam, wire sawing a 48 in. x 6 ft. section of the existing dam, installation of a 36" drainage conduit and final grouting into position. All of this work was performed on the face of the existing dam creating challenging means for access. Utilizing Kiewit's in-house engineering resources, the job team developed a well-thought-out scheme utilizing Styrofoam platforms and aluminum walkways to access the work area. Once pedestrian access was installed, Kiewit utilized the limited space immediately behind the dam to setup a laydown area for equipment to be assembled and service the work area. The planning for access and material laydown on the project allowed for the work to be completed ahead of schedule and under-budget.

General Superintendent | Groomestown Road Booster Station | City of Greensboro | Greensboro, NC | $2.8M

Ron served as General Superintendent on this water booster station project. The scope of work included the addition of a Water Booster Station to the existing Groometown Road Water Tank. This includes installation of two new 2.5 MGD centrifugal axial split case pumps, new valving and piping, chlorine room and tablet feed chlorinator, jib crane, suspended ceiling, HVAC system, control and power panels, 150 kW diesel stand-by generator, new power service, fence installation and sitework. The work also consisted of abandonment of an existing water booster station and pipework at High Point Road Water Booster Station.

KEY PERSONNEL RESUMES

INDUSTRY TENURE 20 years
KIEWIT TENURE 13 years
EDUCATION
A.A. Palm Beach State
A.S. Bellevue College

13 YEARS WITH KIEWIT
4 PUMP STATIONS/WTR CONTROL STRUCTURES
7 ALTERNATIVE DELIVERY PROJECTS

RYAN CONNER
Superintendent

CERTIFICATIONS/TRAINING/AWARDS

- Advanced MOT/TTC Certification
- Tier 1/Tier 2 FDEP Inspector
- FL Certified General Contractor License.

PROFESSIONAL EXPERIENCE

With 20 years of experience in the industry, Ryan has worked in roles from a journeyman carpenter all the way to project manager, leading construction crews and managing schedules and resources. A local Floridian with almost a dozen projects under his belt, Ryan has worked in many positions of leadership, and has experience with piling construction and larger water supply projects. Ryan's positive attitude, attention to detail, and efficiency when working through projects make him an excellent superintendent and lead foreman.

PROJECT EXPERIENCE

Superintendent | Tampa Progressive Infrastructure Planning to Ensure Sustainability (PIPES) Progressive Design-Build | City of Tampa | Tampa, FL | $91 Million

Ryan's role on the Tampa PIPES project is overseeing the installation of new water pipe, line existing sanitary utilities and installing a storm water system. He supervises a self-perform crew handling concrete work and below the surface corrections, while managing subcontractors performing restoration activities throughout the project. The Progressive Design Build is currently under construction, with Kiewit Infrastructure South Co. as the contracting entity. The City of Tampa (CT) experienced multiple water main and sanitary main breaks annually and spent upwards of $30 million per year in emergency repairs. Their goal is to replace 20 miles of water lines and 30 miles of sanitary mains each year. CT's vision for this project is a comprehensive approach of correcting flooding, adding sidewalks, other transportation improvements, while completing an overhaul of their underground facilities in four neighborhoods (East Tampa, Virginia Park, Macfarlane Park, Forest Hills)

Superintendent | STC Concrete Piles Terminal Foundation GMP | Greater Orlando Aviation Authority | Turner-Kiewit Joint Venture | Orlando, FL | $13 Million

Ryan's role as Superintendent is to manage construction costs and schedules throughout construction activities, while managing field operations to safely install the concrete piles. This project involved the driving of 860ea 24 in. x 24 in. precast concrete piles for the foundation of the new South Terminal Complex at Orlando International Airport. The precast piles ranged in length from 110 f t to 140ft, resulting in a maximum weight of 84,000 lbs. Utilizing a fixed lead system on a Manitowoc 2250 crawler crane, Ryan managed a team that successfully drove the 860 pile in approximately 6 months of construction. The lofting on the pile into the cranes leads required an engineered two crane pick for each pile. In order to complete the project on schedule, Kiewit mobilized two complete pile driving crane assemblies, resulting in 4 total cranes and multiples support equipment. This project was a GMP package for the $1.4B OIA South Terminal C - Landside CMAR.

Superintendent | Selmon Expressway Western Extension| Tampa-Hillsborough Expressway Authority | Tampa, FL |$230 Million

This project included designing and constructing a 1.9-mile elevated tollway extension connecting Lee Roy Selmon Expressway to Gandy Bridge. The new elevated roadway included a pre-cast segmental concrete box girder viaduct with an extradosed post-tensioned fin, constructed using top-down methods. In addition to the bridge, scope

PROJECT EXPERIENCE CONTINUED

included cast-in-place and precast box culvert extensions, over 8,000 LF of 2" to 18" PVC, over 10,500 LF of 18" to 60" RCP, 4 ft. by 5 ft. and 4 ft. by 8 ft. box culverts, 180 inlets, , 61 manholes, and over 100,000 SY of roadway reconstruction. The project involved extensive stakeholder coordination and public involvement.

Superintendent | Orlando South Airport Intermodal Terminal Structures | Greater Orlando Aviation Authority | Orlando, FL |$31.8 Million

Ryan's duties as foreman on this project included: Columns, Caps, CIP Stairs, CIP Elevated Decks and CIP Parapet Walls. The Terminal Structures project was a GMP package for the $188M Orlando South Airport Intermodal Facilities CMAR Project. This award-winning (ENR, FDOT) heavy civil CMAR project involved the construction of a three-track train viaduct bridge structure, a four-story conditioned space building facility with open air train platform, and a Passenger Drop Off Lobby building. This facility will be the north terminus for Virgin Trains USA/Brightline passenger rail service providing seamless connectivity for rail passengers through the airport. Scopes of work included deep foundations, structural concrete, utilities, site infrastructure, roadway and pedestrian improvements, landscaping, structural steel, cladding, and building system and finishes. Kiewit was involved in all phases of the project from preconstruction activities including constructability reviews, cost estimating, to subcontractor procurement and bidding to GMP formation. Kiewit self-performed most of the structural concrete on this project, totaling close to 2,500 CY and was involved in the inspection and monitoring of other scopes of work performed by subcontractors.

RYAN CONNER
Superintendent

Foreman | GIWCC West Closure Complex | US Army Corps of Engineers – New Orleans District | New Orleans, LA | $1 Billion

Ryan had many different duties on this project, including coordinating work with subcontractors, constructing dolphin templates and doing spot adjustments within schedule and budget restrictions. Ryan also assisted in driving sheet piles with no safety incidents, along with managing the construction of various forms of bridgework and material handling. His contribution laid the foundation for the project's eventual success. The project included preconstruction services through the Early Contractor Involvement (ECI) process which included the establishment of a GMP Lump Sum contract for construction. ECI allowed the client to finalize the project's design while implementing Kiewit's value engineered approach to reduce construction costs and speed up delivery of this project. Major scope elements for this project included construction and commissioning of a 20,000 cfs pump station, a 225-ft. sector gate, concrete T-Walls, and new levee system. Kiewit worked around the clock from the Fall of 2009 to June 1st of 2011 to construct and commission this pump station so it was operational for the 2011 Hurricane season, an accomplishment that surprised many within the construction industry. This project received numerous awards and recognition for its successes in safety and small business efforts, as well as ENR's 2012 Best Civil Works/Infrastructure Project and Best Project of the Year for Texas and Louisiana.

KEY PERSONNEL RESUMES

INDUSTRY TENURE 29 years
KIEWIT TENURE 17 years
EDUCATION
High School Diploma

17 YEARS WITH KIEWIT
4 ALTERNATIVE DELIVERY PROJECTS
140,000 LF OF UNDERGROUND PIPE

MARK THOMAS
Piping Superintendent

CERTIFICATIONS/TRAINING/AWARDS

- Greater Tampa Section Institute of Transportation Engineers Project of the Year (2021)
- Florida Transportation Builder's Association Best in Construction – Expressway Authority Award (2021)
- CMAA Florida Chapter Project Achievement in Transportation (2021)

PROFESSIONAL EXPERIENCE

Mark has a wealth of experience with construction, utility management, and utility grading. With a large amount of roadway and pump station construction experience, with most of it occurring in Central Florida, Mark is well versed in the specific conditions of the Floridian environment. With almost 3 decades of construction experience, and approaching 2 decades with Kiewit, Mark has proven a vital asset in many Kiewit projects throughout the Southeast. Mark is able to draw on his experience working in the field to identify and eliminate potential challenges through timely coordination and planning with other trades and contractors.

PROJECT EXPERIENCE

Superintendent | Loveland Grand Master Lift Station, | Charlotte County, Punta Gorda, FL | $20.8 Million

Mark's responsibilities included overseeing the pipe installation, managing subcontractors, performiong community outreach and public relations, and communicating with the client. The project scope included construction of a new lift station and a new gravity sewer system consisting of 16,510 LF of 24"-48" PVC piping. Much of the pipe was laid in open cut trenches exceeding 17' and up to 32'. Trench boxes were used primarily to support the operation. Some of the new sewer line were ran within the ROW of a highway, so phased MOT was utilized to secure the work site. Cofferdams were installed at the new lift station location. Given the location of the project site, constant dewatering was required to ensure dry operations.

Foreman | Selmon Expressway Western Extension, Tampa Hillsborough Expressway Authority | Tampa, FL | $230 Million

As Foreman, Mark's responsibilities included the daily planning and coordination of labor, equipment, and subcontractor resources. This project included designing and constructing a 1.9-mile elevated tollway extension connecting Lee Roy Selmon Expressway to Gandy Bridge. The new elevated roadway included a pre-cast segmental concrete box girder viaduct with an extradosed post-tensioned fin, constructed using top-down methods. In addition to the bridge, scope included cast-in-place and precast box culvert extensions, over 8,000 LF of 2" to 18" PVC, over 10,500 LF of 18" to 60" RCP, 4 ft. by 5 ft. and 4 ft. by 8 ft. box culverts, 180 inlets, and 61 manholes, over 100,000 SY of roadway reconstruction, relocation of municipal utilities, and repair of sidewalks, driveways, curbs, gutters and other roadway features. The project involved extensive stakeholder coordination and public involvement.

Piping Superintendent | Railroad Avenue Extension | South Carolina Department of Transportation | Hanahan, South Carolina | $12 Million

Mark's primary responsibilities on this project included the installation of piping systems, while also coordinating tight schedules and keeping the project on budget. This project located in Hanahan, SC includes construction of a new 2.5 mile two-lane roadway along the eastern side of existing CSX rail line including a 180 LF bridge. Kiewit worked concurrently on both the North and South ends of the project in order to meet the 18 month schedule. The project team coordinated with SCDOT, CSX, the Army Corps of Engineers and the City of Hanahan. The scope of work included in this contract consists of clearing and grubbing, hot mix asphalt, bridge construction, storm drainage, guardrail, reinforced steel, rip rap, drop inlet.

PROJECT EXPERIENCE CONTINUED

Piping Superintendent | Permanent Canal Closures and Pumps | United States Army Corps of Engineers| New Orleans, LA | $726 Million

Mark, as piping superintendent, managed the installation and construction of various piping systems. As part of a storm damage risk reduction system for the greater New Orleans area, this complex, fast-track design-build project for the U.S. Army Corps of Engineers involved three separate closure structures and pump stations to block storm surges from Lake Pontchartrain at three flood-prone canals. During a tropical event that causes the lake level to rise four feet or more, the pumps operate concurrently or in series with existing drainage pump stations to move rainwater out of the canals, around the gates and into the lake. Constructed adjacent to Lake Pontchartrain, the permanent gated storm surge barriers and three brick-facade pump stations included Orleans Ave. (2,700 cfs/3 pumps), London Ave. (9,000 cfs /6 pumps) and 17th St. (12,600 cfs /8 pumps).

Piping Superintendent | Herbert Hoover Dike Rehabilitation Replacements S-267, S-284, S-288 | United States Army Corps of Engineers Jacksonville District | Okeechobee, FL | $57 Million

Mark's responsibilities included developing work plans, communication of project status with the owner, and managing the coordination of all subcontractor activities. At a value of $16m, $17m, and $24m these projects for the U.S. Army Corps of Engineers involved the demolition and reconstruction of 3 major water control structures on the Herbert Hoover Dike. The project scope of work included the replacement of drainage structures and levee sections on the Herbert Hoover Dike near Lake Okeechobee. The work also included demolition of existing culverts, placing lengths of cutoff wall at culvert locations, placement of new cast-in-place concrete culvert structures with gates and control systems at the same location, and restoring the embankments. The projects included construction of cofferdams, dewatering, re-watering upon completion for the new culvert structures and removal. Challenges overcome included a contractor designed dewatering system and installing a cofferdam for the support of excavation that allowed our crews to excavate down to elevation 0' to construct the foundations of these large concrete water control structures that were controlled by large sluice gates.

MARK THOMAS
Piping Superintendent

Piping Superintendent | Phase II Repairs to Lake Manatee Dam | Manatee County | Bradenton, FL | $15.4 Million

Mark's responsibilities on the Manatee Dam Phase 2 project included managing the dewatering, embankment, and piping installation throughout the project, while managing schedules and field operations. The dam, located at the head of 1,179-acre Lake Manatee, and its water treatment facility provided the region in 2021 with an average of approximately 47 million gallons of potable water a day. About 31 million gallons of that amount came from Lake Manatee while the other 16 million gallons was ground water pumped to the treatment facility. The dam, a 4,700-foot-long, 27-foot-high embankment with a concrete outer shell and a clay core foundation, was originally completed in 1967. Kiewit constructed the downstream portion of the Phase II repairs. Operations included filling the voids under the stilling basin, downstream training walls, and downstream apron with high permeability sand; hydraulically isolating the downstream portion of the service spillway to prevent further piping and internal erosion; and performing other repairs and upgrades to the spillway.

KEY PERSONNEL RESUMES

INDUSTRY TENURE 19 years
KIEWIT TENURE 19 years
EDUCATION
B.S. Civil Engineering
VA Polytechnic Institute & State University, 2006

19 YEARS WITH KIEWIT
SIMILAR PUMP STATIONS EXPERIENCE
OVER $2B OF ALTERNATIVE DELIVERY WORK

BRAD WILLIAMSON, PE
Project Controls Manager

CERTIFICATIONS/TRAINING/AWARDS

- Transportation: Best Non-Highway Bridge, Precast/Prestressed Concrete Institute 2018
- CMAA Florida Chapter 2021
- FTBA Best in Construction-Expressway Authority Award, Florida Transportation Builders Association 2021

PROFESSIONAL EXPERIENCE

Brad has 19 years' experience including roles as a cost estimator, field engineer, craft superintendent, and project manager. He manages construction progress on jobs relative to budget and schedule. This includes budget and schedule control, quality, safety, productivity, client interaction, agency and utility coordination. He also provides oversight of self-perform staff, equipment resources and subcontractor activities. Brad has a strong background in structures, mechanical, and grading work, having worked on several projects throughout his career. His experience gives him the knowledge and expertise to track, produce and maintain all required documentation and assist in all aspects of the work.

PROJECT EXPERIENCE

Project Manager | Tampa Progressive Infrastructure Planning to Ensure Sustainability (PIPES) Progressive Design-Build | City of Tampa | Tampa, FL | $91 Million

Brad was responsible for leading this progressive design build job. Brad and his team navigated the negotiations of 3 Guaranteed Maximum Price (GMP) agreements with the City of Tampa. This included multiple iterations of pricing and scope confirmation with vendors, as well as transparent and well-organized conversations with the Client. Brad held planning and scheduling sessions, providing schedule oversight, and supervising all aspects of the project. He also contributed to the design work during preconstruction, particularly in quality control production and constructability. This work consists of infrastructure upgrades of storm, water, and sewer lines in four different neighborhoods throughout Tampa, FL. It includes replacing over 19 miles of water distribution piping located in densely populated areas with challenging trenchless, major roadway crossings, and railroad crossings. In addition, due to the high ground water table in the area dewatering, and discharge is a major component of the project. The project is strategically scheduled and executed to minimize the impacts to residents during construction.

Project Manager | S-191A Pump Stations | South Florida Water Management District| Okeechobee, FL |$33 Million

Brad was responsible for leading this project which was located at the northeastern edge of South Florida's Lake Okeechobee. Brad delivered this project on time and ensured South Florida Water Management District (SFWMD) was extremely pleased with the result. During commissioning and turnover, Brad personally met with the operations team who was going to ultimately manage the station to ensure all questions and concerns were answered. Brad managed the building of the project from start to finish, his ability to have a solid schedule and operational sequence was critical to the project's success. Brad's ability to have prompt, transparent communication between Kiewit and SFWMD was imperative. This 600 cfs (388 MGD) pump station provides flood control and recirculation with four electric pumps each rated for 150 cfs. In addition, the project included the planning and executing of a large cofferdam, including soil anchors, struts, tiebacks, and tremie slab pour of over 1,400 CY. The cofferdam operation required meticulous planning and coordination. The cofferdam required over 26 feet (1.2M Gal) of dewatering, treatment, and discharge per permit requirements all inside of the L-47 Canal. This pump station

PROJECT EXPERIENCE CONTINUED

also included 5 generators (4ea 450 kw & 1ea 80 kw) for backup power in case of storm events, two 10,000-gal diesel tanks, fuel pumps, automatic trash rack system, as well as the associated switchgear, controls, and SCADA integration. The discharge piping was 54" to 72" steel coated that was installed into the C-59 Canal. This large diameter pressure pipeline tied from the vertical pump tubes, through a vault structure, onto pipe supports and into the canal. Alignment and fabrication tolerances were critical to the success of this pipe installation.

Project Manager | Selmon Expressway Western Extension Design-Build | Tampa-Hillsborough Expressway Authority | Tampa, FL | $235 Million

Brad was responsible for all project operations, including planning and scheduling, implementing the QA/ QC program, coordinating with contractor, designers and owner, managing budget, and overseeing daily operations. This design build project included designing and constructing a 1.9-mile elevated tollway extension connecting Lee Roy Selmon Expressway to Gandy Bridge. The new elevated roadway includes a pre-cast segmental concrete box girder viaduct with an extradosed post-tensioned fin, constructed using top-down methods.

Structures Project Manager | Dulles Corridor Metrorail (Silver Line) Phase 2 DB | Metropolitan Washington Airports Authority (MWAA) | Washington, DC | $1.6 Billion

Brad's responsibilities included leading job planning and scheduling, coordinating with contractor, designers and owner, and overseeing daily operations. Brad's guidance was a major contribution to both pre-construction and management over the site. The Dulles Corridor Metrorail project was a design build project which completed the 23.1-mile extension of MWAA's Metrorail system in the Dulles Corridor. Phase 2 constructed over 11 miles of new double track rail line, including a 3.5-mile aerial guideway, five ground level stations and one aerial station at the Dulles International Airport. Associated with these facilities will be new pedestrian bridges and tunnels, access roadways, surface parking and bus facilities, and supporting infrastructure work including systems integration for traction power substations, communications and train control equipment.

BRAD WILLIAMSON, PE
Project Controls Manager

Project Engineer | Intercounty Connector Contract B (ICC-B) Toll Road DB | Maryland State Highway Administration | Silver Spring, MD | $561 Million

Brad was responsible for writing 80 subcontracts and supplier material contracts. He was also responsible for the structures work and demolition operations, assisting through the vast majority of the operation. The ICC-B design-build project included the construction of approximately seven miles of new six-lane highway. Key elements included 2.4 million CY of excavation, 1.7 million CY of embankment, more than 59,000 LF of drainage up to 72-in diameter, 500,000 SY of new pavement section, 20 retaining walls, and 15 bridges totaling over 600,000 SF of deck over environmentally sensitive land. The project is one of the most environmentally sensitive projects on the East Coast, requiring the relocation of more than 500 box turtles. Success was achieved on this design build project by the close coordination of all agencies and project parties. The team deployed more than 20 full-time inspectors to verify cooperation with environmental compliance measures.

SR-90 Tamiami Trail Modified Water Deliveries Project | United States Army Corps of Engineers Jacksonville District | Miami, FL | $107 Million

SR-90 Tamiami Trail is a two-lane undivided rural highway that runs through the Everglades National Park connecting Miami to Tampa. The project was to reconstruct and raise 9.75 miles of the existing roadway and also build a new 1-mile-long bridge adjacent to the existing roadway. After the bridge was completed the original roadway was removed which allowed for water to naturally fl ow back into the Everglades and assist in the restoration effort. This project was constructed in a very environmentally sensitive area and required intricate phasing in order to maintain traffic flow and complete all of the work in a timely manner. Additionally, this was a very high-profile project that had been in the planning stages for over 25years. It garnered very high media attention and frequently had VIP visitors from Washington D.C.

KEY PERSONNEL RESUMES

INDUSTRY TENURE 47 years
KIEWIT TENURE 1 year
EDUCATION
M.S.E, Environmental Engineering, University of Florida

40+ YEARS INDUSTRY / KIEWIT EXPERIENCE
ENVISION SP CERTIFIED

JAMES SCHOLL

PE, BCEE, ENV SP
Value Engineering Lead
Commissioning/Start-Up Lead

PROFESSIONAL EXPERIENCE

With over 40 years of experience in environmental engineering and industrial water experience, James is a master at his craft, implementing Kiewit values along with rife knowledge of water construction projects. James is experienced with large diameter pipe projects, CMARs, and is familiar with problems that may occur within a water project. James is well versed in constructability reviews and risk factor analysis, and his expert guidance and support throughout the project will prove to be an asset.

PROJECT EXPERIENCE

Water System Condition Assessment| Water Works Park WTP | Great Lakes Water Authority | Detroit, MI | $1.5 Million

This Water Treatment Plant (WTP) was built using a Design/Build/Operate delivery during the late 1990's and was transferred from the original operator to the Great Lakes Water Authority in 2018. As part of the business transfer, Jim led the team to conduct a full condition assessment of the WTP including the pumping and piping systems feeding raw water from the Detroit River, product water storage and the high service pumps for product water delivery. Results provided information leading to the design and construction of selected improvements to address operational needs, and service life gaps to improve life-cycle costs.

LNG System Water Infrastructure Platform | Queensland Gas Company/Shell | Brisbane, QLD, Australia | $600 Million

Jim managed the team in planning, designing, construction, and operation handover of the Water Infrastructure Platform for a system that included the Design/Build delivery of two 25 MGD RO WTPs to treat brackish groundwater to produce drinking water product water suitable for beneficial use. The platform also included a network of raw water ponds to store brackish groundwater with pumps and piping to transfer the water to the two WTPs. Jim provided technical leadership for the coordination efforts required to integrate with a third-party O&M Contract Operator Veolia to ensure proper commissioning, training, and safe handover of the system. Delivery required an aggressive schedule and work planning to assure the ponds, pumps, piping and treatment plant work completed by independent contractors were coordinated and delivered on time.

Downriver Wastewater Collection System Improvement Program | Wayne County, MI | $100 Million

The Downriver sewer system service area required a significant collection system upgrade that included a system of pumps and large pipes connected to storage for handling peak flows during wet weather. Because the major need for this project was to address regulations for protecting water quality, the project delivered using a Progressive Design/Build team to meet the tight schedule. Jim was the key technical lead for the Program Management Team to coordinate pump and pipe system hydraulic evaluations, perform the value engineering, oversee system integration, and support schedule work planning. The pipeline system covered a pipe network alignment over 12 miles long with a network of storage and a feedwater pump at the end of the collection system to deliver flows to the treatment plant at a peak capacity of approximately 100 MGD.

KEY PERSONNEL RESUMES

INDUSTRY TENURE 18 years
KIEWIT TENURE 18 years
EDUCATION
B.S., Civil Engineering,
Purdue University

18 YEARS WITH KIEWIT
OVER 17 GMPS DELIVERED
8 YEARS OF COST ESTIMATING IN FLORIDA

ABBY CONNER
Cost Estimator / Project Engineer

CERTIFICATIONS/TRAINING/AWARDS

- ACEC's 2017 Grand Conceptor Award
- American Council of Engineering Companies, 2017
- ASBI Bridge Award of Excellence 2017
- American Segmental Bridge Institute
- 2017 Design-Build Project Team Award

PROFESSIONAL EXPERIENCE

Abby has been responsible for project cost control, project management, design management, permit acquisition, DBE coordination, payment applications, public involvement coordination, CPM scheduling, and subcontractor solicitation. Abby has become well-versed and understands the multiple estimates required during the preconstruction phase of CMAR projects. She has an excellent ability to organize multiple estimates and track changes between design evolutions to be able to provide a detailed accounting of the changes. Abby's construction background gives her a strong understanding of structures work and estimating.

PROJECT EXPERIENCE

Lead Estimator | Tampa Progressive Infrastructure Planning to Ensure Sustainability (PIPES) Progressive Design-Build | City of Tampa | Tampa, FL | $91 Million

Abby is providing constructability and estimating reviews, cost control and subcontractor administration for this Progressive Design-Build project. She lead the estimate, and assisted with negotiations on three successful GMP proposals with the City of Tampa. Her assistance gauges the financial risk of many different problems on the project. Work consists of infrastructure upgrades of storm, water, and sewer lines in four different neighborhoods in Tampa, FL. It includes over 19 miles of water distribution piping located in densely populated areas with challenging trenchless major roadway and railroad crossings.

Lead Estimator/Project Engineer | OIA South Terminal C – Landside CMAR, Greater Orlando Aviation Authority | Orlando, FL | $1.4 Billion

Abby's responsibilities during preconstruction included constructability reviews, value engineering options, cost estimating, and GMP development. During construction, she managed all cost controls and subcontractor administration. The project included 19,500 LF of drainage using Class V RCP pipe and 85 aircraft-rated storm manholes with 1' thick walls that are located in an environmentally sensitive area. The overall project involved extensive airside civil work, including 420,000 SY of paving surface, completion of sitework and utilities for the airside, airfield markings and lighting, underground electric work and various site logistics required for airside terminal construction.

Project Engineer/Cost Estimator | Selmon Expressway Western Extension D-B, Tampa-Hillsborough Expressway Authority | Tampa, FL | $235 Million

Abby managed the project controls including quantity and cost tracking, work planning, contract payment, subcontract and vendor administration, and project scheduling. Her role also included coordinating Engineering Services During Construction (ESDC). This project included designing and constructing a 1.9-mile elevated tollway extension connecting Lee Roy Selmon Expressway to Gandy Bridge. The new elevated roadway included a pre-cast segmental concrete box girder viaduct with an extradosed post-tensioned fin, constructed using top-down methods. In addition to the bridge, scope included cast-in-place and precast box culvert extensions, over 8,000 LF of 2" to 18" PVC, over 10,500 LF of 18" to 60" RCP, 4 ft. by 5 ft. and 4 ft. by 8 ft. box culverts, 180 inlets, 61 manholes, over 100,000 SY of roadway reconstruction, municipal utilities, and replacement of sidewalks, driveways, curbs, gutters and other roadway features. The project involved extensive stakeholder coordination and public involvement.

PROJECT EXPERIENCE CONTINUED

Superintendent | GIWCC West Closure Complex CMAR | USACE New Orleans District | New Orleans, LA | $1 Billion

Abby's responsibilities included all design oversight and review of the access bridge and needle girder storage platform that was part of the overall project which includes construction of the world's largest pump station at the time of construction. The GIWCC Project included included construction and commissioning of a 20,000 cfs pump station, a 225-ft. sector gate, concrete T-Walls, and new levee system. The Pump Station Access Bridge included 129' long precast concrete piles, CIP concrete caps, precast concrete deck panels and a CIP concrete deck and curbs. The work involved the construction of a pump station housing 11 pumping units capable of discharging stormwater at a rate of 540m3/s. The pump station construction required 49,000m3 of concrete, including 128 concrete pours and 5,500t of rebar. Pile driving for the pump station was a critical component of this project. On-time completion involved pile driving 1,200 each, 600mm to 750mm diameter piles in just 100 days. Kiewit worked around the clock from the Fall of 2009 to June 1st of 2011 to construct and commission this pump station so it was operational for the 2011 Hurricane season, an accomplishment that surprised many within the construction industry. This project received numerous awards and recognition for its successes in safety and small business efforts, as well as ENR's 2012 Best Civil Works/Infrastructure Project and Best Project of the Year for Texas and Louisiana.

ABBY CONNER
Cost Estimator / Project Engineer

Lead Estimator | C-23/c-24 STA | USACE | Okeechobee, FL | $137 Million

The C-23/C-24 STA is the first major construction project addressing the C-23 and C-24 basins in St Lucie County. The project intends to add several thousand acre feet of storage, along with a water treatment plant that will help feed water to the surrounding areas in St. Lucie County and beyond. The primary use of C-23/24 STA is to both treat the water from hazardous minerals in the surrounding area, as well as implementing water processing procedures to use the water elsewhere. The three different offshoots of the project will consist of will have within 100-500 acre treatment areas, along with water pumping through the use of different wetland flora. Abby's primary role throughout this process is to deliver cost effective reports, analyze risk factors, and implement resources to prevent potential issues.

KEY PERSONNEL RESUMES

INDUSTRY TENURE 25 years
KIEWIT TENURE 16 years
EDUCATION
BBA Business Admin and Management, Columbia College

20 YEARS WITH KIEWIT
7 PUMP STATIONS/WTR CONTROL STRUCTURES
220,000 LF OF UNDERGROUND PIPE

JOSH MEYERPETER
Procurement Director

CERTIFICATIONS/TRAINING/AWARDS

- Project on track to receive ISI Envision Platinum Award
- Design Build Institute of America Project of the Year, International Concrete Repair Institute Award of Excellence

PROFESSIONAL EXPERIENCE

Securing resources in a timely manner will be crucial for this project, as Procurement Director, Josh understands the uncertainty in the market right now and, by utilizing his Kiewit Supply Network team, has developed solutions for clients; finding new ways to address material shortages, fabrication delays, resource challenges, and shipping and logistics management. With 25 years of experience, and a focus exclusively on Kiewit's major water and wastewater treatment projects, he can leverage a wealth of experience and past relationships for well sourced materials and amicable shipping practices. In addition, he coordinates between the vendor and the client, to meet project objectives and sustain project progress in difficult situations.

PROJECT EXPERIENCE

Procurement Director | Claude "Bud" Lewis Carlsbad Desalination Plant | Poseidon Resources | Carlsbad, CA | $592 Million

As Procurement Director for Kiewit's Supply Network, Josh develops procurement, purchasing and material management strategies and plans and oversees procurement and material management processes from initial bid solicitations through execution, procurement, delivery and distribution at site. Josh's team began work early in the design process, with the preconstruction team, to ensure potential equipment and material fabrication and delivery delays did not impact the project schedule. This $592M project was constructed to treat 104 MGD of seawater to produce up to 54 MGD of potable drinking water. The RO system, with 16,040 RO membranes in 2,200 pressure vessels, provides a drought-proof core water supply that can serve 400,000 residents.

Procurement Director | Sustainable Water Infrastructure Project Construction | City of Santa Monica | $96 Million

Josh's role through the process is the estimating, overseeing procurement, and scheduling of delivery of all Kiewit material and personnel, as well as delivery for products and equipment. Kiewit delivered design, construction and two years of operation for this PDB project, which is on track to receive Platinum Envision verification for award. SWIP is the city's $96 million project for its stormwater harvesting and advanced water treatment and recycling facility that collects, treats, and combines brackish groundwater, stormwater, dry weather urban runoff and municipal wastewater to restore local groundwater supplies. This project was in an active, urban area that required traffic control to keep the Project staff and residents safe while construction was ongoing. The contract also included permitting, design, building and modifying an existing 0.5 MGD runoff recycling facility. The treatment process consists of a rotating drum screen, grit chambers, influent equalization chambers, membrane bioreactors, reverse osmosis and ultraviolet advanced oxidation treatment. Through collaboration with the City of Santa Monica, Kiewit established several best practices in the PDB contract model on SWIP that are now used across the company. This includes cost and quantity tracking dashboards that provide real-time information as the design develops, strategic workshops to keep the client engaged in the design progress and schedule optimization strategies that weigh the pros and cons of schedule decisions made during the design phase. As procurement director for this PDB, Josh worked closely with the engineers and construction team to identify long lead item equipment, potential procurement risks, and opportunities for early works packages from vendors. Josh was able to help the project team identify opportunities

PROJECT EXPERIENCE CONTINUED

through his early involvement during the design process. The Sustainable Water Infrastructure Project Construction project won The American Public Works Association (APWA) Southern California Chapter Best Project of the Year Award and was the recipient for Water/Wastewater Projects $50 million to $100 million.

Procurement Director | Jackie A. Meck Water Campus Phase 1 Progressive Design-Build | City of Buckeye | Buckeye, AZ | $13 Million

As the Director of Procurement, Josh's primary role was overseeing procurement, and managing vendor relations. The largest capital improvement project in the history of the City of Buckeye to date (2021), the Jackie A. Meck Water Campus Progressive Design-Build project is being built in multiple phases. The project consists of the water campus, wells, and associated distribution systems. The scope includes a Water Master Plan and Design Report – built initially to 6 MGD, with expandability to 8 MGD by adding a reverse osmosis (RO) system, and ultimately to 16 MGD. The scope of work includes a new 4 MG reservoir, construction of three new well sites, approximately 35,000 LF of transmission piping, a booster pump station, multiple surge tanks, and a pressure reducing station. Work also includes a treatment waste stream analysis to determine the next efficient disposal of plant effluent. The 20-acre water campus will also include a building to house all arsenic treatment process equipment, as well as electrical and chemical feeds.

Procurement Director | San Fernando Groundwater Basin Remediation PDB | Los Angeles Department of Water & Power | Los Angeles, CA | $466 Million

The scope on this Progressive design-build included two new groundwater treatment facilities that extract water from two sets of existing, non-producing contaminated wells. These plants will treat a collective of 75 mgd with 50 mgd of groundwater at Tujunga and 25 mgd at North Hollywood. The scope for the combined sites includes the installation of 6,500 feet of raw water pipelines, construction of UV buildings, and critical underground tie-ins and the addition of several pumps. The facilities also contain raw water purge systems, pre-treatment separators, 10 UV/AOP reactors, three liquid phase granular advanced carbon (GAC) systems with 54 new GAC vessels, and post-treatment systems that provide chlorination, ammonization and fluoridation.

JOSH MEYERPETER
Procurement Director

Procurement Director | Columbia Boulevard Wastewater Treatment Plant Secondary Treatment Expansion Program | City of Portland Bureau of Environmental Services | $12 Million

Josh manages all aspects of procurement and materials supply management and assists the project team in coordinating with plant staff for their needs under early construction work packages to rehabilitate the existing storage structures and construct interim plant staff offices and maintenance facilities. This project is an expansion and upgrade of the existing facility. The Columbia Boulevard WWTP has a total capacity of 380-450 MGD. Kiewit performed construction manager/general contractor (CM/GC) preconstruction and construction services for the secondary treatment expansion, consisting of construction of a 1,000-foot-long 54-inch C200 steel sewer pipe and two 150-ft diameter clarifiers which required existing facilities to be demolished and replaced.

KEY PERSONNEL RESUMES

INDUSTRY TENURE 36 years
KIEWIT TENURE 36 years
EDUCATION
B.S., Business Administration, Midland Lutheran University

36 YEARS WITH KIEWIT
SIGNIFICANT EXPERIENCE MANAGING SAFETY ON PUMP STATIONS/WTR CONTROL STRUCTURES
SIGNIFICANT EXPERIENCE IN FLORIDA

BERT LAAKER
Safety Manager

CERTIFICATIONS/TRAINING/AWARDS

- OSHA 500 Certified
- First Aid & CPR Supervisory Conference Field Engineer School Crane Training
- Transportation and Traffic Control Training Airport Business 2023 Business Project of the Year

PROFESSIONAL EXPERIENCE

During his 36-year career with the Kiewit Corporation, Bert has become a master of his craft, with experience at many levels of health and safety compliance. Bert has led safety initiatives and developed safety plans and programs for many alternate delivery and piping projects. He has led countless training programs on Safety throughout the Kiewit Corporation and constantly educates project teams on Kiewit's Safety Program, most recently as a member of Kiewit's Safety Presentation in June for the Authority. Bert is an expert in hazard analysis and risk identification and mitigation and is at the forefront of Kiewit's "Nobody Gets Hurt" commitment.

PROJECT EXPERIENCE

Lead Safety Manager | Tampa Progressive Infrastructure Planning to Ensure Sustainability (PIPES) Progressive Design-Build | City of Tampa | Tampa, FL | $91 Million

Bert's responsibilities include coordinating and overseeing the implementation of the Safety Management Plan for this Design-Build project. The project consists of infrastructure upgrades of storm, water, and sewer lines in four different neighborhoods in Tampa, FL. It includes over 19 miles of water distribution piping located in densely populated areas with challenging trenchless pipeline installation under major roadways and railroad crossings.

Safety Manager | Selmon Expressway Western Extension Design-Build, Tampa-Hillsborough Expressway Authority | Tampa, FL | $235 Million

As Lead Safety Manager, Bert was responsible for implementing and managing all aspects of safety on this Design-Build project. Challenging aspects that presented increased potential for accidents and injuries included MOT associated with working over and alongside active highway and urban roadways and significant night shift work. Bert ensured all members of the project team understood the risk associated with pedestrian and construction traffic, extreme summer temperatures, and elevated work. This project included designing and constructing a 1.9-mile elevated tollway extension connecting Lee Roy Selmon Expressway to Gandy Bridge. The new elevated roadway includes a pre-cast segmental concrete box girder viaduct with an extradosed post-tensioned fin, constructed using top-down methods.

Safety Manager | OIA South Terminal C – Landside CMAR | Greater Orlando Aviation Authority | Orlando, FL | $1.4 Billion

This mega-project for the highly congested Orland International Airport introduced various challenges for safety management. Bert ensured the project team identified the many risks associated with a worksite in close proximity to many other contractors, the public, and airport facilities. In managing the project safety plan, Bert oversaw safety inspections, project safety trainings, and ensured Kiewit's safety culture was understood and practiced by all levels of employees from craft through upper management. The project team worked over 650,000 self-perform hours accident free, earning 2 consecutive Kiewit Goose Egg Awards for a year worked without an incident or accident. The project included 19,500 LF of drainage using Class V RCP pipe and 85 aircraft-rated storm

PROJECT EXPERIENCE CONTINUED

manholes with 1' thick walls in an environmentally sensitive area. The overall project involved extensive airside civil work, including 420,000 SY of paving surface, completion of sitework and utilities for the airside, airfield markings and lighting, underground electric work and various site logistics required for airside terminal construction.

Lead Safety Manager | C.W. Bill Young Reservoir Design-Build | Tampa Bay Water A Regional Water Supply Authority | Lithia, FL | $106 Million

Bert oversaw the development and implementation of the safety program on this 15BG reservoir project. Bert ensured all contractors working onsite understand the safety risks and challenges associated with such a large project site. Conducting safety inspections and trainings throughout the construction process, demonstrated Bert's and Kiewit's commitment to safety and "Nobody Gets Hurt".

Lead Safety Manager |RM Clayton WWTP | City of Atlanta Watershed Management | Atlanta, GA | $53 Million

As the Lead Safety Manager for the construction of the RM Clayton Wastewater Treatment Plant, Bert was responsible for overall safety and compliance on the project, implementing the project's safety plan and analyzing possible safety hazards. Kiewit completed facility upgrades at the 240-million-gallon-per-day R.M. Clayton Water Reclamation Center – the largest in the city of Atlanta. The project included the replacement of the coarse screen and installation of new grit removal, dewatering systems and new flow-monitoring equipment. Bert demonstrated experience in training the Kiewit team to understand the additional risks associated with working in an active plant. Kiewit completed several upgrades and replacements to existing process equipment including the four bar screens, washer compactor, screenings conveyor equipment, 26 electric actuated sluice gates, various underground utilities, electrical and control upgrades, and new distributed control system/Foxboro integration.

Lead Safety Manager | C-23/24 STA | USACE | Okeechobee, FL | $136 Million

Bert oversaw the safety program of the C-23/24 Stormwater Treatment Area Project in Okeechobee, FL. As part of the team to develop and implement the USACE-approved Safety Plan, Bert ensured the stringent safety requirements of the Owner and Kiewit were communicated and practiced each day on site. The C-23/C-24 Stormwater Treatment Area is the first major construction project to capture run-off from the C-23 and C-24 basins, reducing annual total nutrient loads to the St. Lucie River Estuary and the southern portion of the Indian River Lagoon. The project had environmental challenges to overcome early during clearing and grubbing due to migratory birds and gopher tortoises. Bert worked with project management to identify project safety risks and address them throughout the project, incorporating safety in each step of construction activities. This project has extensive dewatering and discharges off-site.

Lead Safety Manager | Intercounty Connector Contract B (ICC-B) Toll Road Design-Build | MD State Highway Administration | Silver Spring, MD | $561 Million

Bert oversaw the development and deployment of the safety plan and program on the ICC-B design-build project, ensuring safety procedures and practices were consistent across all segments of the construction of seven miles of new six lane highway. Bert ensured all employees, including subcontractors were orientated and understood Kiewit's safety requirements. Through constant communication of expectation and monthly mass safety meetings, Bert provided a consistent message of "Nobody Gets Hurt" throughout the project. ICC Contract B was the third and final contract for a highway system connecting two major Washington, DC metropolitan areas. The largest design-build ever undertaken by the State of Maryland, the scope of work included 7 mi. of new six-lane highway constructed through some of the most environmentally sensitive and heavily populated areas of southern Maryland. Construction began in January of 2009 and was open to traffic in November of 2011. Key elements of the project included a diamond interchange at MD 182, a single point urban interchange (SPUI) at MD 650, and 10 new bridges. Additional features include intelligent transportation systems (ITS), electronic toll collection (ETC), traffic signals, signing and pavement marking, 12,938 LF of hiking and biking trails, and sound barriers all along the new alignment.

BERT LAAKER
Safety Manager

KEY PERSONNEL RESUMES

INDUSTRY TENURE 18 years
KIEWIT TENURE 14 years
EDUCATION
B.S., Civil Engineering,
University of New Orleans

18 YEARS KIEWIT /INDUSTRY EXPERIENCE
SIGNIFICANT PUMP STATIONS /WTR CONTROL STRUCTURES EXPERIENCE
SIGNIFICANT QUALITY MANAGEMENT EXPERIENCE IN FLORIDA

JIM COCHRAN
Quality Manager

CERTIFICATIONS/TRAINING/AWARDS

- Pile Driving Contractors Association Project of the Year (2019
- Segmental Bridge Institute Bridge Award of Excellence (2015
- International Bridge Conference George S. Richardson Medal (2015)
- International Association of Business, Communicators Gold Quill: Merit Award (2015)

PROFESSIONAL EXPERIENCE

With 18 years of experience in the industry and 14 years with Kiewit, Jim is a well-versed Quality Control Manager with experience in implementing strong quality controls, including quality plans and financial risk reports. Jim is knowledgeable in assessing construction processes, communicating with manufacturers, and creating reports to help with the understanding of quality requirements and expectations. In addition, he is used to implementing quality management plans, and auditing projects to ensure their successful implementation.

PROJECT EXPERIENCE

Quality Manager | Franklin Water Reclamation Facility Modification and Expansion | City of Franklin | Franklin, TN | $132 Million

The largest capital investment in Franklin's history, and part of the City's Integrated Water Resource Plan (IWRP), this project upgrades an existing WRF to increase capacity from 12 to 16 MGD. The project entails construction of a new headworks structure, new equalization basin with mixing capabilities, odor control system upgrades, two new anaerobic digesters, a new biological nutrient removal (BNR) basin and raising the new BNR weirs, interior launders, various pump station improvements, a new ultraviolet disinfection system, and new alum storage and feed systems. This project requires extensive bypassing of full plant flows up to 30 MGD balanced between BNR trains as well as tertiary filters. Jim was responsible for managing, implementing, and maintaining the project quality control program and compliance with contract specifications.

Quality Manager | Permanent Canal Closures and Pumps | USACE New Orleans District | New Orleans, LA | $726 Million

As Quality Manager and Design Coordinator, in coordination with the project owner, Jim developed a specific QMP and was responsible for managing, implementing and maintaining the project quality control program and compliance with contract specifications. PCCP Constructors designed and constructed three permanent gated storm surge barriers and pump station structures along the 17th Street, Orleans Avenue and London Avenue flood-prone canals. The combined pumping capacity of the three stations exceeds 24,000 cubic feet of water per second. The pump station scope included architectural, engineering, permit support, procurement, construction, testing, project management, quality control and commissioning. Additionally, each of the three sites contain a generator building to house the diesel generators that power the pumps, fuel tanks to allow continuous operation for up to five days, new concrete T-wall, gate structures to pass non-event water flow, canal dredging and both above and below water rip rap erosion protection.

Quality Manager | GIWCC West Closure Complex CMAR | USACE New Orleans District | New Orleans, LA | $1 Billion

The GIWCC West Closure Complex project included construction of the world's largest pump station, with 11 units capable of discharging stormwater at a rate of 19,140 cfs; North America's largest sector gate, a 4,200 LF of concrete T-wall including a water control structure; and a series of flow control sluice gates. Jim operated the GIWCC's initial successful exercise for Hurricane Isaac.

KEY PERSONNEL RESUMES

INDUSTRY TENURE 15 years
KIEWIT TENURE 8 years
EDUCATION
B.S. in Mechanical Engineering, Florida State University

15 YEARS SCHEDULING EXPERIENCE
LARGE CMAR, PIPELINE & PUMP STATIONS EXPERIENCE

MARK O'DONNELL
Senior Schedule Analyst

CERTIFICATIONS/TRAINING/AWARDS
- LEED Accredited Professional

PROFESSIONAL EXPERIENCE

As an expert in schedule analysis as well as the scheduling lead for several high-profile projects, Mark is well-versed in the process of scheduling long term, expansive projects. Mark is experienced in the development of large scale, DB and CMAR projects with multiple construction phases and completion milestones. His understanding and experience of managing the schedules from project inception and design through to commissioning and closeout allow him to effectively develop a baseline schedule and manage it throughout construction to accurately report project progress to the Project Team, Owner and all project stakeholders. Mark supports the project team by analyzing project progress throughout construction and identifying opportunities for schedule acceleration or work that has become critical. Mark's detail-oriented management of project schedules ensures they can trust the schedule throughout construction, along with the accuracy and efficacy of the reports.

PROJECT EXPERIENCE

Project Scheduler | GOAA South Airport Intermodal Terminal Facility (CMAR) | Orlando, FL | $1.4 Billion

As part of this joint venture project, Mark oversaw all scheduling operations and scheduling staff with multiple schedulers from different companies utilizing Primavera P6. This is a highly complex project which integrates five different CMAR schedules into one master schedule which has had two major design changes since the start of construction. Turner-Kiewit were responsible for the landside and airfield portion of this project from greenfield to final completion. Mark created the initial project schedule for all civil work, roadways, bridges, Central Energy Plant, Emergency Generator Plant, Landside Terminal, and Parking Garage. Mark managed all schedule updates, and reporting, time impact analysis. Mark worked with the owner's trade partners as well as other CMARs building different portions of the terminal to create an integrated program schedule encompassing over $3 billion worth of new construction work.

Project Scheduler | Biscayne Bay Coastal Wetlands BBCW 5C S-710 & S-711 Pump Stations | USACE | $25 Million

Mark developed the initial cost loaded schedule with owner and project specific required coding for all activities. Mark created all reports and calendars during initial project set up to satisfy owner required reporting standards for the project. This project entails the construction of two new Pump Stations, spreader canal, and seepage canal. Mark is responsible for tracking project progression and providing monthly updates to the owner. Mark works alongside the Project Manager to model any time-impact analysis to support schedule review of potential schedule acceleration opportunities and identify critical path items.

Project Scheduler | Biscayne Bay Coastal Wetlands BBCW 5B S-703 Pump Station | South Florida Water Management District | $10 Million

Responsible for all scheduling on this project, which includes assisting with the building of the initial cost loaded baseline schedule with specific required coding. As part of the initial project set up also created all reports and calendars that are required by the client. After the baseline was built was responsible for monthly schedule updates, time impact analyses, and maintenance as required per contract. This project includes the construction of one stormwater pump station, spreader canal and recreational sites.

5. FINANCIAL CAPACITY AND LEGAL

Kiewit

PR3 PUMPING AND CONVEYANCE FACILITIES
PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
SOQ FOR CMAR PHASE I PRECONSTRUCTION SERVICES AND PHASE II CONSTRUCTION SERVICES

5. FINANCIAL CAPABILITY AND LEGAL

a. i. Attachment B – Claims, Liens, and Litigation History

Please reference Attachment B in this section.

a. ii. Attachment C – Affidavit of Solvency

Please reference Attachment C in this section.

b. Demonstration of Financial Strength

Kiewit Infrastructure South Co.'s 2022 audited company balance sheet can be found in a separate file, as recommended by Addendum 1.

c. Demonstration of Financial Indicators

Please reference Kiewit's most recently audited balance sheet for our financial indicators.

d. Evidence of Bond and Insurance

Evidence of Bond and Insurance can be found in this section.

e. Disclosure of Representation

Kiewit Infrastructure South Co. has not previously represented nor currently represents Charlotte, DeSoto, Manatee or Sarasota Counties, and/or the City of North Port ("Customers"), in any capacity.

f. Disclosure of Current Litigation

Kiewit Infrastructure South Co. does not have any disclosure of any current litigation the Respondent is a) a party to, or b) directly or indirectly involved (e.g., retained for testimony and expertise on behalf of any other entity; subpoenaed; etc.) that is against the Authority or any of the Customers.

g. Summary and Disposition of Litigation, Judgements, and/or Legal Actions

Kiewit Infrastructure South Co. does not have any individual cases of litigation, judgments and/or legal actions, entered against Contractor or sub-contractor(s) for breach of contract for work performed for any local, state, federal, public or private entity, by any state or federal court, within the last five (5) years.

h. Disclosure of Bankruptcy

Kiewit Infrastructure South Co. is not involved in an ongoing bankruptcy as a debtor, or in a reorganization, liquidation, or dissolution proceeding, or if a trustee or receiver has been appointed over all or a substantial portion of the property of the Respondent under federal bankruptcy law or any state insolvency law.

ATTACHMENT B

CLAIMS, LIENS, LITIGATION HISTORY

1. Within the past 5 years, has your organization filed suit or a formal claim against a project owner (as a prime or subcontractor) or been sued by or had a formal claim filed by an owner, subcontractor or supplier resulting from a construction dispute? Yes x No ____
   If yes, please attach additional sheet(s) to include: See attached sheets.
   Description of every action Captions of the Litigation or Arbitration
   Amount at issue: _____ Name (s) of the attorneys representing all parties:
   _____
   Amount actually recovered, if any: _____
   Name(s) of the project owner(s)/manager(s) to include address and phone number:
   _____
2. List all pending litigation and or arbitration.
3. List and explain all litigation and arbitration within the past five (5) years - pending, resolved, dismissed, etc.
4. Within the past 5 years, please list all Liens, including Federal, State and Local, which have been filed against your Company. List in detail the type of Lien, date, amount and current status of each Lien.
   N/A
   _____
   _____
5. Have you ever abandoned a job, been terminated or had a performance/surety bond called to complete a job? Yes_____ No X If yes, please explain in detail:
   _____
   _____
   _____
6. For all claims filed against your company within the past five-(5) years, have all been resolved satisfactorily with final judgment in favor of your company within 90 days of the date the judgment became final? Yes_____ No X If no, please explain why?
   In Kiewit Infrastructure South Co.'s opinion, claims filed against Kiewit Infrastructure South Co. in the past five years have been satisfactorily resolved.
7. List the status of all pending claims currently filed against your company:
   For pending claims against Kiewit Infrastructure South Co., these claims are in the discovery/fact finding process.

Liquidated Damages

1. Has a project owner ever withheld retainage, issued liquidated damages or made a claim against any Performance and Payment Bonds? Yes_____ No X If yes, please explain in detail:
   _____
   _____

(Use additional or supplemental pages as needed)

1. WITHIN THE PAST 5 YEARS, SUITS OR FORMAL CLAIMS FILED AGAINST A PROJECT OWNER, OR SUITS BY OR FORMAL CLAIM FILED BY AN OWNER, SUBCONTRACTOR OR SUPPLIER RESULTING FROM A CONSTRUCTION DISPUTE

MATTER NAME	COURT NAME	COURT DOCKET NO.	PROJECT / OWNER	DATE FILED	CLOSED DATE	MATTER SUMMARY	DISPOSITION	COMP AMT CLAIMED	SUMS RECEIVED
Titan Florida, LLC v. Kiewit Infrastructure South Co., and Travelers Casualty and Surety Company of America.	Circuit Court of the 13th Judicial Circuit in and for Hillsborough County, FL	21-CA-456	103624; 103572 Selmon West Expressway Tampa-Hillsborough Expressway Authority (813-272-6740)	1/18/2021	3/3/2022	Lawsuit by concrete supplier against Kiewit Infrastructure South Co. alleging payments owed for work performed regarding the Selmon Expressway Western Extension in Tampa, FL.	Settlement	138,500	
Nashville Ready Mix, Inc., Pltf. vs. Kiewit Infrastructure South Co., et al., Dts.	State of Tennessee Chancery Court for Williamson County, at Franklin, 21st Judicial District	49332B	CDM Smith Inc./ City of Franklin (615-320-3161) (615-791-3217)	4/13/2020	6/5/2020	Payment bond lawsuit by vendor of Kiewit's Subcontractor alleging breach of contract by Subcontractor for failure to pay for material supplied to the Franklin WRF Modifications and Expansion Project in Franklin, Tennessee.	Withdrawn/ Not Pursued	268,833	
STATE OF TEXAS, PLTF. vs. KIEWIT INFRASTRUCTURE SOUTH CO, DFT.	Municipal Court Dallas County TX	Z19000693	102412 SH183: Texas Department of Transportation Dallas District (214-320-6100)	2/24/2020	12/17/2020	Lawsuit against Kiewit Infrastructure South Co by the State of Texas alleging a misdemeanor environmental offense.	Closed		

MATTER NAME	COURT NAME	COURT DOCKET NO.	PROJECT / OWNER	DATE FILED	CLOSED DATE	MATTER SUMMARY	DISPOSITION	COMP AMT CLAIMED	SUMS RECEIVED
Hayley Carson Odom Cordrays Mill Plantation, LLC v. Kiewit Infrastructure South Co., Andy O'Keefe and Kenneth Ledbetter	Superior Court of Calhoun County State of Georgia	19-V-053	Cordrays Pond 23385 Georgia Department of Transportation (404-631-1990)	6/27/2019	4/18/2023	Lawsuit by Hayley Carson Odom alleging violations of the lease and various tort actions arising from Kiewit Infrastructure South Co.'s removal of material from her property in connection with the GDOT Project SR45 Cordrays Pond in Calhoun County, GA.	Closed	1,000,000	
Walter P. Moore and Associates, Inc. v. Kellogg Brown & Root, LLC and Stantec Consulting Services, Inc. v. ABRAMS-KIEWIT JOINT VENTURE	County Court at Law No. 6, El Paso County, Texas	2018DCV1767	102447 Border West Expressway Border West Expressway: Texas Department of Transportation (817-370-6500) (JV With Abrams)	8/8/2018	3/26/2020	Third Party lawsuit by Kellogg Brown & Root, LLC and Stantec Consulting Services, Inc. seeking indemnification and alleges AKJV breached the contract in connection with the Loop 375 Border West Expressway Project in El Paso, Texas.	Closed	3,951,272	
LPR Construction Co. LLC v. Steel Fabricators, LLC; Federal Insurance Company; Steel Fabricators Surety; Kiewit Infrastructure South Co.; and Walter P. Moore and Associates, Inc.	Orange County, FL	2018-CA-3854-O	25709 Orlando South Terminal Structures Orlando Structures (6&7): Greater Orlando Aviation Authority Purchasing Division (407-825-2419)	4/13/2018	6/19/2019	Lawsuit by subcontractor, L.P.R. Construction Co. LLC, against Kiewit Infrastructure South Co. - both subcontractors to the Prime - alleging among various claims including, but not limited to damages arising out of delays.	Closed		

MATTER NAME	COURT NAME	COURT DOCKET NO.	PROJECT / OWNER	DATE FILED	CLOSED DATE	MATTER SUMMARY	DISPOSITION	COMP AMT CLAIMED	SUMS RECEIVED
Kiewit Infrastructure South Co., v. MACK Industries, Inc. d/b/a MACK Concrete Industries, Inc., Western Surety Company, and Charlotte County, Florida	U.S. District Court, Middle District of FL	20-cv-660	103686 Loveland Grand Master Lift Station, Charlotte County, FL	8/27/2020	5/17/2023	Lawsuit by Kiewit Infrastructure South Co. against supplier MACK Industries, Inc. d/b/a MACK Concrete Industries, Inc. regarding breach of contract, indemnification and a claim against Western Surety Company to pay surety bond regarding the Loveland Grand Master Lift Station Project, Charlotte County, Florida.		0	9.3M
L.P.R. Construction Co. LLC v. Steel Fabricators, LLC, Federal Insurance Company, Kiewit Infrastructure South Co., Walter P. Moore and Associates, Inc. - Federal (18-cv-1188)	U.S. District Court, Middle District of Florida (Orlando)	6:18-cv-01188-CEM-DCI	25709 Orlando South Terminal Structures Orlando Structures (6&7): Greater Orlando Aviation Authority Purchasing Division (407-825-2419)	7/24/2018	9/26/2019	Settled. Cross claim against subcontractor, Steel Fabricators alleging among various claims, including, but not limited to damages arising out of delays.	Closed	0	0

2. PENDING LITIGATION AND OR ARBITRATION

MATTER NAME	COURT NAME	COURT DOCKET NO.	PROJECT	DATE FILED	MATTER SUMMARY
Southgate Mobility Partners LLC and Southgate Constructors AJV v. Steven Johnson and Texas Sterling Construction	District Court, Dallas County, Texas	DC-20-14443	Midtown Express, 102412	10/1/2020	Claim against a trucker and trucking company for damage to two bridges.
Kiewit Infrastructure South Co. v. AECOM Technical Services, Inc.	USDC Middle District of Florida	8:21-cv-2093-T-SDM-TGW	103572 Selmon Expressway		On August 31, 2021, Kiewit Infrastructure South Co. ("KISC") file suit against AECOM Technical Services, Inc. ("AECOM") to recover additional costs incurred by KISC due to significant necessary deviations from planned design elements detailed by AECOM in its pre-bid design in connection with the Selmon Expressway Western Extension in Tampa, Florida

3. ALL LITIGATION AND ARBITRATION WITHIN THE PAST FIVE (5) YEARS

MATTER NAME	COURT NAME	COURT DOCKET NO.	PROJECT	DATE FILED	CLOSED DATE	MATTER SUMMARY	DISPOSITION
Titan Florida, LLC v. Kiewit Infrastructure South Co., and Travelers Casualty and Surety Company of America.	Circuit Court of the 13th Judicial Circuit in and for Hillsborough County, FL	21-CA-456	103624; 103572 Selmon West Expressway	1/18/2021	3/3/2022	Lawsuit by concrete supplier against Kiewit Infrastructure South Co. allleging payments owed for work performed regarding the Selmon Expressway Western Extension in Tampa, FL.	Settlement
Southgate Mobility Partners LLC and Southgate Constructors AJV v. Steven Johnson and Texas Sterling Construction	District Court, Dallas County, Texas	DC-20-14443	Midtown Express, 102412	10/1/2020		Claim against a trucker and trucking company for damage to two bridges.	
Nashville Ready Mix, Inc., Pltf. vs. Kiewit Infrastructure South Co., et al., Dts.	State of Tennessee Chancery Court for Williamson County, at Franklin, 21st Judicial District	49332B		4/13/2020	6/5/2020	Payment bond lawsuit by vendor of Kiewit's Subcontractor alleging beach of contract by Subcontractor for failure to pay for material supplied to the Franklin WRF Modifications and Expansion Project in Franklin, Tennessee.	Withdrawn/ Not Pursued
STATE OF TEXAS, PLTF. vs. KIEWIT INFRASTRUCTURE SOUTH CO, DFT.	Municipal Court Dallas County TX	Z19000693	102412	2/24/2020	12/17/2020	Lawsuit against Kiewit Infrastructure South Co by the State of Texas alleging a misdemeanor environmental offense.	
Kiewit Infrastructure South Co., v. MACK Industries, Inc. d/b/a MACK Concrete Industries, Inc. and Western Surety Company	U.S. District Court, Middle District of FL	20-cv-660	103686 Loveland Grand Master Lift Station	8/27/2020	5/17/2023	Lawsuit by Kiewit Infrastructure South Co. against supplier MACK Industries, Inc. d/b/a MACK Concrete Industries, Inc. regarding breach of contract, indemnification and a claim against Western Surety Company to pay surety bond regarding the Loveland Grand Master Lift Station Project, Charlotte County, Florida.	

MATTER NAME	COURT NAME	COURT DOCKET NO.	PROJECT	DATE FILED	CLOSED DATE	MATTER SUMMARY	DISPOSITION
Kiewit Infrastructure South Co. v. AECOM Technical Services, Inc.	USDC Middle District of Florida	8:21-cv-2093-T-SDM-TGW	103572 Selmon Expressway			On August 31, 2021, Kiewit Infrastructure South Co. ("KISC") file suit against AECOM Technical Services, Inc. ("AECOM") to recover additional costs incurred by KISC due to significant necessary deviations from planned design elements detailed by AECOM in its pre-bid design in connection with the Selmon Expressway Western Extension in Tampa, Florida	
Hayley Carson Odom Cordrays Mill Plantation, LLC v. Kiewit Infrastructure South Co, Andy O'Keefe and Kenneth Ledbetter	Superior Court of Calhoun County State of Georgia	19-V-053	Cordrays Pond 23385	6/27/2019	4/18/2023	Lawsuit by Hayley Carson Odom alleging violations of the lease and various tort actions arising from Kiewit Infrastructure South Co.'s removal of material from her property in connection with the GDOT Project SR45 Cordrays Pond in Calhoun County, GA.	
Walter P. Moore and Associates, Inc. v. Kellogg Brown & Root, LLC and Stantec Consulting Services, Inc. v. ABRAMS-KIEWIT JOINT VENTURE	County Court at Law No. 6, El Paso County, Texas	2018DCV1767	102447 Border West Expressway	8/8/2018	3/26/2020	Third Party lawsuit by Kellogg Brown & Root, LLC and Stantec Consulting Services, Inc. seeking indemnification and alleges AKJV breached the contract in connection with the Loop 375 Border West Expressway Project in El Paso, Texas.	
ABRAMS-KIEWIT JOINT VENTURE v. Stantec Consulting Services, Inc.	District Court of Travis County, Texas, 250th Judicial District	D-1-GN-18-004199	102447 Border West Expressway	8/8/2018		Lawsuit by Abrams-Kiewit, JV against Stantec Consulting Services, Inc. alleging professional negligence and breach of contract regarding the Loop 375 Border Highway Extension Project in El Paso, Texas.	Settlement

MATTER NAME	COURT NAME	COURT DOCKET NO.	PROJECT	DATE FILED	CLOSED DATE	MATTER SUMMARY	DISPOSITION
LPR Construction Co. LLC v. Steel Fabricators, LLC; Federal Insurance Company; Steel Fabricators Surety; Kiewit Infrastructure South Co.; and Walter P. Moore and Associates, Inc.	Orange County, FL	2018-CA-3854-O	25709 Orlando South Terminal Structures	4/13/2018	6/19/2019	Lawsuit by subcontractor, L.P.R. Construction Co. LLC, against Kiewit Infrastructure South Co. - both subcontractors to the Prime - alleging among various claims including, but not limited to damages arising out of delays.	
L.P.R. Construction Co. LLC v. Steel Fabricators, LLC, Federal Insurance Company, Kiewit Infrastructure South Co., Walter P. Moore and Associates, Inc. - Federal (18-cv-1188)	U.S. District Court, Middle District of Florida (Orlando)	6:18-cv-01188-CEM-DCI	25709 Orlando South Terminal Structures	7/24/2018	9/26/2019	Settled. Crossclaim against subcontractor, Steel Fabricators alleging among various claims, including, but not limited to damages arising out of delays.	

ATTACHMENT C

AFFIDAVIT OF SOLVENCY

PERTAINING TO THE SOLVENCY OF Kiewit Infrastructure South Co. (Respondent), being of lawful age and being duly sworn I, Timothy J. Cleary (Affiant), as

Senior Vice President (Title) *(ex: CEO, officer, president, duly authorized representative, etc.)* hereby certify under penalty of perjury that:

1. I have reviewed and am familiar with the financial status of above stated entity.
2. The above stated entity possesses adequate capital in relation to its business operations or any contemplated or undertaken transaction to timely pay its debts and liabilities (including, but not limited to, unliquidated liabilities, unmatured liabilities and contingent liabilities) as they become absolute and due.
3. The above stated entity has not, nor intends to, incur any debts and/or liabilities beyond its ability to timely pay such debts and/or liabilities as they become due.
4. I fully understand failure to make truthful disclosure of any fact or item of information contained herein may result in denial of the application, revocation of the Certificate of Public Necessity if granted and/or other action authorized by law.

The undersigned has executed this Affidavit of Solvency, in his/her capacity as a duly authorized representative of the above stated entity, and not individually, as of this Sixteenth day of August, 2023.

Timothy J. Cleary
Signature of Affiant

STATE OF Georgia
COUNTY OF Coweta

Sworn to (or affirmed) and subscribed before me by means of ☑ physical presence or ☐ online notarization, this 16th day of August, 2023, by Affiant. who is personally known to me or has produced N/A as identification.

JESSICA WOLFE
Notary Public, Georgia
Coweta County
My Commission Expires
January 27, 2024

Jessica Wolfe
Notary Public

Jessica Wolfe
Name typed, printed or stamped

My Commission Expires: 1.27.2024

Not in Page Count

EVIDENCE OF BOND AND INSURANCE

TRAVELERS

Travelers
Bond, Home Office

(860) 277-9355
(860) 277-3931 (fax)

One Tower Square
Hartford, CT 06183

August 15, 2023

The Peace River Manasota Regional Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch, FL 34202

RE: Peace River Regional Reservoir No. 3 (PR3) Pumping and Conveyance Facilities
Kiewit Infrastructure South Co.

Dear Sir or Madam:

We have had the pleasure of extending surety credit to the Kiewit companies since 1958 in connection with contracts aggregating billions of dollars. As a Kiewit operating subsidiary, it is our opinion that Kiewit Infrastructure South Co. one of the outstanding and reputable construction organizations in North America. Its skill, integrity, and financial responsibility are unquestioned.

As part of an overall work program commitment, we have authorized Kiewit Infrastructure South Co. to bid individual contracts up to $350 million in size. The total program capacity for all Kiewit companies is $12 billion. It is our intention to furnish Kiewit Infrastructure South Co. with Performance and Labor and Material Payment Bonds, if awarded the above-referenced project.

Travelers Casualty and Surety Company of America possess certificates of authority as an acceptable surety authorized to do business as published annually in the current United States Secretary of the Treasury, Fiscal Service, Department Circular 570. This commitment is subject to our standard underwriting at the time of the bond request, including a review of acceptable bond forms, contract financing and our standard underwriting considerations.

If you have any other questions, please feel free to contact me at (402) 271-2956.

Travelers Casualty and Surety Company of America,
A.M. Best Rating A++, XV

Deanne Jones
Attorney-in-Fact

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA
HARTFORD, CONN.

Not in Page Count

TRAVELERS	Travelers Casualty and Surety Company of America Travelers Casualty and Surety Company St. Paul Fire and Marine Insurance Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Philip G. Dehn, Tammy Pike, Paul A. Foss, Marie Huggins, Traci Sutton, and Deanne Jones of Omaha, Nebraska,** their true and lawful Attorney (s)-in-Fact tosign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the naturethereof on behalf of the Companies in the,r business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April, 2021.**

State of Connecticut

City of Hartford ss.

By: _____
Robert L. Raney, Senior Vice President

On this the **21st** day of **April, 2021**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June, 2026**

_____
Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 15th day of August, 2023

_____
Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

Not in Page Count

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 8/3/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	Traci Sutton		
Midwest Agencies, Inc. 1550 Mike Fahey Street Omaha, NE 68102	PHONE (A/C, No, Ext):	402-271-2956	FAX (A/C, No):	402-271-2997
	E-MAIL ADDRESS:	Traci.Sutton@MidwestAgenciesInc.com		

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Old Republic Insurance Company	24147
INSURER B : Swiss Re Corporate Solutions America Ins	29874
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
Kiewit Infrastructure South Co.
5405 Cypress Center Dr., Ste. 210
Tampa FL 33609

COVERAGES **CERTIFICATE NUMBER:** 75609848 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	✓ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☑ OCCUR ✓ Contractual Liability ✓ XCU Included GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☑ PRO-JECT ☐ LOC ☐ OTHER:	✓	✓	MWZY 312911	3/1/2023	3/1/2024	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$ 5,000,000 $ 5,000,000 $ 10,000 $ 5,000,000 $ 10,000,000 $ 10,000,000 $
A	AUTOMOBILE LIABILITY ✓ ANY AUTO ☐ OWNED AUTOS ONLY ☑ SCHEDULED AUTOS ☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY	✓	✓	MWTB 312910	3/1/2023	3/1/2024	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$ 5,000,000 $ $ $ $
B	☐ UMBRELLA LIAB ☑ OCCUR ✓ EXCESS LIAB ☐ CLAIMS-MADE ☐ DED ✓ RETENTION $ N/A	✓	✓	EXS 2000809	3/1/2023	3/1/2024	EACH OCCURRENCE AGGREGATE $	$ 20,000,000 $ 20,000,000 $
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N: N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	✓	MWC 312908 MWXS 312909 MWFEX 312928-FL MWXS 316021-CA USL&H & Jones Act StopGap	3/1/2023 3/1/2023 3/1/2023 3/1/2023	3/1/2024 3/1/2024 3/1/2024 3/1/2024	✓ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 5,000,000 $ 5,000,000 $ 5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Bidding Project: Peace River Regional Reservoir No. 3 (PR3) Pumping and Conveyance Facilities
RE: Evidence of Coverage

CERTIFICATE HOLDER

The Peace River Manasota Regional Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch FL 34202

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Philip G. Dehn

Not in Page Count

SCHEDULE OF OTHER POLICIES

DATE ISSUED
8/3/2023

NAMED INSURED:

Kiewit Infrastructure South Co.
5405 Cypress Center Dr., Ste. 210
Tampa FL 33609

CERTIFICATE HOLDER:

The Peace River Manasota Regional Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch FL 34202

Type of Insurance	Insurer - NAIC No.	AI	SW	Policy Number	Eff / Exp	Limits
Equipment / Property	XL Insurance America, Inc. - 24554 ACE American Insurance Co - 22667 National Union Fire Ins. Co. of Pittsburgh PA - 19445			US00063521CA21A D37400397 008 0207 871 10	8/15/2022 8/15/2023	$50,000,000

Not in Page Count

REQUIRED FORMS

SWORN STATEMENT

E-VERIFY AFFIDAVIT

SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1) This sworn statement is submitted to PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY by Timothy J. Cleary Senior Vice President
(Print individual's name and title)

for Kiewit Infrastructure South Co.
(Print name of entity submitting sworn statement)

whose business address is 450 Dividend Drive, Peachtree City, GA 30269

and (if applicable) its Federal Employer Identification Number (FEIN) is 47-0530367
(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____).

2) I understand that a "public entity crime" as defined in Section 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid, statement of qualifications, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Section 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an "affiliate" as defined in Section 287.133(1)(a), Florida Statutes, means:

a) A predecessor or successor of a person convicted of a public entity crime; OR

b) An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Section 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. **(Indicate which statement applies.)**

_X_ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives,

Not in Page Count

partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. **(Attach a copy of the Final Order.)**

I UNDERSTAND THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES, FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

Timothy J. Cleary 8/16/2023
(Signature) (Date)

STATE OF Georgia

COUNTY OF Coweta

The foregoing instrument was acknowledged before me by means of ☒ physical presence or ☐ online notarization, this 16th day of August, 20 23 by Timoth J. Cleary as Sr. Vice President of Kiewit Infrastructure South Co., a Construction company organized under the laws of the State of Delaware, on behalf of the company, who is personally known to me or has produced N/A as identification.

JESSICA WOLFE
Notary Public, Georgia
Coweta County
My Commission Expires
January 27, 2024

Jessica Wolfe
Notary Public

Jessica Wolfe
Name typed, printed or stamped

My Commission Expires: 1.27.2024

Not in Page Count

Contract Holder E-Verify Registration and Affidavit

As provided in Section 33 of the Agreement, pursuant to Section 448.095, Florida Statutes, beginning January 1, 2021, Contract Holder shall register with and use the U.S. Department of Homeland Security's E-Verify system, (https://e-verify.uscis.gov/emp) to verify the work authorization status of all Contract Holder employees hired on and after January 1, 2021. Additionally, Contract Holder shall require all sub-Contract Holders performing work under this Agreement to use the E-Verify system for any employees hired on and after January 1, 2021. Contract Holder must provide evidence to the Authority of compliance with Section 448.095, Florida Statutes, prior to entering the Agreement.

Affidavit

I hereby certify that Kiewit Infrastructure South Co. (Contract Holder) does not employ, contract with, or subcontract with any unauthorized aliens, and is otherwise in full compliance with Section 448.095, Florida Statutes.

All employees hired on or ager January 1, 2021, have had their work authorization status verified through the E-Verify system.

A true and correct copy of Kiewit Infrastructure South Co. (Contract Holder) proof of registration in the E-Verify system is attached to this Affidavit.

Timothy J. Cleary 8/16/2023

Signature Date

Timothy J. Cleary

Print Name

STATE OF Georgia

COUNTY OF Coweta

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 16th day of August, 20 23 by Timothy J. Cleary (name of officer or agent, title of officer or agent) of Kiewit Infrastructure South Co. (name of Contract Holder company acknowledging), a Delaware (state or place of incorporation) corporation, on behalf of the corporation. He/she is personally known to me or has produced

n/a (type of identification) as identification.

Jessica Wolfe

Notary Public

JESSICA WOLFE
Notary Public, Georgia
Coweta County
My Commission Expires
January 27, 2024

Jessica Wolfe

Name typed, printed or stamped

My Commission Expires: 1.27.2024

Not in Page Count

Company ID Number:40635 Client Company ID Number:1348363

If you have any questions, contact E-Verify at 1-888-464-4218.

Approved by:

Employer Kiewit Infrastructure South Co.	
Name (Please Type or Print) Lynda Hartman	Title
Signature Electronically Signed	Date October 07, 2018
E-Verify Employer Agent LawLogix Group, Inc.	
Name (Please Type or Print) Marcos Medina	Title
Signature Electronically Signed	Date October 07, 2018
Department of Homeland Security – Verification Division	
Name USCIS Verification Division	Title
Signature Electronically Signed	Date October 07, 2018

Not in Page Count

Statement of Qualifications
Construction Management
at Risk Services

PEACE RIVER REGIONAL RESERVOIR NO. 3 (PR3) PUMPING AND CONVEYANCE FACILITIES PROJECT

August 17, 2023

PCL
CONSTRUCTION

Table of Contents

CONSTRUCTION

SECTION 1

Transmittal Letter

August 17, 2023

Mike Coates, Executive Director
Peace River Manasota Regional Water Supply
procurement@regionalwater.org

Response to SOQ: CMAR Services for PR3 Pumping and Conveyance

Dear Mr. Coates,

PCL Construction, Inc. (PCL) is proud to present our SOQ for the Peace River Manasota Regional Water Supply Authority (Authority) for CMAR Services for Peace River Regional Reservoir No. 3 (PR3) Pumping and Conveyance Facilities as part of the Surface Water Expansion Project (SWEP).

Company History

117 YEARS IN BUSINESS

The PCL family of companies began doing business in 1906 and now has more than 4,800 employees. PCL Construction, Inc., is a corporation and is a wholly-owned subsidiary of PCL Infrastructure Management, Inc., which in turn is a wholly-owned subsidiary of PCL Construction Enterprises, Inc.

PCL Construction, Inc. is corporately chartered in Denver, Colorado. The Civil Infrastructure Division is headquartered in Tempe, Arizona, with additional offices in Florida, California, and Colorado.

Our proposed project team primarily operates out of our full-service office in Tampa, Florida. We are a 100% employee-owned company, which means Peace River will be working with fully invested individuals who are passionate about the work we do and the service we provide to our clients.

PCL Construction, Inc.
1 North Dale Mabry Highway, Suite 300
Tampa, FL 33609
P: 813-425-1440 **www.pcl.com**

TOGETHER WE BUILD SUCCESS

Point of Contact
Jim Holtje, PE
813-425-1447
jholtje@pcl.com

Physical/Mailing Address
1 North Dale Mabry Highway, Suite 300
Tampa, FL 33609

Principals & Partners

- *President: Mike McKinney*
- *Vice President/District Manager: Richard Hewitt*
- *Secretary/Treasurer: Shawn Britton*
- *Area Managers/Authorized Signers: Jim Holtje, PE, Ankur Talwar*
- *Authorized Signers: Mauricio Ramos, Jeff Newman*

Business Philosophy

PCL's philosophy is to provide added value to the Authority, our client, and realize the benefit of collaborative project execution. The success of a CMAR project depends heavily on the amount of effort invested during preconstruction, which is why we focus so much of our time and energy during preconstruction to get it right.

Over the past 37 years, PCL has constructed $8 billion in water and wastewater infrastructure projects, which includes more than 180 CMAR projects, nationwide.

By using the CMAR delivery method, the Authority retains control to ensure that PCL can give you exactly what you want throughout the GMP development phase.

CONSTRUCTION

TOGETHER WE BUILD SUCCESS

A CMAR contractor's responsibility during preconstruction goes much further than just providing cost estimates to the owner at each design milestone. The intent of the preconstruction phase is for the project team to focus on delivering maximum value to the project by collaborating on important issues such as cost, constructability, value engineering (VE), quality, safety, operational considerations, and project schedule. Additionally, material sourcing, managing long lead times, and mitigating price escalation are paramount to delivering a successful project. PCL will work with the designer to identify early procurement packages and ensure timely material deliveries with the utmost level of cost control.

We are focused on finding the best way forward and elevating your vision of success. PCL has a long history of proven performance, helping clients of all sizes solve unique and complex challenges. Our goal is to provide the Authority with a high-quality outcome, an aggressive fast-track schedule, and the highest level of communication while ensuring safety for all.

Statement Regarding Interest in Project

PCL is excited about the opportunity to become your trusted CMAR partner for the PR3 Pumping and Conveyance project. **We have constructed over 1500 MGD of total pump station capacity totaling more than $924 million, including 21 pump stations that were over 10 MGD.** PCL has readily available, local staff, with schedules aligning with the start of this project. We are familiar with the regional geography and local regulations from our six ongoing projects within the Authority's member governments.

PCL's vast CMAR experience and proven partnerships with HDR and Hazen make PCL the right choice as the Authority's CMAR contractor. Our proposed project team has already started working on solutions to the challenges that lie ahead, and we are looking forward to collaborating with the Authority, HDR, and Hazen to make the Authority's PR3 Pumping and Conveyance project a tremendous success.

Sincerely,

Jim Holtje, PE
Principal-in-Charge

PCL BY THE NUMBERS

70%
SELF-PERFORM CAPABILITIES

400+
WATER/ WASTEWATER PROJECTS TOTALING **$8 BILLION**

$2.5 BILLION
WATER/ WASTEWATER, **CMAR** PROJECTS

4,800+
FULL-TIME EMPLOYEES

Uniform Guidance & Davis Bacon

PCL will be in compliance with provisions as detailed in 2 C.F.R. Part 200 (Uniform Guidance), including the required contract clauses detailed in 2 C.F.R. Part 200, Appendix II and Federal Labor Standards Provisions (Davis-Bacon and Related Acts 29 C.F.R Parts1, 3 and 5). Many of our team members have experience working on projects with these requirements and we can effectively navigate these programs to keep your project in full compliance.

CONSTRUCTION

Delegation Letter of Authority

TOGETHER WE BUILD SUCCESS

Minutes of Annual Shareholder Meeting

PCL CONSTRUCTION, INC.

An annual shareholder meeting of PCL Construction, Inc., a Colorado corporation, was held at 10:15 a.m. MST on the 1st day of February 2023 by telephone conference.

The President and Secretary of the corporation acted respectively as Chairman and Secretary of the meeting.

The Chairman called the meeting to order and the Secretary presented a duly authorized proxy allowing D. L. Brown to vote on behalf of PCL Infrastructure Management, Inc., the only shareholder of the corporation.

Upon a motion duly made in writing from D. L. Brown and approved, the following directors were nominated and elected to hold office until the next annual shareholder meeting or until they cease to hold office or are removed according to the corporation's bylaws:

D. L. Brown
M. A. McKinney
R. Hewitt

The financial statements of the corporation for the year ended October 31, 2022 and Management Letter had been previously presented to the shareholder and were approved.

The public accounting firms of K Financial and KPMG are appointed as external auditors of the corporation.

There being no further business to come before the meeting, upon motion duly made and passed, the meeting adjourned.

Mike McKinney

M. A. McKinney, President

Attest:

S. W. Britton, Secretary/Treasurer

PCL Construction, Inc.
1 North Dale Mabry Highway, Suite 300
Tampa, FL 33609
P: 813-425-1440 **www.pcl.com**

CONSTRUCTION

TOGETHER WE BUILD SUCCESS

Minutes of a Meeting of
the Board of Directors of
PCL CONSTRUCTION, INC

A meeting of the Board of Directors of PCL Construction, Inc., a Colorado corporation, was held at 10:20 a.m. MST on the 1st of February 2023 by telephone conference.

The undersigned, constituting all of the Directors of PCL Construction, Inc., a Colorado corporation, adopt the following resolution pursuant to the authority of Colorado General Corporation Law:

Resolution: That the following persons be appointed officers and authorized signing authorities of the corporation. Such authority shall extend to the opening and closing of corporate bank accounts when two such signatures are present. The appointments shall be for the ensuing year or until their successors are designated:

President	M. A. McKinney
Vice President/District Manager	R. Hewitt
Secretary/Treasurer	S. W. Britton
Area Manager/Authorized Signer	J. Holtje
Area Manager/Authorized Signer	A. R. Talwar
Authorized Signer	J. Newman
Authorized Signer	M. Ramos

Resolution: That the financial statements of the corporation for the fiscal year ended October 31, 2022 and Management Letter, were reviewed and approved.

Resolution: That the following persons shall be appointed Authorized Banking Agents for the purposes of administering the controlled disbursement banking functions with Wells Fargo and UMB Bank, which the Company participates in, where two signatures are required for opening and closing bank accounts, account service changes, account disbursements, and other activities as more particularly described in the bank service agreements:

M. J. Kehoe
T. E. Kijanka
K. L. Tartler
C. S. Allison

Resolution: M.J. Kehoe, E. H. Iverson, and C. Thorkelsson, are hereby appointed Authorized Income Tax Agents for the purposes of administering, filing and signing income tax related documents on behalf of the corporation and its affiliates.

Resolution: The memo titled Legal Obligations & Protections of Directors and Officers, was reviewed and accepted. The corporation will distribute this memo to all new officers and directors of the corporation.

Resolution: D. L. Brown is hereby appointed Chairman of the Board.

These resolutions are effective on February 1, 2023.

D. L. Brown, Director

M. A. McKinney, Director

R. Hewitt, Director

SECTION 2

General Approach

APPROACH FOR MANAGING AND PERFORMING PRECONSTRUCTION AND CONSTRUCTION PHASE SERVICES

PCL brings a project-first commitment to this project. With more than 37 years of successful CMAR delivery for water and wastewater infrastructure projects, our preconstruction approach starts with early collaboration with the design team focused on planning each step through successful start-up and commissioning.

We also place heavy emphasis on phasing, sequencing, bypassing, and maintenance of plant operations (MOPOs) through in-depth interaction with plant staff to shape our overall approach.

Efficient and well-coordinated construction ensures the plan and budget created during the preconstruction phase is executed in the procurement and construction phases.

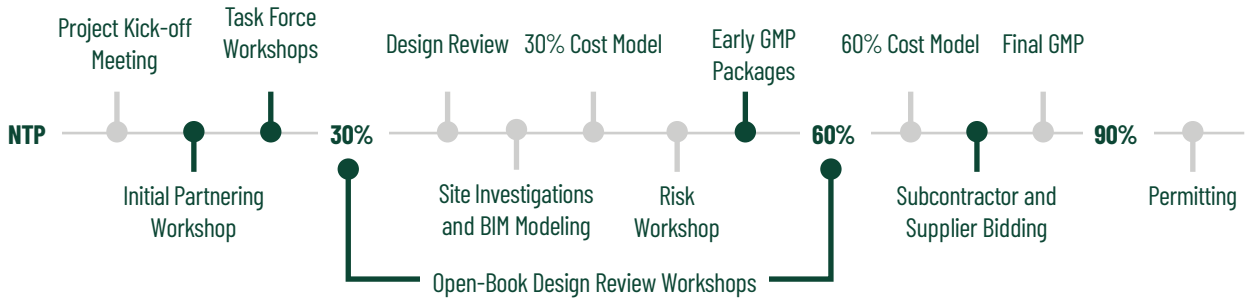
The following pages describe several of the services we will provide the Authority throughout the preconstruction and construction phases, as highlighted in the graphic below.

The success of a CMAR project depends heavily on the amount of effort invested during preconstruction.

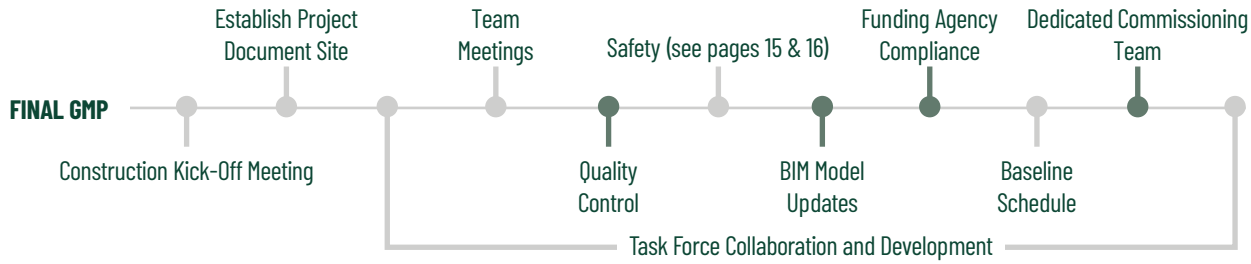
Benefits of our approach to Preconstruction

- **Early alignment on project goals**
- **Evaluation of options to reduce cost and provide best value**
- **Early cost certainty**
- **Reduced risk for the overall project**

PRECONSTRUCTION PHASE SERVICES



CONSTRUCTION PHASE SERVICES



KEY FACTORS FOR SUCCESSFUL CMAR DELIVERY

Self-Performance: PCL is capable of performing up to 70% of critical scope items, which means we can manage all activities on the contract under a single point of responsibility. This enables us to provide date-certain delivery, directly control costs, eliminate double mark-up, maintain the schedule, control slippage, and implement in-house risk mitigation strategies to avoid risks altogether.

Established Team: Our construction team has worked together for years. Those internal relationships allow us to rapidly resolve issues on the fly and provide price- and date-certainty.

Real Time Cost Modeling: The CMAR method provides the advantage of real-time cost modeling and cost certainty during the design phase. A detailed, accurate cost model is key for delivering within the project budget. PCL's construction cost estimating expertise allows us to provide a high level of cost certainty. Our project team has a proven track record delivering highly accurate estimates early in design and has consistently been able to drive project costs down through our preconstruction efforts.

Our customized BEST Estimating system gives you access to up-to-date costing from across North America, with a database of internal cost history. We will work closely with the Authority, HDR's and Hazen's design teams, and our industry partners to develop accurate cost models to solidify our pricing early, giving you cost certainty.

PCL's unique Power BI interface provides real-time data throughout cost model development. The project team can see how VE concepts, design changes, and other contingencies are affecting the overall project budget projections. Once a GMP is established, we develop a budget in PM4+, where we track costs, labor productivity, contingency management, equipment utilization, and other components to forecast the final monthly cost.

> *Power BI software allows for real-time, collaborative updates to help the Authority and PCL make price-informed, best-value decisions related to material, process equipment and subcontractor selections.*

Two GMPs: Two Guaranteed Maximum Price (GMP) packages will be developed to expedite the final permit package and construction sequencing of the project. We will coordinate with the Authority on the critical dates and milestones for the project and will participate in the 100% design constructability review phase, permit approvals, procurement, and operations concerns.

- **GMP #1:** Revised cost estimates at 60% and long lead equipment (early procurement)
- **GMP #2:** Final GMP at 90%

TIME SAVING APPROACHES OR TECHNOLOGIES

PCL uses the latest construction technology to ensure efficient communications and streamlined processes to monitor the schedule and costs so that we deliver a high-quality project on schedule and within budget.

The success of every CMAR project is determined by maximizing three major factors: cost, schedule, and quality. PCL goes beyond just constructability and clash detection by using both 3D and 4D modeling to plan, coordinate the schedule, and deliver a higher quality project.

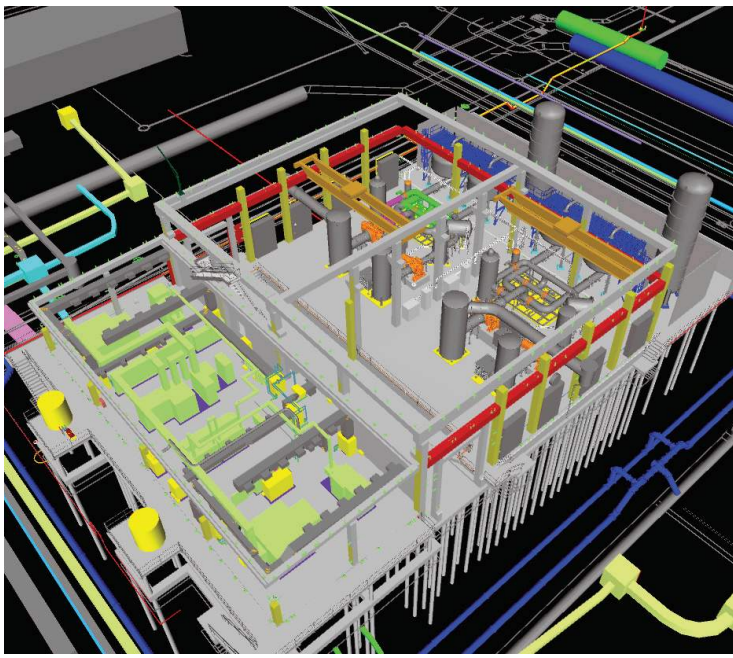
TIME SAVING TECHNOLOGIES AND APPROACHES

- **PM4+** incorporates change management, equipment management, labor productivity analysis, and RFI tracking.
- **BIM Modeling,** on tablets used in the field, provides coordinated information to ensure design integrity and a high level of quality control while reducing RFIs and change orders.
- **4D Scheduling** integrates with 3D models to quickly visualize progress.
- **Design and Estimating Dashboards** provides a visual overview for the status of design and costing.
- **Drones** are used for photos, mapping, surveying, and tracking field quantities.
- **LiDAR** creates a 3D model from existing conditions to provide an accurate, quality design.
- **Robotic Total Stations** are used to tie existing conditions to the 3D model for accuracy.
- **StructionSite Photo Documentation** tracks progress by comparing 360-degree photos of the site.
- **Virtual Reality (VR) Reviews** allow a client to walk through a project to see how it feels/fits.
- **QR Codes** are used for equipment and asset management, site visitor check-ins, and more.

PM4+ is our centralized construction management system that supports best practices in project management using a single, integrated, and robust enterprise solution.

With PM4+, our team can:

- **Confirm adherence to contract requirements.**
- **Administer project correspondence.**
- **Track progress.**
- **Manage costs.**
- **Manage risk.**
- **Manage quality.**
- **Manage subcontractors.**
- **Manage design evolution through preconstruction services.**



Using BIM modeling at the Miami-Dade Oxygen Production Facility helped control quality and expedite the schedule.

PHASE I PRECONSTRUCTION SERVICES

Serving Peace River Manasota Regional Water Authority (Authority) as the Construction Manager at Risk, PCL offers valuable expertise when it comes to costs, scheduling, and delivery methods, saving you time and money. Our approach for this project is to partner with HDR's and Hazen and Sawyer's (Hazen) design teams from day one to incorporate CMAR best practices. Through constructability reviews, accurate cost modeling, detailed schedules, and efficient construction sequences, PCL's streamlined approach eliminates redundancies and increases efficiencies using core project management tools.

Starting in Phase I (Preconstruction Services), key members of our project team will participate in constructability reviews, work with the estimating team, and manage project sequencing, material handling, and work plans for the major elements of the project. Our team will prepare a detailed work plan and schedule to ensure the project's timely completion within the project budget.

PCL's project manager will ensure the project meets or exceeds the Authority's objectives for safety, quality, and schedule. The PM will compile a written project execution plan that includes detailed sections on team organization, site logistics, and execution of the detailed work plans associated with major work activities. This plan, combined with our P6 schedule, will provide valuable assistance in the decision-making process and support the project manager's ability to keep the project progressing on track.

The importance of planning and scheduling is shown through the completion of MOPO plans. PCL will review these plans with your operations staff and track each shutdown and tie-in on our P6 schedule.

The CMAR process allows the opportunity for the Authority to strategically use contractual flexibility to assist with date-certain delivery. This could result in early equipment orders or moving forward with crucial in-field activities that can help to expedite the schedule and provide you with better schedule certainty. In addition, we can also bring on major subcontractors early to avoid delays.

Craig Yakubow,
Preconstruction Manager

Q: Is CMAR the ideal approach for this project? What makes PCL's approach to preconstruction different?

A: The CMAR delivery method is ideal because it achieves early contractor involvement and assigns all of the risk to the party that is best equipped to manage it while keeping you in control of the outcomes. As a self-perform contractor, we can provide more value during constructability reviews and value engineering. With our real-time, open-book cost modeling, we can provide a high level of cost certainty even in the early stages of design, giving our clients confidence in critical design decisions early in the CMAR process.

PCL agrees to all the terms and conditions in the draft CMAR agreement. We recognize and appreciate the incorporation of the Water Collaborative Delivery Association (WCDA) standards in this well-defined contract. In fact, PCL is an active member of WCDA and regularly attends meetings. Additionally, Dixie Lamoureux is on the Florida state board for the Design-Build Institute of America (DBIA). Based out of PCL's Tampa office, she's able to support the coordination of the team for all collaborative delivery projects.

Water Collaborative Delivery Association
Better Projects, Together.

DBIA
DESIGN-BUILD INSTITUTE OF AMERICA

PHASE II CONSTRUCTION SERVICES

PCL's successful execution will center around two important elements: a commitment to collaboration and team continuity. We have found through our experience in CMAR delivery that a collective commitment to collaboration and continuity of the project team, between both the preconstruction and construction phases of the project, are imperative for a successful project. The same personnel who help develop value engineering, constructability solutions, and price models during preconstruction will be the same personnel who successfully execute those ideas during construction.

As the project moves into the construction phase, PCL will mobilize the construction team to the project site and begin executing the work. PCL's project manager will take the lead on collaboration with the Authority and the engineers to ensure the work is executed in accordance with all stakeholders' expectations and the contract requirements. This effort ranges from PCL's project engineer working with the design engineers in development of the project's 3D BIM model, to PCL's superintendents coordinating with the Authority to review operational considerations, such as orientation and positioning of valves for ease of access.

Project Management

A key component of PCL's project management approach involves proactive management of subcontractors and suppliers. Once contracts are awarded, PCL's project team immediately engages our subtrade partners to begin coordination of their work. This is critical in the early stages of the project to ensure submittals and procurement activities are completed on time and do not delay progress of the field work. As construction progresses, coordination transitions to the field with continuous interaction between PCL's superintendents and subcontractors' field supervision to coordinate work activities. The high level of coordination is maintained in the commissioning phase as our commissioning and start-up manager works with representatives from the equipment suppliers to get the pump stations up and running.

Aaron Tomita,
Project Manager

Q: From your experience as a project manager and program director, how do you plan ahead for future work?

A: We build our team for continuity, accountability, and efficiency. Key construction staff are included during design and vice versa. By involving these staff throughout all phases, valuable insight can be shared and considered in the decision-making process to avoid surprises. We review upcoming projects and implement decisions to align with them and to allow seamless integration.

Startup and Commissioning, Acceptance Testing, Training, and Close Out

PCL knows how critical the start-up and commissioning design, planning, and implementation is to the Authority. PCL's unsurpassed experience of construction experts will work alongside your staff, HDR and Hazen, to design, optimize, plan, and implement a comprehensive and well-thought-out commissioning program that will ensure seamless integration. PCL's step-by-step start-up and commissioning process has proven to be instrumental in ensuring a smooth start-up.

1 PLANNING
MANUFACTURER CERTIFICATION OF INSTALLATION

After PCL installs the equipment, each manufacturer field-verifies that their specific devices meet the criteria for the required warranties and that the integrated systems operate correctly. The inspector observes this phase and, except for the specific Factory Acceptance Test (FAT) items, the design engineer confirms this phase.

2 TESTING
OPERATIONAL TESTING AND STARTUP

A continuous 10-day test is performed. The 10-day test is defined as 240 hours of continual operation without any system or component failure. The 10-day test also provides the appropriate break-in of the pumps, SCADA system verification, communications, plumbing and mechanical systems, and power systems, etc. Upon successful completion of Step 2, PCL will schedule an appointment with the Authority to provide station-specific training, transfer access, operational control, and the acceptance of live flows into the new station.

3 STARTUP
ACCEPTANCE

Appropriate signatures, approvals, and documentation are provided to the Authority. Every item that is included on the checklist, for each phase, must be completed and accepted prior to advancing to the next phase. This may also include any site-specific items not on the checklist, but part of the design and plans. PCL will keep a project binder containing the original checklist, certificates, test results, and other pertinent information onsite and accessible to all Authority personnel at all times. PCL has a long history of creating these checkout folders in-house, and our industry knowledge is second to none on process functionality testing.

4 COMMISSIONING
TRAINING AND COMMISSIONING

PCL is dedicated to training the personnel who will be maintaining the pump stations. Start-up technicians will present the diagrams, specifics of the station, terms and definitions, and purposes for smaller, lesser-known components.

After the presentation, technicians lead the crew through a hands-on training at the pump station where they explain buttons, switches, labels, and indicators on the control panel. Technicians also explain what to check for maintenance troubleshooting. Before our technicians leave, they make sure that everyone knows who to call if problems arise.

CLOSE OUT

At the completion of steps 1, 2, 3 and 4, PCL will complete the closeout documents. These will combine all documents and information from the above steps and package them into a useful document for each system on the project.

CLOSE OUT DOCUMENTS

- Quality control documents completed during installation of work items
- All checklists and inspections completed during installation and inspection
- Acceptance testing of equipment and components
- Training of plant operators and staff
- O&M Manuals
- Testing reports (FAT and operational test results)
- Spare parts turnover
- Maintenance required and completed
- As-built drawings of all work completed

> *A successful start-up is an important landmark in a project. After a pump station has been successfully started, and personnel have been trained, it can be commissioned into service.*

COLLABORATIVE APPROACH

PCL's philosophy in project delivery is to provide added value to our clients, and realize the benefit of collaborative project execution with carefully selected partners. Our collaborative approach embraces Authority staff and the benefit of their wastewater treatment experience and knowledge of the Peace River facility.

PCL recognizes that the Authority is looking for an integrated team approach, and we have organized our team so that our key team members are involved in both phases of the project.

The success of any CMAR project is highly dependent on the ability of a team to work together. Our team's approach is to bring all stakeholders together to create a fully integrated team. Our team will work closely with the Authority to plan the project from beginning to end. This includes developing project goals and objectives, project-specific safety and quality plans, change management procedures, and a conflict resolution protocol/communication plan.

> "I have been very happy with the work performed by Chad and Aaron on Cholla WTP and their efforts to think outside the box to develop cost effective alternatives that meet our project needs."
>
> **RON SERIO,**
> CITY OF GLENDALE

WORKSHOPS AND MEETINGS

Over the last few years with the influence of COVID in our lives there has been a move to virtual meetings on projects. While this has proven beneficial to accessibility for meetings it loses some of the effectiveness of meeting in person. PCL will conduct virtual meetings when they apply but will also hold as many in person meetings as possible to build the collaborative culture required in a CMAR. Some of these key meetings are shown in the graphic below.

PROJECT KICK-OFF

Goals: Discuss project background, risk profile, identify key additional stakeholders, establish communication and decision-making protocol.

RISK REGISTER MEETING

Goals: All stakeholders discuss the project risks and evaluate how to assess, mitigate, or resolve these items.

PROGRESS MEETINGS

Weekly or Monthly meetings with the project team to align project goals, updates, and upcoming tasks.

MILESTONE & PRICE MODEL MEETINGS

These are held at major milestones such as 30%, 60%, 90% submittals. Price modeling is discussed and approved at these meetings and as needed. Upcoming tasks are finalized and goals are tracked to uphold the schedule.

PAGE FLIPS

Meetings with operations and maintenance staff are the key to providing the ability to fine tune the small details that make large quality of life improvements.

EXTERNAL AGENCIES

Monthly meetings take place with external agencies to review project progress. These agencies include PRECO, FDOT, and public outreach.

> *These key meetings and workshops take place on PCL's CMAR projects as a cornerstone of success.*

RISK MANAGEMENT

PRECONSTRUCTION

HOW WE DO IT: Through regular risk discussions, the team becomes more attuned to identification of, mitigation/elimination of, and how to respond to project risks.

HOW IT SAVES TIME: Risk elimination saves time on a one-to-one basis. By identifying or scheduling time for responses to potential impacts, the overall schedule can be greatly reduced.

HOW IT SAVES MONEY: Risk elimination through identification and mitigation saves the project cost on a one-to-one basis.

PINELLAS W.E. DUNN FILTRATION PROJECT: The team leveraged market timing and economies of scale to provide extensive value to the County by expanding the filtration scope to maintain compliance with future projected flows. This innovative system eliminated the need for a risky and costly bypass pumping system. By leveraging our diverse experience with critical MOPOs, PCL can save money and help mitigate project risks.

PROJECT KICK-OFF AND INITIAL PARTNERING WORKSHOPS

For a collaborative team approach and to align the team on a shared vision for operational success, PCL will host a partnering workshop with the Authority, your operations and maintenance (O&M) staff, HDR, and Hazen, focused on gaining O&M insights and understanding stakeholder objectives.

During the design phase, Project Manager Aaron Tomita and Preconstruction Manager Craig Yakubow will work with Lead Estimator Yaakov Welner to price all design options—specifically, the pump station and road crossing components and controls—to ensure that the Authority obtains the best possible value for each dollar spent.

The PCL project team will focus on seamless coordination between design and construction throughout the project. Two key items to this seamless interface are: 1) Continuity of the project team and 2) Focusing on the Authority's preferences and the specific issues of the PR3 Pumping and Conveyance Facilities.

Aaron will work with the design team during the design phase to ensure that all potential constructability issues are identified and resolved prior to the start of actual construction. They will analyze installation schedules, material and equipment lead times, and existing operational considerations.

OPEN BOOK DESIGN WORKSHOPS

To maximize value at each design phase milestone, we will host open-book design review workshops to refine key design/constructability issues, temporary and permanent construction activities, and subcontractor and vendor packages, and evaluate other strategies to reduce construction cost and schedule.

TASK FORCE WORKSHOPS

To further establish trust and confidence with your O&M staff and design team, we will hold a series of workshops led by our dedicated task force teams.

Maintenance of Plant Operations (MOPOs)

During preconstruction, we will identify all major MOPOs and meet with the Authority's O&M staff to develop an execution plan detailing affected process units, valves to be isolated, process units in service, time constraints, process unit constraints, and electrical and controls constraints.

During construction, PCL will develop these plans into a full submittal for Authority approval, followed by a plant walk-through two weeks prior to shutdowns to confirm the plan with your O&M staff. The day before execution, we will do a detailed walk-through with O&M staff of every valve, switch, process unit(s), and associated electrical and controls (as applicable), and confirm responsibilities for the MOPO execution.

SCHEDULE DEVELOPMENT

PRECONSTRUCTION

HOW WE DO IT: PCL's schedule development implements technologies that ensure a comprehensive approach that breaks down tasks and allows the team to identify and focus resources on the critical tasks throughout the project.

HOW IT SAVES TIME: We quickly optimize critical resources, reducing downtime, and mitigating the risk of project delays.

HOW IT SAVES MONEY: Using Primavera P6 makes scheduling more effective and allows for improved resource efficiency and identifying/ mitigating project delays - all of which significantly reduces cost overruns.

GT LOHMEYER WWTP OXYGEN SYSTEM DESIGN-BUILD PROJECT: PCL separated the permitting of the project into two parts: the foundation package and the facility package. Developing these packages in parallel allowed for the expedited release of work for permitting.

PCL will use Primavera P6 to develop the design and construction phase schedules in collaboration with the project team. These schedules include design milestones, permitting requirements, early process equipment selections, cost model deliverables/GMP submittals, project phasing, procurement, detailed construction activities, testing, start-up and commissioning, closeout, and final completion. These provide a comprehensive approach that involves a breakdown of work with various tasks, estimating the time required for each task, engaging with key subcontractors & suppliers, and identifying logical dependencies among these tasks.

PCL's scheduling process allows the project team to identify and focus resources on the critical tasks throughout the project. Through early detection, discussions with stakeholders, and resolving conflicts before they occur, we can reduce time and cost impacts and provide accurate financial forecasting.

COST ESTIMATING & COST CERTAINTY

PRECONSTRUCTION

HOW WE DO IT: PCL draws on proven processes, experienced teams, and a database of internal cost history while collaborating internally and externally to validate assumptions and clarify project goals.

HOW IT SAVES TIME: Iterative concept development and costing, transparent price modeling, and detailed design review meetings allows for free-flowing information between all stakeholders and keeps the schedule moving forward.

HOW IT SAVES MONEY: Using real-time material and subcontractor pricing updates allows the most cost-efficient design solutions to be established.

NORWOOD WTP REHABILITATION PROJECT: On the North Miami Beach Norwood-Oeffler Water Treatment Plant Project, PCL developed several early cost models which allowed the City to narrow down an alternative that best suited their budget and most critical project needs.

Along with a thorough understanding of the project's scope of work, the initial project cost model is used to provide an accurate estimate. The project team will verify that the initial cost model reflects the Authority's and design teams' project expectations. Cost model estimates are generally prepared at 30%, 60%, and 90% design milestones and cost variances are reconciled at each submittal. The GMP contract value will remain as is unless the Authority introduces additional scope.

PCL collaborates among subject matter experts, subcontractors, suppliers, and stakeholders to establish design optimization and budget efficiency. We maintain a design development log to proactively track and price program changes, alternate systems, cost modeling, and design creep. This will provide real-time pricing input to facilitate timely decision making by the project team.

OPEN BOOK TRANSPARENCY

PCL uses full open book price models that are submitted and reviewed in detail with the Authority as the design drawings are developed and progress from 30% through 100% design. Price certainty is enhanced when the contractor is involved during the design stage which allows the design to be developed in parallel with PCL's continuous pricing input. Real-time estimating provides accurate information on what price drivers exist as the design progresses. Our intention for this honest and transparent approach is for the Authority to have confidence that they are receiving the best value, and peace of mind that PCL's capable field crews are managing the highest-risk construction activities.

CONSTRUCTABILITY REVIEWS

PRECONSTRUCTION

HOW WE DO IT: PCL's "constructability focus team" will perform reviews at each design milestone, back-checking the documents to ensure changes have been incorporated.

HOW IT SAVES TIME: Making changes during preconstruction in lieu of the RFI process during construction eliminates potential construction delays and provides opportunities to advance the schedule.

HOW IT SAVES MONEY: Modifications during preconstruction leads to optimized construction, eliminates unknowns, and allows for lower costs of installation and materials costs.

ZONE 3D/4A BPS PROJECT: Our team developed several hundred constructability comments throughout the design process. PCL incorporated smaller cost savings ideas into the design, but also saved the client significant cost at the larger diameter tie-in locations. Our superintendent and lead constructability expert potholed the tie-in locations and suggested a reroute of the 66-inch bypass line that eliminated utility conflicts, reduced the overall length of pipe, and simplified the complexity of the actual tie-in.

To optimize the design for construction and reduce the risk of construction delays and cost overruns, PCL will work closely with the EOR to provide valuable feedback on resolving constructability issues.

As an experienced self-perform contractor, PCL has a deep understanding of how to build projects efficiently and cost-effectively. Our role is to propose changes to the design that would make it faster and more cost-effective to build, or propose alternative materials or construction methods.

During preconstruction, PCL develops a constructability "focus team" consisting of a project superintendent, preconstruction manager, and subject matter experts to thoroughly review the drawings and specifications at each design milestone. We compile our constructability comments on key focus areas, including sequencing, access needs, and MOPO, by using Bluebeam Studio and setting up a constructability review meeting with the HDR, Hazen, and the Authority. At each subsequent design milestone, our team back-checks the documents to ensure the current drawings and specifications incorporated the previously reviewed constructability comments.

A thorough constructability review during preconstruction eliminates potential conflicts and field issues that could impact the project schedule, such as utility relocations. In addition, our team will look for means and methods to expedite the schedule when it comes to the construction pour sequence and dewatering approach, for example.

By developing a thorough plan during preconstruction and communicating this plan to bidders, we can eliminate unknowns and uncertainty, thereby reducing costs.

VALUE ENGINEERING (VE)

PRECONSTRUCTION

HOW WE DO IT: PCL collaborates to analyze and optimize the project design and construction methods for cost savings without compromising function or quality during the preconstruction and construction phases.

HOW IT SAVES TIME: By streamlining decision-making, identifying issues early, and adopting faster construction methods or materials to avoid supply chain issues, the schedule impacts are greatly reduced.

HOW IT SAVES MONEY: VE allows for more efficient material usage, streamlined construction, and creating more competitive bidding opportunities for subcontractors and suppliers.

LAKE PLEASANT WATER TRANSMISSION MAIN PROJECT: PCL was very successful in providing VE for 40,000 feet of 78-inch line, saving hundreds of thousands of dollars by locking in steel pricing with early pipe procurement, as well as modifications to the pipe type, bedding details, and materials.

Our value engineering (VE) proposals are intended to lower costs and streamline the construction schedule, with a focus on improving operating efficiencies after construction. Through collaboration with the Authority and engineers, we can optimize the design and construction methods without compromising quality or functionality.

Our process includes identifying areas for improvement, conducting cost-benefit analyses, and involving stakeholders in decision-making. With a recent increase in supply chain issues, VE helps to mitigate these risks and save money. VE also provides greater savings by creating more competitive bidding opportunities for subcontractors and suppliers.

> *With early identification, owner direct purchases (ODP) can save the owner time and eliminate sales tax. By leveraging commercial terms of specialty equipment, procurement and delivery can be expedited and tax savings can be acquired by the Authority. PCL's MIEX Exchange Resin Plant and East WTP Improvements project included $3.4M in ODP, allowing additional scope to be reallocated within the original budget.*

LABOR COST REPORTING

CONSTRUCTION

HOW WE DO IT: PCL manages labor costs weekly using a labor production report that allows the team to make informed decisions to keep labor productions at or above target goals.

HOW IT SAVES TIME: Improving on labor productions has a direct correlation to not only savings in labor costs, but also schedule savings since the work is completed quicker than budgeted durations.

HOW IT SAVES MONEY: PCL will be able to provide savings to the Authority through the reduced amount of labor required to complete the work. The savings generated by this can allow more focus on other project needs or existing operational enhancements.

US 701 PEE DEE RIVER BRIDGES PROJECT: Project management developed a plan that focused around active management of labor costs. Buy-in from the entire team allowed the focus to shift from hitting target goals to exceeding them. This had a direct correlation to schedule and cost savings.

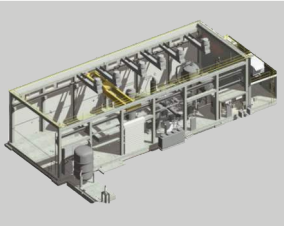
LONG LEAD EQUIPMENT PROCUREMENT

PRECONSTRUCTION

HOW WE DO IT: PCL identifies the long lead time items that could significantly impact the project schedule to ensure prioritization and early procurement.

HOW IT SAVES TIME: By ensuring on-time delivery of equipment, the project schedule durations can be met, avoiding potential delays or the need to choose alternative equipment. If the equipment is ahead of schedule, opportunities to accelerate the schedule are available.

HOW IT SAVES MONEY: Prioritizing long lead time items saves valuable work hours that would otherwise be spent on searching for alternatives due to the unavailability of originally specified equipment. Early procurement and prioritization effectively mitigates such challenges, streamlining the project's progress.



GT LOHMEYER WWTP VACUUM PRESSURE SWING ADSORPTION (VPSA) OXYGEN REPLACEMENT PROJECT: Our design-build team determined that a spare 400-amp breaker could be used to feed the VPSA building from an alternative power source to provide power to perform start-up of auxiliary systems prior to completion of the main power source. PCL was able to keep the project moving and complete approximately two months' worth of work instead of waiting for the permanent power source to arrive.

BEST VALUE APPROACH TO EARLY EQUIPMENT SELECTION

One of the many advantages of using the CMAR delivery method is that the Authority can use a best value approach to select the plant's new process and electrical equipment. PCL will hold equipment selection workshops with the project team to determine the best value by evaluating performance criteria, availability of spare parts, proximity of service centers, power consumption, staff familiarity, O&M requirements, and lead times for each manufacturer. This criteria will be weighed against pricing to ensure we select the best long-term solution for the overall plant and its operations, not just the cheapest option.

We proactively reach out to subcontractors or suppliers to obtain lead time information to ensure we can complete the project within the designated timeframe. Once the project is awarded, we maintain the same level of effort during the buyout and negotiation phase. Our focus is on prioritizing subcontracts and purchase orders related to long lead time items to expedite their release. PCL continues the prioritization efforts by expediting submittals and their review at the earliest stages to be able to release long lead time equipment as early as possible.

Our approach protects the project against possible force majeure events that could potentially impact the lead time of the equipment throughout the duration of the project and mitigating the need to look for alternative equipment.

> ***When equipment arrives early or on time, it allows the project to follow its original schedule and achieve all the projected milestones. PCL will ensure the project is delivered to the Authority on time and avoid any impact on the facility's operations and future/ongoing construction.***

CONSTRUCTION

SELF-PERFORMANCE & SUBCONTRACTOR MANAGEMENT

HOW WE DO IT: First, we assign the most qualified and experienced superintendents and foremen for the type of work they will be building. Next, we transfer, find, and hire experienced craft people specific for the work they will build. We build work plans and use the best processes to build the work safely, on time, and keep quality construction in the forefront throughout the process.

HOW IT SAVES TIME: By controlling critical scopes of work, PCL is able to easily and quickly supplement crews to optimize schedule performance and save time.

HOW IT SAVES MONEY: Having a good quality build, correctly installed will lead to the full efficiency of project resources. This will eliminate unplanned shutdowns, rework and disputes associated with poor craftsmanship. By self-performing, PCL is able to control these key aspects more effectively while simultaneously eliminating the double markup associated with subcontractors.

PCL's formalized subcontractor prequalification and selection plan requires prequalified subcontractors to competitively submit a proposal for a pre-determined bid package. Our bid packages assure that our subcontractors are bidding the same scope and allow for easy evaluation and selection.

Subcontractor Selection Process

- **Select subcontractors early** based on qualifications for preconstruction and qualifications and price for construction.
- **Define subcontractor bid package** as design progresses based on qualifications and price, prepare preliminary bid packages for design.
- **Develop detailed bid packages** with defined scope of work and provide each prequalified subcontractor with a Subcontractor Pricing Proposal Form.
- **Evaluate each proposal** and establish total score based on a weighted point system.
- **Award contract** to the subcontractor who receives highest score for each bid package.
- **Make final scoring of bid packages available** to each subcontractor that submitted but was not awarded.

CASE STUDY

Tampa Bay Water Brandon Booster Pump Station
Brandon, Florida

PCL created a bid package for all scopes of work on Tampa Bay Water's first CMAR project valued at $15 million. This booster station is critical to maintaining the supply of potable water to Southern Hillsborough County. PCL advanced the schedule by eight months compared to traditional hard-bid methods. This schedule advancement resulted in savings on escalation estimated around $1M by locking in the pricing earlier.

During the design phase, the demand outpaced projections, resulting in further need to bring the system online sooner. The CMAR team was able to design, procure, and install a temporary pumping system to function until the permanent booster station came online, gaining another six months on the schedule.

QUALITY CONTROL

CONSTRUCTION

HOW WE DO IT: The PCL quality control program is systematic and based on the Army Corps of Engineers 3-step process: planning/preparatory phase, initial inspections, and final inspections.

HOW IT SAVES TIME: Proper planning of the work, early identification of deviations, and prompt root cause-based corrective actions prevent and reduce rework and non-conformances which streamlines the schedule.

HOW IT SAVES MONEY: Furthermore, a strong quality program leads to a high sense of craftsmanship and further amplifies labor efficiency and lower labor costs.

OFFSTREAM RESERVOIR PUMP STATION PROJECT: Tampa Bay Water's deep vertical turbine pump stations at the Offstream Reservoir and Pump Station factor in ease of maintenance and are built to last for decades. PCL will deliver the same level of quality for Peace River Manasota Regional Authority.

PCL identifies key features of the project early and plans the work with the Authority, designers, our field forces, and trade partners. We perform first-work mockups, as well as regular inspections throughout the project to identify any deviations from the contract specifications or quality standards. PCL uses software tools to monitor project progress, identify potential issues in real-time, and track the resolution of any issues with a focus on the root cause so that our prompt corrective actions can be the most effective.

PCL's proactive and root cause approach to deviations eliminates costly rework, which saves the Authority money and helps us meet your schedule.

> *Rework is a costly and hazardous waste of resources, and non-conformances create a risk to the successful performance of the project. PCL's goal is to "Build it Right and Build it Once." We eliminate rework so time is not wasted completing the same scope more than once.*

BUILD IT RIGHT BUILD IT ONCE

During construction, Aaron will ensure that the efforts from preconstruction are coordinated with construction and the GMP. He will serve as a central hub of communication between the engineer of record, O&M staff, external stakeholders, and the construction team.

The PCL Team will foster and build upon our collaborative relationship with the Authority throughout the project so that our work together is based upon trust, dedication to common goals, and an understanding of each other's individual expectations and values.

It is fundamental that we establish a process for promoting collaboration and adhere to it through all project phases. Our experience has proven the following factors are necessary to promote successful project collaboration:

- Garnering executive support and participation.
- Creating a collaborative culture from project start.
- Modeling collaborative behavior through listening and flexibility.
- Engaging team leaders who are both task- and relationship-oriented.

HEALTH, SAFETY & ENVIRONMENT

PRECONSTRUCTION

HOW WE DO IT: PCL gets craft employees and subcontractors involved early and often. Our Hazard Identification and Control processes are developed by communicating and engaging with all employees to ensure we have the best possible plan to keep our employees safe.

HOW IT SAVES TIME: Promoting PCL's safety culture leads to fewer or zero injuries and efficient work practices which keep the schedule moving forward.

HOW IT SAVES MONEY: When PCL plans out the work in great detail we avoid injuries, provide quality work, and finish ahead of schedule. Beyond our duty to keep employees safe, the end result of a safer jobsite is less expensive labor costs.

LIFT STATION 87 STRUCTURE PROJECT: PCL's Hazard Identification and Control processes created a safe and successful project with work spanning 1,000+ days that include 150,000 PCL/Subcontractor worker hours, with ZERO recordable injuries.

TARGET ZERO INCIDENTS

Safety is a core value and an integral part of the culture at PCL. Our project teams' focus on safety is present within every aspect of our project execution, from the field to the office. Our safety culture is based on the concept that all accidents and incidents can be prevented. Every employee shares this belief and incorporates this attitude into their daily work practices. Our goal is zero incidents, and we work continuously to lead the industry in developing new and innovative safety practices to help us achieve this objective.

Safety

PCL and Subcontractor Safety Records

A contractor with a lower EMR has a direct benefit to the Authority as their workers' compensation rates are lower and therefore the cost of labor to complete the work is lower relative to another contractor with a high EMR.

INDUSTRY AVERAGE

1

.52

PCL CONSTRUCTION

PCL'S SAFETY RECORDS	2022	2021	2020
EMR	0.52	0.62	0.76
OSHA TRIR	0.38	.69	0.78
OSHA LTIR	0	0	0

SUMMARY OF CORPORATE SAFETY PROGRAM

Our safety program is based on a philosophy of line management taking a proactive approach in identifying and controlling work place hazards. Management is responsible for planning, implementing, and monitoring safety conditions through pre-job safety instruction, training, and inspection of the work environment. Eric Winders, CSPS, our safety manager, supports on-site project management, ensuring local, state, and Federal laws and client policies are followed. We will conduct site inspections and will assist in site safety meetings, training, and creating the site-specific safety plan.

The PCL safety program reflects our strong commitment to provide a safe and healthy work environment. Management is responsible for planning, implementing, and monitoring safety conditions through pre-job safety instruction, training, and inspection of the work environment.

While our safety record is consistently better than industry standards, we constantly strive for our goal of zero incidents on 100% of our projects.

SAFETY AWARD 2019

PCL's Civil Infrastructure Division won the 2019 Bob Tarr Safety Award, which symbolizes safety and environmental excellence within the PCL family of companies. The Bob Tarr Safety Award is presented each November to the PCL division that achieves the highest combined score based on the weighted categories of incident frequency, incident severity, inspections, audits, and criteria established by the Executive Review Committee. Protecting the health and safety of our people and trade contractors remains an instilled value throughout PCL, and our rigorous Bob Tarr audit process continues to advance our drive to a zero-incident future.

> *Safety signage at PCL sites stays up year-round and is sent to all project sites. This Safety Week banner at the Tampa Bay Water Brandon Booster Pump Station project helps to promote safety and serves as a constant reminder of safety protocols and practices. We empower our employees to act and enforce safety culture on each and every project.*

SECTION 3

Overview of Qualifications and Relevant Experience

PROVEN WATER/WASTEWATER INFRASTRUCTURE PROFESSIONALS

Attachment A: Key Personnel and Reference Project Table is included in the Appendix.

PCL prioritizes developing relationships built on trust through collaboration and team continuity. As a leader in water/wastewater infrastructure project delivery over the past 37 years, PCL continuously focuses on increasing the value of the services we deliver. We will work closely with the Authority to develop the solutions you need for this PR3 Piping and Conveyance Facilities project.

We see collaborative delivery as the best way to deliver reliable, trustworthy solutions to our clients that reduce risk, minimize cost, and achieve aggressive schedules and permitting requirements.

COLLABORATIVE DELIVERY EXPERIENCE

The cornerstones of PCL's alternative delivery success are: value added preconstruction phase services, a collaborative delivery approach, extensive involvement of the construction management team during design, and the use of lean practices to make our operations efficient and effective.

Through the CMAR delivery method, PCL will help the Authority clarify the scope, eliminate unknowns, and mitigate risks. PCL will implement proven, systematic approaches while providing detailed value engineering solutions, alternative design analysis, capital cost comparison, and identification of operational and local conditions or constraints during the design phase.

With 130 projects with HDR, totaling $7.4 billion, and 11 projects with Hazen totaling $414 million, PCL will have no learning curve working as a collaborative team on this pumping and conveyance project. PCL's history of collaborative delivery has refined our integration at a high level, resulting in efficient delivery and schedule for our clients.

PCL Construction, Inc.
Certified General Contractor
License Number: CGC1519082

This license has not been revoked in the past five years.

$8B
WATER/WASTEWATER INFRASTRUCTURE PROJECTS

1961
FIRST ALTERNATIVE DELIVERY PROJECT

3,700+
CMAR PROJECTS

$2.5B+
WATER/WASTEWATER INFRASTRUCTURE **CMAR** PROJECTS

146
CMAR/PDB PROJECTS IN **FLORIDA** SINCE 1997

> *PCL is currently under contract on the Peace River Manasota Regional Water Supply Authority's Phase 2B Pipelines Progressive Design-Build project.*

PUMP STATION EXPERIENCE

PROVEN PUMP STATION CONSTRUCTION

With more than 176 pump stations, PCL has the proven ability to successfully complete the pump station for this project.

CASE STUDY

LASTING PUMP INTAKE

Tampa Bay Water Offstream Reservoir
Brandon, Florida

The pump suction for a vertical turbine pump station must be designed and built correctly to last. The reservoir pump station has four 400-hp vertical turbine pumps, each equipped with variable frequency drives (VFDs). The pumps are set in 5.5-foot diameter steel suction cans that extend to approximately 32 feet below finish grade (requiring dewatering). Working with Tampa Bay Water, PCL selected the correct intake and ensured our construction means and methods would result in a high-quality pump station. With forethought and follow through, we delivered a station that has functioned for over a decade with no major issues.

$924M
PUMP STATION PROJECTS NATIONWIDE

1,500 MGD
TOTAL PUMP STATION CAPACITY

21
PUMP STATIONS OVER 10 MGD

> *On the Tampa Bay Water Regional Facility Pump Station Expansion project, pumps were replaced with a new 2,000 HP split case pump. It also included the tie-in to an existing 84-inch raw water main and extensive dewatering.*

RELEVANT PUMP STATION PROJECTS IN FLORIDA

Project	Contract Value	MGD
Blacks Ford Water Reclamation Facility	$55,982,321	6
Carrollwood/Dale Mabry Reclaimed Water Pump Station	$4,135,760	6
Hillsborough South County WWTP Expansion	$69,188,320	10
Lake Hancock Outfall Wetland Project	$20,128,700	10
Largo WWRF Influent Pumping Station	$24,866,766	18
Lift Station 85 AW Master 30" Force Main	$10,457,473	33
Lift Station 87 Structure	$21,267,000	9.5
Marshall St. Influent Pump Station Repair	$1,348,396	12
Miami-Dade CDWWTP Effluent Pump Station	$21,865,770	120
St. Petersburg Northwest WRF Emergency Effluent Pump Station	$16,800,443	25
Offstream Reservoir Pump Station	$5,148,091	120
Brandon Booster Pump Station	$15,617,416	7
Regional Facility Pump Station Expansion	$2,168,480	24

LARGE DIAMETER PIPE EXPERIENCE

PIPELINE PROFESSIONALS

PCL's first pipeline project in 1989 consisted of 878 feet of 102-inch and 1,257 feet of 90-inch concrete pipe. The work was done in three phases on both sides of a major freeway along 48th Street in Tempe, Arizona. This project began our journey into water and wastewater conveyance projects.

For Tampa Bay Water, PCL recently completed the underground transmission pipes for the Brandon Booster Pump Station (BPS) CMAR and is now in preconstruction for the Cypress Creek Water Treatment Plant 72-inch Valve Replacement project. This $6 million CMAR project, located in Land O'Lakes, Florida, consists of replacing an inoperable 72-inch butterfly valve. The project includes 200 feet of 72-inch steel, cement-lined piping in a new location and relocating the existing sodium hypochlorite and aqua ammonia chemical feed systems, in addition to the new valve(s) and tie-ins to the existing pipe. Construction is expected to begin in summer 2024 and completed in 2025. This schedule aligns with the beginning of construction for this PR3 project and provides a seamless transition of staff from a project with current Florida conditions and installation of large diameter pipe.

- *2014 ACEC Engineering Excellence Honor Award (National & California)*
- *2012 WCCC Excellence in Engineering, Design and Construction Award; and Innovative Solutions Award*
- *2011 CMAA Project of the Year*

> *The $90M Tesla WTF was completed five days ahead of schedule and included up to 144-inch-diameter pipe. PCL executives share their experiences and lead the way for future projects such as this PR3 Pumping and Conveyance project.*

1989
FIRST PIPELINE PROJECT

$750M+
IN PIPELINE PROJECTS

$300M+
LARGE-DIAMETER PIPE PROJECTS

> *The Second San Diego Aquaduct pipeline spanned 9.7 miles with 108-inch-diameter pipeline. Our team is backed by the experience of these projects to bring a successful project to Peace River Manasota Regional Authority.*

DEWATERING EXPERIENCE

FLORIDA LOCALS

Since 1986, PCL has delivered similar wastewater plant projects in Florida. We bring our knowledge and experience with Florida conditions of subsurface and dewatering aspects, as well as hurricane preparedness and recovery. We also bring and maintain a wealth of construction resources in Florida, including heavy equipment, equipment storage yards and warehouses, construction professionals, and experienced craftspeople.

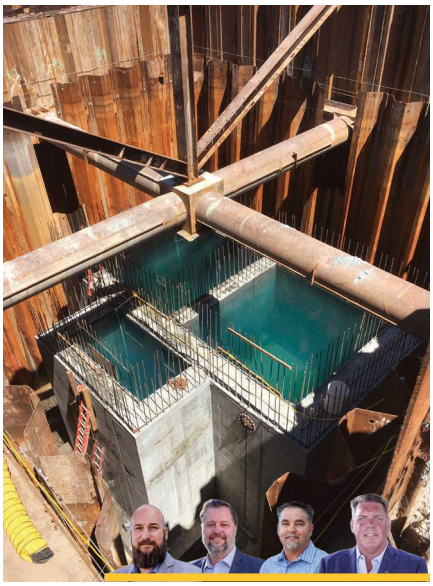
PCL's experience includes both dewatering on sites with high water tables, and constructing dewatering facilities for water/wastewater treatment plants.

> *The Largo WWRF Influent Pumping Station project was located at an existing operational treatment plant with severe space constraints. It required daily coordination with four other contractors working on the same site and extensive dewatering.*

"The City of Largo has been extremely satisfied with PCL's performance on the project. Their team has demonstrated a high level of skill, knowledge and professionalism. Their attention to detail and ability to quickly collaborate with City staff and our Engineer to solve problems as they arose have kept the project on track, resulting in a high-quality product. We look forward to future opportunities to work with PCL again."
Chuck Mura, Project Engineer
City of Largo

CASE STUDY

DEWATERING IN FLORIDA



Sarasota Lift Station 87
Sarasota, Florida

Dewatering construction required a 55-foot-deep excavation for the new wet well, located within half a mile of the Gulf of Mexico. Sheeting was driven into the limestone layer 60 feet below grade to create a water-tight cofferdam, using a Kelly well for dewatering. To accommodate additional onsite piping that required excavation to 32 feet, PCL worked with the engineer to design a slide rail system to use in lieu of sheeting, resulting in significant time savings to the owner.

RELEVANT PROJECT EXPERIENCE

Our team of dedicated and creative professionals are well-rounded in both CMAR delivery and similar project experience. **PCL's Reference Project Forms and Attachment A: Key Personnel and Reference Project Table are included in the Appendix.**

> *In addition to the reference projects on the following pages, the projects in the graphic below highlight our experience with the primary scopes on this PR3 Pumping and Conveyance Facilities CMAR project.*

Blacks Ford Water Reclamation Facility Phase 4 Expansion
Saint Johns, Florida

Sarasota Lift Station 87
Sarasota, Florida

Largo Wastewater Reclamation Facility Influent Pumping Station
Clearwater, Florida

NWWRF Wet Weather Capacity Improvements CMAR
St. Petersburg, Florida

Bayshore Booster Pump Station CMAR
Tampa, Florida

Offstream Reservoir and Pump Station
Tampa, Florida

Legend

- Collaborative Delivery
- >200 HP Pumps
- >50 MGD Capacity
- 42-Inch Diameter Pipe or Greater
- Dewatering
- Pump Stations and Related Electrical Systems

ADDITIONAL PROJECTS

CDWWTP Oxygen Production Facility Design-Build
Miami, Florida

Cosme Water Treatment Plant Operational and SCADA Improvements Progressive Design-Build
Odessa, Florida

CDWWTP Effluent Pump Station
Miami, Florida

Baker Water Treatment Plant
Lake Forest, California

Salt Lake City Water Reclamation Facility CMAR
Salt Lake City, Utah

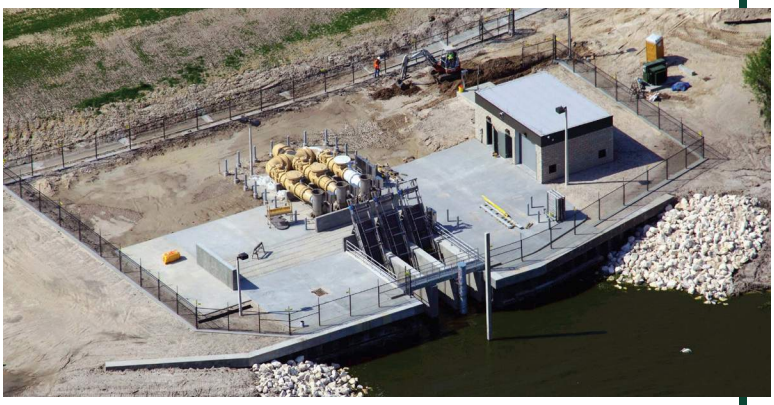
South Platte Renew Chemical Phosphorus and UV Disinfection
Englewood, Colorado

MIEX and East Water Treatment Plant Improvements Design-Build
Boynton Beach, Florida

Tampa Bay Water Regional Facility Pump Station Expansion
Tampa, Florida

01 Reference Project

Lake Hancock Outfall Wetland



The Lake Hancock Outfall Wetland Project is part of the Southwest Florida Water Management District's strategy for meeting the minimum flows in the upper Peace River, improving water quality in the Peace River, and protecting Charlotte Harbor–an estuary of national significance. The project is a large-scale, flow-through 1,008-acre treatment wetland located on former reclaimed phosphate mine clay settling areas now owned by the District. Water is pumped by three 200-HP pumps from the southern shore of the lake through three wetland cells. The cells incorporate narrow planting strips separated by larger natural recruitment zones. The treated water discharges from the Cell 3 wetland outfall structure into Lower Saddle Creek, which is downstream of the lake outfall structure. Work included construction of a raw water intake with a pump station capable of pumping over 10 MGD, instrumentation and controls, water control structures, earthwork, an embankment, a slurry cut-off wall, channels, an aeration structure, and an access road. This project was partially funded with federal EPA grants, which required PCL to meet disadvantaged business goal requirements, EEO requirements, environmental requirements, and other DEP requirements.

OWNER

> **Southwest Florida Water Management District**

REFERENCE CONTACT

> **Janie Hagberg**
> 813-336-1074
> janie.hagberg@swfwmd.st.fl.us.com

ROLE

> **Prime General Contractor**

CONTRACT VALUE

> **$20,128,700**

CONSTRUCTION DATES

> **2011 – 2014**

KEY PERSONNEL

> **John Kulesa**
> Superintendent

> **Craig Yakubow**
> Chief Estimator

RELEVANCE

> **10 MGD Capacity**
> **200 HP Pumps**
> **48-inch Large Diameter Pipe**
> **Dewatering**
> **Surface Water Intake Structure**

02 Reference Project ▶ CMAR

Booster Pump Station Zone 3D & 4A CMAR

PCL provided CMAR services at the 24th Street WTP for a new 76-MGD booster pump station with pump cans and vertical turbine pumps. Construction included a supporting surge system consisting of one suction surge tank and two discharge tanks, 66- to 84-inch-diameter suction and discharge piping, and a PRV station with pressure-reducing valves and isolation valves. The pump station has control valves, isolation butterfly valves, and gate valves. Site work included a decorative block wall, grading, drainage, and site paving.

An owner driven change order was issued for approximately $13 million for the construction of a new 15 kV electrical building and two new redundant power feeds throughout the plant.

OWNER

> **City of Phoenix**

REFERENCE CONTACT

> **Darlene Helm**
602-534-9138
darlenehelm@phoenix.gov

ROLE

> **Prime General Contractor**

CONTRACT VALUE

> **$48,675,258**

CONSTRUCTION DATES

> **2021 - 2023**

KEY PERSONNEL

> **Craig Yakubow**
Chief Estimator

> **Yaakov Welner**
Lead Estimator

RELEVANCE

> **Collaborative Delivery**
> **76 MGD Capacity**
> **1,250 HP Pumps**
> **84-inch Large Diameter Pipe**

03 Reference Project ▶ CMAR

Southern Hillsborough County Supply Expansion: Brandon Booster Pump Station CMAR

The Brandon BPS project included design, permitting, and construction of a new, in-line, booster pump station and two new 36-inch-diameter pipelines to supply an additional 5-7 MGD of water to Hillsborough County's Lithia Water Treatment Plant. The new pipelines connect the booster station to the Brandon-South Central transmission main that runs along Durant Road.

PCL installed five 250-HP horizontal split case pumps and associated electrical, valves, and piping, and replaced a vertical turbine pump with a well and a new pressure-release valve. The unstaffed station is an approximately 6,500-square-foot building that houses the pumps, an electrical room, control room, storage room, and restroom. PCL provided CMAR services, including constructability review of design documents.

OWNER

> **Tampa Bay Water**

REFERENCE CONTACT

> **Richard Menzies**
> 727-796-2355
> rmenzies@tampabaywater.org

ROLE

> **Prime General Contractor**

CONTRACT VALUE

> **$13,974,491**

CONSTRUCTION DATES

> **2021 – 2023**

KEY PERSONNEL

> **Jim Holtje, PE**
> Principal-in-Charge

> **Aaron Tomita**
> Construction Manager

> **Craig Yakubow**
> Chief Estimator

> **Eric Nash**
> Project Manager

> **Eric Winders**
> HSE Manager

> **Andrew Hogan**
> QA/QC Manager

RELEVANCE

> **Collaborative Delivery**
> **20 MGD Capacity**
> **250 HP Pumps**
> **36-inch Diameter Pipe**

04 Reference Project ▶ CMAR

Cholla Water Treatment Plant Process and Booster Pump Station Improvements (GMP 1, 2, & 3) CMAR

PCL constructed upgrades and improvements at the 30-MGD Cholla WTP to optimize treatment process efficiency, including replacing several vertical turbine pumps and rehabilitating two booster pump stations within Zones 1A, 1B, and 2. Construction included raw water flow meter modifications, low-lift pump station modifications, bypass pipeline and splitter box modifications, chemical feed system improvements, site and electrical improvements, and UPS/PLC upgrades and communication improvements. PCL also upgraded two 10-MG reservoirs, including replacing a reservoir roof and installing new security vents and additional hatches and access points on the other reservoir.

PCL recoated and installed new drives in seven secondary clarifiers, replaced two flocculators, and replaced a chemical tank and piping and containment coatings.

OWNER

> **City of Glendale**

REFERENCE CONTACT

> **Tom Kaczmarowski**
623-930-3640
tkaczmarowski@glendaleaz.com

ROLE

> **Prime General Contractor**

CONTRACT VALUE

> **$30,984,758**

CONSTRUCTION DATES

> **2018 – 2023**

KEY PERSONNEL

> **Aaron Tomita**
Project Manager

> **Yaakov Welner**
Estimator

> **Shawn Lohnes**
Superintendent

> **Craig Yakubow**
Chief Estimator

RELEVANCE

- **Collaborative Delivery**
- **30 MGD Capacity**
- **500 HP Pumps**
- **48-inch Large Diameter Pipe**

05 Reference Project

Lift Station 85 Albert Whitted Master Force Main Part E, and Related Projects

PCL constructed a new 36-MGD lift station within the existing Albert Whitted Water Reclamation Facility which included a 33-foot-deep concrete wet well and dry pit, climate-controlled electrical room, storage area, restroom, and six 330-HP pumps with valves/piping and electrical instrumentation systems. PCL relocated the existing water, sewer, odor control, and power supply systems. During wet well excavation, PCL performed well point and deep well dewatering. Construction included storm drainage improvements and installation of 2,800 feet of 30-inch-diameter ductile iron pipe and reinforced concrete distribution pipelines; 16-inch, 20-inch and 36-inch pipe; and "reward well" injection piping connections. The project required excavation within an active airport runway, therefore, the runway had to be shut down for a short amount of time. PCL developed a 3D model of the existing utilities in the area of excavation, as well as a 3D excavation plan which allowed more efficient excavation, minimized the shutdown period, and reduced the amount of runway that had to be excavated. The project required an extensive bypass pumping system to ensure the water supply continued flowing to the treatment facility during construction. This long-duration operation had to be fully redundant, provide emergency response capability, and ensure full regulatory compliance with no unregulated discharges during the entire operation.

OWNER

> **City of St. Petersburg**

REFERENCE CONTACT

> **Mark Laney**
727-893-7671
mark.laney@stpete.org

ROLE

> **Prime General Contractor**

CONTRACT VALUE

> **$10,687,294**

CONSTRUCTION DATES

> **2018 – 2023**

KEY PERSONNEL

> **Craig Yakubow**
Chief Estimator

> **John Kulesa**
General Superintendent

> **Shawn Lohnes**
Pipeline Superintendent

> **Nate Rine**
Mechanical Superintendent

RELEVANCE

> **36 MGD Capacity**
> **330 HP Pumps**
> **36-inch Diameter Pipe**
> **High Groundwater/ Dewatering**

SECTION 4

Key Personnel

A PROVEN TEAM

Our team of professionals are established in their experience with water/wastewater projects in Florida and using CMAR delivery. PCL's project experience and proposed key personnel, shown **Attachment A: Key Personnel and Reference Project Table, is included in the Appendix. Resumes are included at the end of this section.**

19+ YEARS
OF TEAMWORK AT **PCL** ON **WATER/ WASTEWATER** AND **CMAR** PROJECTS

SUBCONTRACTORS

PCL plans to work with key subcontractors during preconstruction to leverage their specialized knowledge in microtunneling, controls and electrical knowledge, and to coordinate efforts to plan and prioritize the scope of work. During preconstruction, we will target electrical, microtunneling, and controls; and evaluate existing systems and infrastructure for condition and constructability. To achieve the maximum cost benefit, these scopes will be bid out for all phases of construction following our subcontractor selection process. This approach ensures that the Authority receives the best value instead of sole-sourcing which could lead to an inflated cost above market value.

PCL regularly works very closely with subcontractors during preconstruction efforts to ensure each project's success and coordinates with plant staff to ensure projects meet their needs. We will bring this same approach to the PR3 CMAR project.

CMAR-Experienced Key Personnel

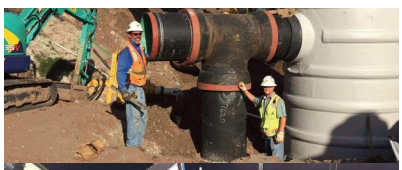
PCL was among the first contractors in the water sector to adopt the CMAR delivery method, and has since refined our preconstruction services to enhance the value this delivery method brings to our clients.

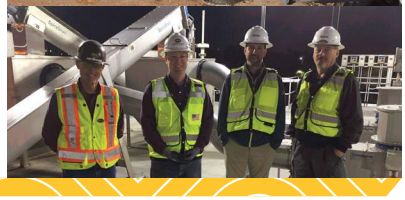
We will provide the Peace River Authority with our local team of CMAR experts to successfully deliver the Authority's pumping and conveyance facilities.

The PCL Team's proven CMAR experience ranges from working with clients' first CMAR delivery projects, to working with clients who have been using it since PCL's first CMAR project in 2001.

Our key personnel have worked with the Authority's designers before and will have no learning curve, allowing us to begin working together immediately. The PCL Team has demonstrated their ability to deal with changes as they come, adapting and providing the necessary steps to completion.

Our proposed key personnel have experience with **Hazen** on the Brandon Booster Pump Station CMAR, Largo WWRF, SCR Headworks Channel Rehabilitation, South Central WWTP Blower and Efficiency Upgrades, and St. Petersburg Northwest WRF Improvements. PCL's key personnel also have experience with **HDR** on Hillsborough South County WWTP Expansion, Cholla WTP, Northridge Tank Replacement Project, and the Clearwell Reservoir Rehabilitation Project.





Program Leaders

We are efficient with integrating project programs, making future construction easier. The PCL Team is capable of managing all aspects of the SWEP program. Our key personnel will address supply chain issues upfront to ensure timely delivery of your project. PCL provides a commodity newsletter to show how we track materials/equipment, keeping you informed.

PCL regularly manages projects with multiple contractors. We will collaborate and provide resources where and when they are necessary. **We understand that the completion of this PR3 project will enable the success of the PRF Expansion project. PCL's employees are well-versed in coordinating with ongoing projects and meeting schedules that rely on each other.**

With Andrew Hogan, P.Eng, ENV SP, and Aaron Tomita leading constructability and quality control (QC), you can count on us to uphold our standard of excellence to meet your goals.

Envision-Certified

Florida is our home. With a push toward sustainability, our Envision-certified staff Eric Nash, ENV SP, and Andrew Hogan, P.Eng, ENV SP, will help incorporate sustainability efforts wherever possible, whether required or not. PCL also has renewable energy groups dedicated to developing solutions for our clients that do not add capital costs to our projects and can provide alternative backup power systems.

PCL recently worked with Hazen on the El Paso Roberto R. Bustamante Wastewater Treatment Upgrades and Expansion project to reduce site energy requirements. We developed an approach using green energy solutions that reduces the plant's carbon footprint while providing a resilient facility.

To do this, we can replace electrical in phases to account for future needs, implement recycling programs, source sustainable materials, use electric carts or cranes, or conserve water with alternative concrete curing methods.

> *The Envision waste separation bins at the St. Petersburg NWWRF project ensure waste is disposed of properly or recycled to promote sustainability.*

Solution Providers

PCL is staffed with solution providers who will effectively innovate and also give back to the communities in which we work. PCL's key personnel are adept at using cost savings techniques, modern technologies, and innovation to bring a project to completion on-time and within budget. Additionally, PCL builds from within. We provide internal leadership programs, training opportunities, internships, hire locally whenever possible, and participate in construction career days to promote interest in the industry.

PCL gives back to the communities in which we work. Locally, we participated in the Friends of Peace River BBQ. PCL also collaborated with Hazen while sponsoring a class project for the Florida Engineering Leadership Institute (FELI). This project, a Hurricane Ian Remembrance and Engineering Garden at Lakes Park, educates kids about the science behind hurricanes. Given all the damage that Lee County suffered from hurricane Ian, will help the community grow stronger.

KEY PERSONNEL

PCL's highly experienced project team is comprised of construction professionals who have spent most of their careers working on water/wastewater infrastructure and pump stations. We are ready to apply our expertise and begin collaborating immediately with your team to deliver maximum value for the Authority. **Attachment A: Key Personnel and Reference Project Table is included in the Appendix. Resumes are included at the end of this section.**

JIM HOLTJE, PE

PRINCIPAL-IN-CHARGE

PHASES 1 & 2 Jim will be continually engaged to provide leadership to the team, oversight of the project's execution, and the full commitment of PCL resources. He will ensure that the Authority is satisfied by the pace, actions, and direction of the PCL Team.

19
YEARS OF EXPERIENCE

Jim has 19 years of experience in civil construction projects at PCL. His expertise is in water/wastewater treatment facilities, interchanges, and movable bridge construction delivered with progressive design-build and CMAR delivery methods. As PCL's area manager, Jim leads our teams on all Florida water/wastewater projects. He is an effective communicator on projects that require a high level of coordination, industry knowledge, collaboration, and construction expertise.

$710M
COLLABORATIVE DELIVERY PROJECTS WITH HAZEN AND HDR

50+
ALTERNATIVE DELIVERY PROJECTS

AARON TOMITA

PROJECT DIRECTOR

PHASES 1 & 2 Aaron will integrate all project elements, including schedule, using his CMAR project experience. He will be the Authority's main day-to-day contact and has full decision-making authority.

24
YEARS OF EXPERIENCE

Aaron has 24 years of civil construction experience, including over 20 years managing water and wastewater treatment plant projects including pipe and pumping projects and 9 years with PCL. He has experience managing budgets and schedules; coordinating with subcontractors and vendors; supervising self-performed work; managing submittals; material procurement and pay applications; and implementing quality control and safety plans. Aaron has a successful track record of leading teams through challenging projects with tight schedules and budgets.

> *Aaron has managed billions of dollars worth of high-risk, high-profile collaborative delivery water/wastewater projects in his 24-year career.*

CRAIG YAKUBOW

PRECONSTRUCTION MANAGER

PHASE 1 Craig will develop the GMPs and lead the coordination between the Authority, PCL, Hazen, and HDR to provide constructability, value engineering, and procurement support while maintaining the project schedule.

PHASE 2 Craig will be available to the team for any assistance in additional pricing efforts.

27
YEARS OF EXPERIENCE

Craig has 27 years of experience with construction of all facets of water and wastewater infrastructure, including 24 years with PCL. In just the past 15 years, he has managed the preconstruction phase for billions of dollars worth of projects. Craig has prepared cost models and led value engineering sessions for 65 collaborative delivery projects, including the Southern Hillsborough County Supply Expansion: Brandon Booster Pump Station CMAR project in Florida. Craig works closely with design engineers to develop GMPs at all stages of design development and conducts constructability reviews and value engineering sessions that help clients maximize their budgets while meeting project goals.

> *Craig has managed preconstruction services on billions of dollars worth water/wastewater infrastructure projects.*

TODD PALMATIER, CGC

CONSTRUCTION MANAGER

PHASE 1 Todd will assist Aaron during the design/preconstruction phase.

PHASE 2 He will be the main contact on-site during the construction phase, responsible for safety, quality, schedule, and budget.

23
YEARS OF EXPERIENCE

Todd is a leader in the construction of complex water and wastewater treatment facilities throughout Florida. Over the past 23 years, including 9 years with PCL, all of Todd's projects have been performed at existing facilities, giving him expertise in MOPOs and a keen focus on operations through working directly with owner's representatives and design engineers to ensure constructability and operability. He leverages strong leadership, client and subcontractor/supplier relationships, and supervisory skills to lead multidisciplinary teams in collaborative delivery projects, having completed three recent Florida alternative delivery projects that finished ahead of schedule and under budget with zero lost time incidents.

250+
ALTERNATIVE DELIVERY PROJECTS

YAAKOV WELNER

LEAD ESTIMATOR

PHASE 1 Yaakov will guide the preparation of the complete project estimate from material takeoffs to pricing for lump sum bids. He will review the project specifications and drawings and work closely with subcontractors and vendors regarding their bids.

17
YEARS OF EXPERIENCE

Yaakov has 17 years of experience at PCL estimating and constructing water and wastewater infrastructure projects, including over 30 CMAR projects valued at $276.7 million. Yaakov works with owners and engineers during all phases of design development to provide multiple GMPs and value engineering options, and assist with input during constructability reviews. Yaakov specializes in estimating alternative delivery projects. Through Yaakov's career in alternative delivery estimating, he brings a passion to finding ways to ensure the project goals are met and still held on budget.

$276.7M
WATER/ WASTEWATER CMAR PROJECTS

ERIC NASH, ENV SP

CONSTRUCTABILITY VE

PHASE 1 Eric will work with the Authority and engineers to provide and review all VE options to ensure the Authority is receiving the highest value in the project for both the current construction and future expansions.

15
YEARS OF EXPERIENCE

Eric has 15 years of experience, including four years at PCL, with upgrades and rehabilitation of all aspects of water and wastewater treatment plants, including concrete structures, underground utility relocation, and installation of mechanical process equipment. Eric's project management expertise includes budget and schedule management, coordinating with multiple design firms, subcontractor management, implementing quality control and safety plans, and facility start-up and commissioning. Eric carries a client focus mindset with a genuine drive to see an owner's needs and goals executed from start to finish, this has shown not just on the project, but also his involvement in the community at large.

> *Eric excels at facilitating a collaborative environment and driving schedules to completion through value engineering.*

JOHN KULESA
LEAD SUPERINTENDENT

PHASE 1 John will be involved in the estimate and proposal, performing constructability reviews and assisting with estimates and budgets.

PHASE 2 John will implement the site-specific safety plan and quality control measures, and ensure that quality program standards are met by subcontractors and vendors. He will manage budgets, track production, ensure close out documentation is complete and accurate, and he will mentor leaders onsite.

33
YEARS OF EXPERIENCE

John brings 33 years of construction experience with 18 years at PCL and 16 of those in Florida. His experience includes wastewater treatment plants, pump stations, pipelines, bridges and roadway construction. John has directed activities ranging from installation of ductile iron and large-diameter steel pipe to sheet piles, concrete form work and placement, utility installation, demolition, road reconstruction, and earthwork operations. This hands on experience brings a reality and assurance to the choices and options reviewed and chosen in preconstruction and their successful implementation in construction phase.

> *John's specialty is establishing strong communication with operations staff, which is critical to the successful execution of construction within an active plant.*

NATE RINE
PIPELINE SUPERINTENDENT

PHASE 2 Nate will assist in implementing the site-specific safety plan and quality control measures. He will lead the installation of the pipeline scope, ensuring it meets the standards of both PCL and the Authority.

27
YEARS OF EXPERIENCE

Nate has 27 years of experience in the construction industry with 10 years at PCL. For 14 years, he has been supervising the construction of a variety of water and wastewater facilities, including pipeline installations, lift stations, headworks, tanks, and aeration systems. Nate has expertise in scheduling, procurement, mechanical installation, start-up and commissioning, and specializes in underground mechanical. His Florida experience includes installing 14 miles of 30-inch C900 pipe using jack and bores and directional drilling, as well as microtunneling with two miles of 24-inch ductile iron pipe for pump stations.

> *Nate is a 22-year Manatee County resident who will share his knowledge and understanding of the local conditions with the team to ensure success.*

SHAWN LOHNES

PIPELINE SUPERINTENDENT

PHASE 2 Shawn will to assist in implementing the site-specific safety plan and quality control measures. He will partner with Nate to lead the installation of the pipeline scope, ensuring it meets the standards of both PCL and the Authority.

30
YEARS OF EXPERIENCE

Shawn has 30 years of experience in the construction of large water and wastewater treatment infrastructure, including nine years at PCL. Shawn specializes in the installation of large-diameter underground pipe and has served as a superintendent for 19 years. His responsibilities include management of multiple crews, subcontractor and supplier coordination, and quality control.

$241M
WATER/ WASTEWATER PROJECTS

ERIC WINDERS, CSPS

HEALTH, SAFETY, & ENVIRONMENTAL MANAGER

PHASE 2 Eric will ensure the project is compliant with safety regulations and PCL standards through site evaluations, meetings, compliance and reports, documentation, and awards. He is responsible for implementing policies to ensure compliance with safe work practices through training, inspections, enforcement, and team-building activities.

18
YEARS OF EXPERIENCE

Eric has 18 years of experience implementing and managing site safety programs for water and wastewater infrastructure projects with 12 years at PCL. He ensures compliance with state and federal OSHA rules and regulations as well as PCL's strict HSE policies and procedures. Eric has always viewed safety as part of everyone involved, from operations of the facility to contractor, sub and every visitor. This passion leads to an environment where everyone is vested in each other's safety.

> *Under Eric's leadership, PCL has achieved over 365 days without any recordable safety incidents.*

ANDREW HOGAN, P.ENG, ENV SP

QA/QC

PHASE 2 Andrew will ensure the project is compliant with quality regulations and PCL standards through site evaluations, meetings, compliance and reports, documentation, and awards. He is responsible for implementing policies to ensure compliance with PCL and the Authority's quality practices through training, inspections, enforcement, and team building activities.

13
YEARS OF EXPERIENCE

Andrew has 13 years of industrial construction experience at PCL with a focus on project management of newly constructed and operating plants. His duties include managing budgets; monitoring and assisting in the implementation of project quality and safety programs; project scheduling and workforce planning; preparation of quantity take-offs; document control; coordination and review of drawings, submissions, specifications, and change requests; constructability review; material procurement; subcontract administration; maintenance of as-builts; and collaboration with owners, engineers, and other stakeholders. Andrew leads his projects with the mindset of build it right build it once.

> *With Andrew's passion and leadership driving the highest quality standards and expectations, PCL Civil was awarded our highest honor with PCL's 2021 Quality Achievement Award, beating out 26 districts throughout the world.*

RYAN SINCLAIR

ELECTRICAL PRECONSTRUCTION MANAGER

PHASE 1 As our in-house electrical consultant, Ryan will provide E&IC support throughout the preconstruction phase to schedule and align E&IC activities throughout construction. Ryan will identify items for early procurement packages and investigate available materials with shorter lead times.

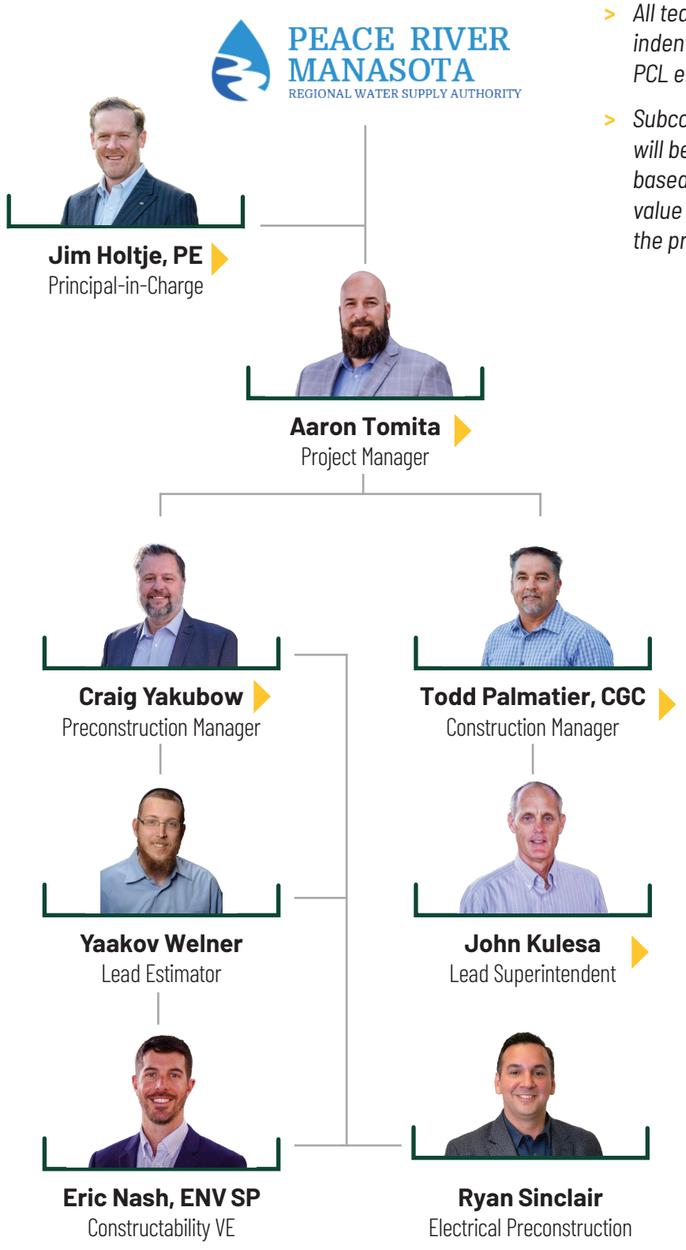
21
YEARS OF EXPERIENCE

Ryan Sinclair is a licensed master electrician with 21 years of experience (10 at PCL) in plant shutdowns and detailed industrial electrical work. He will contribute to our value engineering sessions and constructability reviews to recommend alternative methods or materials and develop procurement strategies to help progress critical electrical gear and mitigate risk to the project schedule.

> *Ryan's strong experience with electrical processes will provide a smooth procurement process and on-time delivery.*

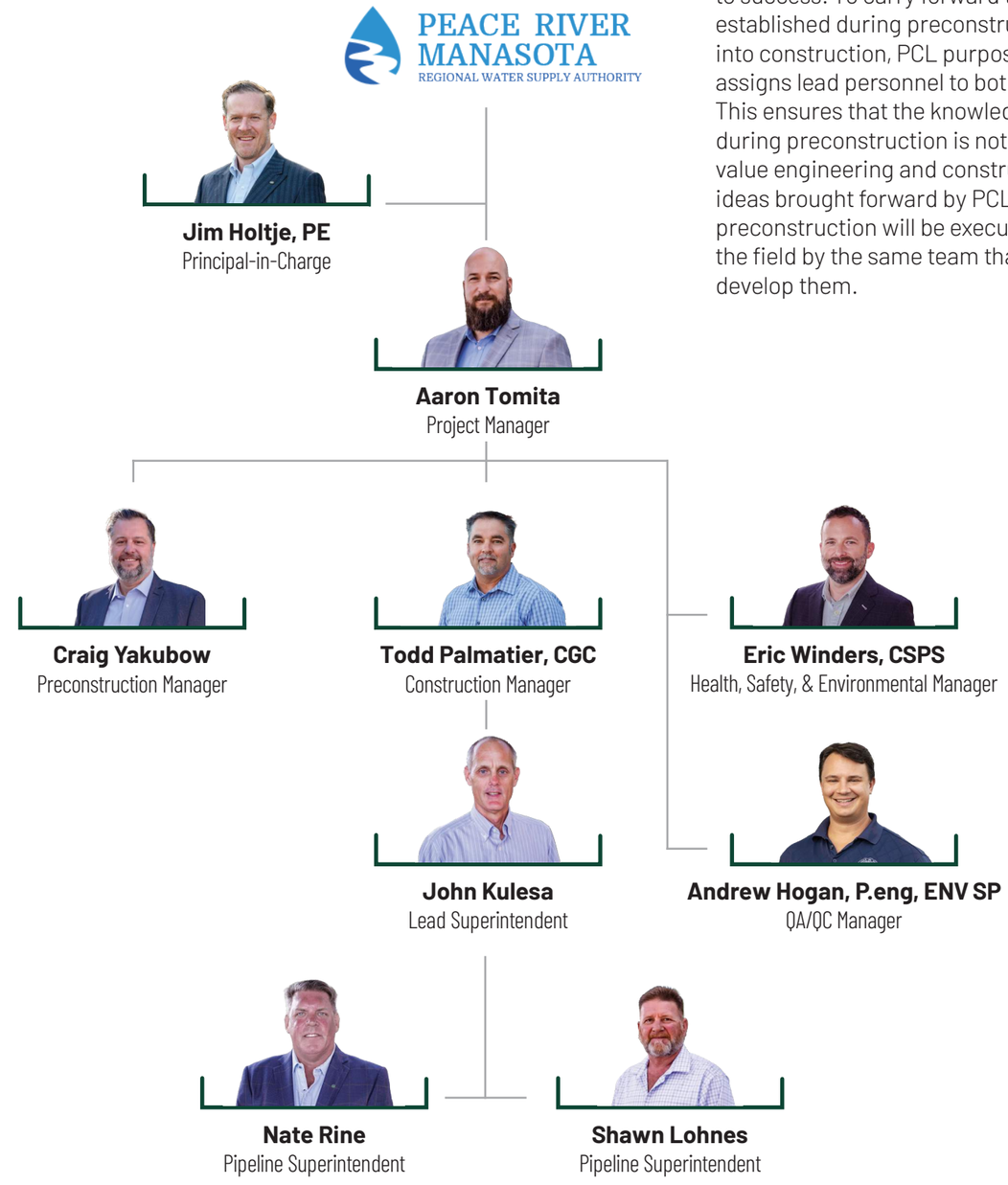
Organizational Chart

PRECONSTRUCTION



- *All team members indentified are PCL employees.*
- *Subcontractors will be determined based on best value selection by the project team.*

CONSTRUCTION



SEAMLESS TRANSITION FROM PRECONSTRUCTION TO CONSTRUCTION

Continuity between both phases is key to success. To carry forward the synergy established during preconstruction into construction, PCL purposefully assigns lead personnel to both phases. This ensures that the knowledge gained during preconstruction is not lost and the value engineering and constructability ideas brought forward by PCL during preconstruction will be executed in the field by the same team that helped develop them.

Approach to Management of Key Personnel

The success of this project and the SWEP program will be dependent on PCL, the Authority, Hazen, and HDR working together as a fully coordinated team during the entire CMAR process. Our approach to management starts with establishing a team structure with a single point of contact and single point of responsibility.

PCL's **Project Manager Aaron Tomita** will be accountable for oversight and management of PCL's key project personnel during both phases of the project in order to ensure consistency throughout the entire project. He will work with **Construction Manager Todd Palmatier, CGC,** who will assign individual responsibilities and monitor progress to ensure all tasks are successfully completed in accordance with PCL's and the Authority's expectations. Aaron and Todd will manage a log of all comments, action items, and decisions to provide a record of the process and how decisions were made; this will be a key tool when later in the process there is a need to research how the team reached decisions.

With Aaron and Todd involved in preconstruction and throughout construction, this approach ensures a seamless transition between phases with no loss of information.

The PCL team will work with the design team during the design phase to ensure that all potential constructability issues are identified and resolved prior to the start of actual construction. They will analyze installation schedules, material and equipment lead times, and existing operational considerations. **Eric Nash , ENV SP,** will lead workshops for the identification, vetting, and incorporation of constructability and value engineering concepts to provide the most cost-effective project possible.

During the design phase, **Preconstruction Manager Craig Yakubow** will work with **Lead Estimator Yaakov Welner** to price all design options to ensure that the Authority obtains the best possible value for each dollar spent. During construction, Craig will stay engaged in the project, ensuring that the designs are progressing smoothly and stay on-track with the schedule and budget. He will oversee all estimating efforts and the development of GMP proposals using an open-book, transparent cost approach.

Ryan Sinclair is our in-house electrical consultant. He will provide electrical and instrumental controls (E&IC) support throughout the preconstruction phase to schedule and align E&IC activities throughout construction. Ryan will identify items for early procurement packages and investigate available materials with shorter lead times.

As the project moves toward construction, **Lead Superintendent John Kulesa** will lead all construction activities and will be located onsite full time. John will also be involved in preconstruction efforts to provide his extensive field knowledge during design and constructability reviews, solution development, and risk identification/mitigation.

Pipeline Superintendents Nate Rine and Shawn Lohnes will work together with John to coordinate pipeline construction and subconsultant activities.

Resumes

JIM HOLTJE, PE

PRINCIPAL-IN-CHARGE

Jim has 19 years of experience in civil construction projects at PCL. His expertise is in water/wastewater treatment facilities, interchanges, and movable bridge construction delivered with progressive design-build and CMAR delivery methods. As PCL's area manager, Jim leads our teams on all Florida water/wastewater projects. He is an effective communicator on projects that require a high level of coordination, industry knowledge, collaboration, and construction expertise.

YEARS OF EXPERIENCE
19 years

EDUCATIONAL BACKGROUND
Bachelor of Science, Civil Engineering with an emphasis on Construction Management, University of Florida

LICENSES / ACCREDITATIONS
Professional Engineer, Florida, #69206
Qualified Stormwater Management Inspector
MOTAdv2-Florida MOT Advanced Qualfied
PTI1 Post Tensioning Certified

TRAINING
Safety Trained Supervisor
OSHA 30-Hour

PCL CONSTRUCTION

RELEVANT PROJECT EXPERIENCE

Tampa Bay Water Southern Hillsborough County Supply Expansion: Brandon Booster Pump Station CMAR Brandon Booster Station CMAR
Brandon, Florida
The Brandon BPS project included design, permitting, and construction of a new, in-line, booster pump station and two new 36-inch-diameter pipelines to supply an additional 5-7 MGD of water to Hillsborough County's Lithia Water Treatment Plant. The new pipelines connect the booster station to the Brandon-South Central transmission main that runs along Durant Road. PCL installed approximately five 250-HP horizontal split case pumps and associated electrical, valves, and piping, and replaced a vertical turbine pump with a well and a new pressure-release valve. The unstaffed station is approximately 6,500-square-foot building that houses the pumps, an electrical room, control room, storage room, and restroom. PCL provided CMAR services, including constructability review of design documents.

City of Tampa Bayshore Pumping Station Rehabilitation Design-Build
Tampa, Florida
PCL and Stantec are collaborating as the Design Build firm to deliver the City of Tampa Bayshore Pump Station project. This high profile project, in a very urban area, includes a new pump station on Bayshore Boulevard, new electrical, I&C, pipeline work and maintenance of all existing wastewater flows during construction.

St. Pete NW WRF Improvements CMAR
St. Petersburg, Florida
This project involves construction of a new headworks facility, new influent pump station, solids screening, odor control, and substandard reclaimed water storage facilities at the Northwest WRF. Critical plant influent upgrades focus on a new headworks which utilizes Hydro-Dyne® and HeadCell® technologies, odor control, and flow splitting. PCL used creative solutions to ensure operational plant maintenance and compliance to construct the new improvements within the congested site footprint.

RELEVANT PROJECT EXPERIENCE

Regional Facility Pump Station Expansion
Tampa, Florida
This project consists of replacing of an unused 10 mgd (600 hp) jockey pump with a new 24 MGD (2,000 HP) split case pump at the regional facility high service booster pump station. Work includes structural modifications and installation of a variable frequency drive motor, electrical equipment, and mechanical equipment.

Cosme Water Treatment Plant Operational and SCADA Improvements Project Design-Build
Odessa, Florida
PCL provided conceptual design-build services for the City of St. Petersburg at the COSME Water Treatment Plant. Construction included new and upgraded facilities, high-service pumps, piping, valves, generators, electrical infrastructure and gear, and SCADA improvements.

Central District WWTP Effluent Pump Station
Miami-Dade County, Florida
PCL teamed with Stantec for electrical improvements to eight of the existing pumps within the effluent pump station. Due to the plant's close proximity to the ocean, the new electrical building will be supported by auger cast piles to comply with Miami-Dade County's sea level rise and storm surge design criteria. As a result of these improvements, the plant will be more energy efficient, resulting in reduced power consumption.

South Pasco Water Treatment Plant Caustic Feed System CMAR
Odessa, Florida
This project consists of modifications to the existing South Pasco Water Treatment Plant to allow additional pH adjustment through the injection of caustic soda. PCL will construct new sodium hydroxide tanks, pumps, injectors, underground piping, HVAC ladder access, site improvements, and clearing and grubbing of the spillway. The project includes one static mixer, a single skid, dual pump system, new leak detection sensors, and new pipe-tapping saddles for each injection location.

W.E. Dunn WRF Facility Filtration and Disinfection Improvements Design-Build
Palm Harbor, Florida
This $12.6 million design-build project for Pinellas County consists of new AquaDiamond cloth media traveling bridge filters, a new sodium hypochlorite disinfection facility, and a new secondary fine screening facility. The scope of work also includes decommissioning of the existing chlorine gas disinfection facility. This complex project includes multiple mechanical and structural upgrades across the plant that must be installed, tested, and placed into service while existing operations remain functional.

Manatee County Diamond Filtration Progressive Design-Build
Manatee County, Florida
The project includes the replacement of two automatic backwash filters with new cloth media filters and the rehabilitation of the dewatering slab (grit dump area) and ancillary drainage at the Southeast Water Reclamation Facility.

AARON TOMITA

PROJECT MANAGER

Aaron has 24 years of civil construction experience, including over 20 years managing water and wastewater treatment plant projects. He has experience managing budgets and schedules; coordinating with subcontractors and vendors; supervising self-performed work; managing submittals; material procurement and pay applications; and implementing quality control and safety plans.

YEARS OF EXPERIENCE
24 years

EDUCATIONAL BACKGROUND
Bachelor of Science, Construction Management Engineering Technology, Northern Arizona University

TRAINING
Safety Trained Supervisor Certification

RELEVANT PROJECT EXPERIENCE

Glendale Cholla Water Treatment Plant Process Improvements and Booster Pump Station Improvements CMAR
Glendale, Arizona
PCL provided CMAR services for upgrades and improvements at the 30-MGD Cholla WTP to optimize treatment process efficiency, including replacing several vertical turbine pumps and rehabilitating two booster pump stations within Zones 1A, 1B, and 2. Construction included modifying the raw water flow meter, low-lift pump station, bypass pipeline, and splitter box; improving the chemical feed system, site/electrical systems, and communication; and upgrading UPS/PLC. Additionally, PCL upgraded two 10-MG reservoirs, including replacing a reservoir roof and installing new security vents and additional hatches and access points on the other reservoir. PCL also recoated and installed new drives in seven secondary clarifiers, replaced two flocculators, and replaced a chemical tank and piping and containment coatings.

North Avondale Water Supply Project CMAR
Avondale, Arizona
This project included installation of over 9,000 LF of 10- to 18-inch DIP through the right-of-way on 107th Avenue, Indian School Road, and Thomas Road. PCL also installed fiber optic conduit in a joint trench with the water line. The project includes two jack-and-bore operations; a tie-in to a 24-inch City of Phoenix main; a Roosevelt Irrigation District canal crossing; and coordination with businesses, utility companies, residents, and a school.

Tampa Bay Water Regional Facility Pump Station Expansion
Tampa, Florida
This project consists of replacing of an unused 10 mgd (600 hp) jockey pump with a new 24 MGD (2,000 HP) split case pump at the regional facility high service booster pump station. Work includes structural modifications and installation of a variable frequency drive motor, electrical equipment, and mechanical equipment.

RELEVANT PROJECT EXPERIENCE

Lift Station 87 Structure
Sarasota, Florida
This project consists of a new above-ground lift station that will route the flow of 9.5 million gallons of wastewater per day beneath Hudson Bayou. Construction includes demolition of the existing station, an odor control system, piping, on-site and off-site tie-ins to the existing transmission main, site work, and electrical, instrumentation and controls. The lift station was designed to withstand a Category 3 hurricane.

Largo WWRF Influent Pumping Station and Headworks
Clearwater, Florida
This project consisted of an 18-MGD influent pump station with six 100-HP submersible pumps, a new 5-MG open-top equalization tank, a headworks facility, a gravity sludge thickener, and an odor control system at an existing 15-MGD wastewater reclamation facility. PCL demolished one influent pump station and three headworks facilities, constructed modifications to a second influent pump station and the digester tanks, and converted the existing chlorine gas storage building to a new electrical building.

Manatee County SEWRF Capacity Improvements CMAR
Bradenton, Florida
The project will address several components of the treatment plant to provide enhanced biological treatment and increase the hydraulic capacity of those processes. The proposed improvements may include
a new headworks, new flow splitter box, improved mixed liquor recycle conveyance, and modifications to the biological treatment process to improve nutrient removal. Other improvements proposed for the SEWRF may include rehabilitation of the clarifier mechanisms and structural repairs for secondary clarifier numbers 1 and 2, gate and equipment replacement, the addition of fiberglass covers at the chlorine contact chambers, and sludge dewatering and conveyance improvements.

Manatee County Lake Manatee WTP Filter Upgrade
Bradenton, Florida
This project will replace the existing water filtration system with more advanced filtration technology that will improve water filtration levels. The scope of work includes retrofitting the existing filter building with ultrafiltration membrane trains, including air scour blowers, a compressed air system, a clean-in-place system, chemical storage, and four bar screens.

Manatee County Honore Avenue from Cooper Creek Boulevard to University Parkway
Bradenton, Florida
PCL is providing CMAR services under a continuing services contract for Manatee County. Construction includes the installation of a traffic signal with mast arm supports, pedestrian accommodations, provide fiber optic communication related infrastructure, and other Advance Traffic Management System (ATMS) devices. PCL will construct an exclusive southbound left turn lane, northbound right turn lane, and a westbound left turn lane.

CRAIG YAKUBOW

PRECONSTRUCTION MANAGER

Craig has 27 years of experience with construction of all facets of water and wastewater infrastructure. Craig works closely with design engineers to develop GMPs at all stages of design development and conduct constructability reviews and value engineering sessions. Craig has managed the preconstruction phase for billions of dollars in design-build and construction manager at risk projects to help clients maximize their budget while meeting their project goals.

YEARS OF EXPERIENCE
27

EDUCATIONAL BACKGROUND
Bachelor of Science, Mechanical Engineering, University of Alberta, Edmonton

RELEVANT PROJECT EXPERIENCE

Lake Hancock Outfall Wetland
Bartow, Florida
The project is a large-scale, flow-through, wetland creation to improve the quality of water that discharges from Lake Hancock to Saddle Creek. The finished project consists of a 1,008-acre treatment wetland located on former reclaimed phosphate mine clay settling areas.

Tampa Bay Water Southern Hillsborough County Supply Expansion: Brandon Booster Pump Station CMAR Brandon Booster Station CMAR
Brandon, Florida
The Brandon BPS project included design, permitting, and construction of a new, in-line, booster pump station and two new 36-inch-diameter pipelines to supply an additional 5-7 MGD of water to Hillsborough County's Lithia Water Treatment Plant. The new pipelines connect the booster station to the Brandon-South Central transmission main that runs along Durant Road. PCL installed approximately five 250-HP horizontal split case pumps and associated electrical, valves, and piping, and replaced a vertical turbine pump with a well and a new pressure-release valve. The unstaffed station is approximately 6,500-square-foot building that houses the pumps, an electrical room, control room, storage room, and restroom. PCL provided CMAR services, including constructability review of design documents.

Glendale Cholla Water Treatment Plant Process Improvements and Booster Pump Station Improvements CMAR
Glendale, Arizona
PCL provided CMAR services for upgrades and improvements at the 30-MGD Cholla WTP to optimize treatment process efficiency, including replacing several vertical turbine pumps and rehabilitating two booster pump stations within Zones 1A, 1B, and 2. Construction included modifying the raw water flow meter, low-lift pump station, bypass pipeline, and splitter box; improving the chemical feed system, site/electrical systems, and communication; and upgrading UPS/PLC. Additionally, PCL upgraded two 10-MG reservoirs, including replacing a reservoir roof and installing new security vents and additional hatches and access points on the other reservoir. PCL also recoated and installed new drives in seven secondary clarifiers, replaced two flocculators, and replaced a chemical tank and piping and containment coatings.

RELEVANT PROJECT EXPERIENCE

Lift Station 85 Albert Whitted Master 30-inch Force Main

St. Petersburg, Florida

PCL constructed a new 36-MGD lift station within the existing Albert Whitted Water Reclamation Facility. Work included a 33-foot-below-grade concrete wet well and dry pit, climate-controlled electrical room, storage area and restroom, and six 330-HP pumps with valves/piping and related electrical instrumentation systems. Existing water, sewer, odor control, and power supply systems were relocated as part of the project. Work included storm drainage improvements and installation of 2,800 feet of 30-inch-diameter ductile iron pipe and RCW distribution pipelines, as well as "reward well" injection piping connections.

St. Petersburg Cosme WTP Operational and SCADA Improvements Design-Build

St. Petersburg, Florida

This project encompasses many of the plant's systems and operations and will upgrade aging plant infrastructure while also incorporating redundancy provided by TBW. The overall project combines two previously designed projects: Cosme Main Header Valve Replacement and Cosme WTP Optimization. These projects targeted improving effluent water control, blending, bypassing, and quality through piping, chemical, and SCADA improvements and replacing critical high-service pump isolation and control valves.

Tampa Bay Water Regional Facility Pump Station Expansion

Tampa, Florida

This project consists of replacing of an unused 10 mgd (600 hp) jockey pump with a new 24 MGD (2,000 HP) split case pump at the regional facility high service booster pump station. Work includes structural modifications and installation of a variable frequency drive motor, electrical equipment, and mechanical equipment.

Largo WWRF Influent Pumping Station and Headworks

Clearwater, Florida

This project consisted of an 18-MGD influent pump station with six 100-HP submersible pumps, a new 5-MG open-top equalization tank, a headworks facility, a gravity sludge thickener, and an odor control system at an existing 15-MGD wastewater reclamation facility. PCL demolished one influent pump station and three headworks facilities, constructed modifications to a second influent pump station and the digester tanks, and converted the existing chlorine gas storage building to a new electrical building.

Blacks Ford Water Reclamation Facility Phase 4 Expansion

St. Johns, Florida

The project consisted of a variety of upgrades to expand the capacity of the wastewater treatment plant to 6 MGD to accommodate recent growth in the Jacksonville area. Construction included new treatment process equipment and chemical systems, , RAS/WAS pump stations, new equalization tank blowers, new submersible aerators, expansion of the existing filters and ultraviolet disinfection channels, and upgrades to electrical, instrumentation and control systems.

Tampa Bay Water Offstream Reservoir Pump Station

Lithia, Florida

This project is a new facility that pumps raw water from Tampa Bay Water's Regional Reservoir to the Surface Water Treatment Plant located in Brandon Florida. It consists of four vertical turbine pumps using 72-inch-diameter suction cans extended 35 feet into the ground.

YAAKOV WELNER

LEAD ESTIMATOR

Yaakov has 17 years of experience at PCL estimating and constructing water and wastewater infrastructure projects, including over 30 CMAR projects. Yaakov works with owners and engineers during all phases of design development to provide multiple GMPs and value engineering options, and assist with input during constructability reviews. Yaakov specializes in estimating alternative delivery projects. Through Yaakov's career in alternative delivery estimating, he brings a passion to finding ways to ensure the project goals are met and still held on budget.

YEARS OF EXPERIENCE
17 years

EDUCATIONAL BACKGROUND
Bachelor of Science, Construction Engineering, Arizona State University

RELEVANT PROJECT EXPERIENCE

Glendale Cholla Water Treatment Plant Process Improvements and Booster Pump Station Improvements CMAR
Glendale, Arizona
PCL provided CMAR services for upgrades and improvements at the 30-MGD Cholla WTP to optimize treatment process efficiency, including replacing several vertical turbine pumps and rehabilitating two booster pump stations within Zones 1A, 1B, and 2. Construction included modifying the raw water flow meter, low-lift pump station, bypass pipeline, and splitter box; improving the chemical feed system, site/electrical systems, and communication; and upgrading UPS/PLC. Additionally, PCL upgraded two 10-MG reservoirs, including replacing a reservoir roof and installing new security vents and additional hatches and access points on the other reservoir. PCL also recoated and installed new drives in seven secondary clarifiers, replaced two flocculators, and replaced a chemical tank and piping and containment coatings.

Phoenix BPS 3D & 4A WTP IMPROVEMENTS CMAR
Phoenix, AZ
PCL provided CMAR services at the 24th Street WTP for a new 76-MGD booster pump station with pump cans and vertical turbine pumps. Construction included a supporting surge system consisting of one suction surge tank and two discharge tanks, 66- to 84-inch-diameter suction and discharge piping, and a PRV station with pressure-reducing valves and isolation valves. The pump station has control valves, isolation butterfly valves, and gate valves. Construction includes a 15-kV unified electrical building, a site wall, grading, drainage, and site paving.

Jomax Booster Pump Station Upgrades and Terramar Booster Pump Station Rehabilitation CMAR
Peoria, Arizona
This project consists of upgrades to the existing Jomax Booster Pump Station. PCL will install a new waterline and turnout structure from 67th Avenue to the Jomax Booster Pump Station site; construct a new Terramar Pressure Reducing Station at the site; and decommission the existing Terramar Booster Pump Station. This project will ensure the City of Peoria's infrastructure can accommodate the increased flow from the Pyramid Peak Water Treatment Plant.

RELEVANT PROJECT EXPERIENCE

Ralston Raw Water Pump Station and Pipeline CMAR

Arvada, Colorado

This project consists of a new 12-MGD pump station and approximately 7,400 feet of 24-inch water main that will run from the existing Arvada Water Treatment Plant to the Ralston Water Treatment Plant. The new pump station and pipeline will provide an alternative source of drinking water for residents while the Ralston Reservoir is shut down for repairs.

Booster Pump Station Replacement 3SE-B1/2S-B3 CMAR

Phoenix, Arizona

This project consists of demolition and replacement of two booster pump stations. One will be replaced with a 44-MGD booster pump station, and the second will be replaced with a 20-MGD pressure-reducing valve station.

Johnny G. Martinez Water Treatment Plant Water Quality Improvements CMAR

Tempe, Arizona

Construction of a multitude of improvements at this 50 MGD WTP through the CMAR delivery method. Our work included repairs, rehabilitation and replacement of the complete sludge collection system, including maintenance within the existing pre-sedimentation basins, installation of new SST rails, and rail supports for the flights and chains in the final sedimentation basins.

Clearwell Reservoir CMAR

Tucson, AZ

The 60-MGD Clearwell Reservoir is Tucson Water's largest potable water storage facility. The original reservoir, built in 1993, consisted of two equal-sized cells, each of which held 30 million gallons of water. The reservoir is hopper-bottom with a common 96-inch inlet pipe and individual isolation valves on both the inlet and outlet. To improve the reservoir's seismic stability, PCL constructed two new concrete shear walls to increase the rigidity of the structural roof framing and transfer loads down to the foundation. New structural steel was installed to replace aging steel members and a new standing seam roof was installed. Repairs were made to concrete slopes and columns, and the rubber liner on the reservoir floor was replaced with a 207,000-sf synthetic rubber liner. The project also included protective coatings, corrosion encapsulation on existing steel, carbon fiber wrap on select columns, and the installation of level instrumentation. A unique feature of this project is the north face of the reservoir is a registered dam with Arizona Department of Water Resources (ADWR).

North Avondale Water Supply Project CMAR

Avondale, Arizona

This project included installation of over 9,000 LF of 10- to 18-inch DIP through the right-of-way on 107th Avenue, Indian School Road, and Thomas Road. PCL also installed fiber optic conduit in a joint trench with the water line. The project includes two jack-and-bore operations; a tie-in to a 24-inch City of Phoenix main; a Roosevelt Irrigation District canal crossing; and coordination with businesses, utility companies, residents, and a school.

ERIC NASH, ENV SP

CONSTRUCTABILITY VALUE ENGINEERING

Eric has 15 years of experience with upgrades and rehabilitation of all aspects of water and wastewater treatment plants, including concrete structures, underground utility relocation, and installation of mechanical process equipment. Eric's project management expertise includes budget and schedule management, coordinating with multiple design firms, subcontractor management, implementing quality control and safety plans, and facility start-up and commissioning.

YEARS OF EXPERIENCE
15 years

EDUCATIONAL BACKGROUND
Bachelor of Science, Civil Engineering, University of Central Florida

LICENSES / ACCREDITATIONS
Envision Sustainability Professional (ENV SP)
Certified Aurigo Masterworks Specialist (CAMS), Estimation and Bid Management

TRAINING
Safety Trained Supervisor
OSHA 30-Hour
CQM-C – US Army Corps of Engineers

RELEVANT PROJECT EXPERIENCE

Tampa Bay Water Southern Hillsborough County Supply Expansion: Brandon Booster Pump Station CMAR Brandon Booster Station CMAR
Brandon, Florida
The Brandon BPS project included design, permitting, and construction of a new, in-line, booster pump station and two new 36-inch-diameter pipelines to supply an additional 5-7 MGD of water to Hillsborough County's Lithia Water Treatment Plant. The new pipelines connect the booster station to the Brandon-South Central transmission main that runs along Durant Road. PCL installed approximately five 250-HP horizontal split case pumps and associated electrical, valves, and piping, and replaced a vertical turbine pump with a well and a new pressure-release valve. The unstaffed station is approximately 6,500-square-foot building that houses the pumps, an electrical room, control room, storage room, and restroom. PCL provided CMAR services, including constructability review of design documents.

City of Tampa Bayshore Pumping Station Rehabilitation Design-Build
Tampa, Florida
PCL and Stantec are collaborating as the design-build firm to deliver the City of Tampa Bayshore Pump Station project. This high profile project, in a very urban area, includes a new pump station on Bayshore Boulevard, new electrical, I&C, pipeline work and maintenance of all existing wastewater flows during construction.

South Pasco Water Treatment Plant Caustic Feed System CMAR
Odessa, Florida
This project consists of modifications to the existing South Pasco Water Treatment Plant to allow additional pH adjustment through the injection of caustic soda. PCL will construct new sodium hydroxide tanks, pumps, injectors, underground piping, HVAC ladder access, site improvements, and clearing and grubbing of the spillway. The project includes one static mixer, a single skid, dual pump system, new leak detection sensors, and new pipe-tapping saddles for each injection location.

RELEVANT PROJECT EXPERIENCE

Tampa Bay Water Regional Facility Pump Station Expansion
Tampa, Florida
This project consists of replacing of an unused 10 mgd (600 hp) jockey pump with a new 24 MGD (2,000 HP) split case pump at the regional facility high service booster pump station. Work includes structural modifications and installation of a variable frequency drive motor, electrical equipment, and mechanical equipment.

Hillsborough County Woodberry Superstation
Tampa, Florida
This project consists of rehabilitating an existing wastewater lift station for Hillsborough County. The scope of work includes the installation of a temporary bypass, HVAC system, replacement of the odor control system, gates, valves, and piping, and electrical and control upgrades.

Tampa Bay Water Bypass Canal Gate Automation CMAR
Tampa, Florida
This project involves upgrade of the existing flood control structures on the Tampa Bypass Canal to allow remote operation of 27 gates. This modification will assist SWFWMD and Tampa Bay Water in regulation of flood waters, as well as provide greater control of water delivery to improve the quality of the raw water at surface water treatment facilities. Construction includes nine motorized weir gate actuators, nine three-way miter gearboxes, 38 four-ton screw jacks, and other structural and electrical modifications at the Tampa Bypass Canal Structures S-160, S-161, and S-162.

Pasco County Lacoochee Well Site Improvements
New Port Richey, Florida
Improvements to an existing well site to remove iron from water and improve water quality for the surrounding community. Improvements include installation of three pressure filter vessels and associated blowers and FRP backwash tank. Pressure filters are filled with sand and utilize NaOCl (bleach) to treat and remove iron content from the water.

Pinellas County WWTP & Water Plant Maintenance, Repair, Minor Construction & Underground Utilities
Clearwater, Florida
This job order contract project delivery incorporates key components of CMAR project type by providing design reviews, constructability analysis, price modeling, and GMP prior to proceeding with construction. This project involves multiple job orders for plant maintenance and repair at the County's two wastewater treatment plants and ancillary facilities.

Manatee County Intersection Improvements for 17th Street East at US 41
Bradenton, Florida
PCL is providing CMAR services under a continuing services contract for Manatee County. Construction includes an eastbound right-turn land at the US 41 and 17th Street East intersection, pedestrian ramps, crosswalks, and utility relocation. PCL will relocate traffic signal infrastructure and operations to accommodate these changes.

TODD PALMATIER, CGC

CONSTRUCTION MANAGER

Todd is a leader in the construction of complex water and wastewater treatment facilities throughout Florida. Over the past 23 years, including 9 years with PCL, all of Todd's projects have been performed at existing facilities, giving him expertise in MOPOs and the ability to ensure constructability and operability. He leverages strong leadership, client and subcontractor/supplier relationships, and supervisory skills to lead multidisciplinary teams in collaborative delivery projects.

YEARS OF EXPERIENCE
23 years

EDUCATION
Bachelor of Science, Civil Engineering Technology, Rochester Institute of Technology
Associate of Applied Sciences, SUNY at Delhi

TRAINING
Safety Trained Supervisor

RELEVANT PROJECT EXPERIENCE

Lift Station 87 Structure
Sarasota, Florida
This project consists of a new above-ground lift station that will route the flow of 9.5 million gallons of wastewater per day beneath Hudson Bayou. Construction includes demolition of the existing station, an odor control system, piping, on-site and off-site tie-ins to the existing transmission main, site work, and electrical, instrumentation and controls. The lift station was designed to withstand a Category 3 hurricane.

South Central Regional WWTP Blower and Efficiency Upgrades Progressive Design-Build
Delray Beach, Florida
This is a progressive design build project to increase the plant's water treatment capacity from 24 MGD to 36 MGD. Work includes replacing blowers and aeration systems, raising influent boxes and increasing overall aeration capacity, and performing restoration and maintenance to the aging plant.

Miami-Dade Central District WWTP Effluent Pump Station
Miami, Florida
This project consists of electrical improvements to eight of the existing pumps within the effluent pump station. Due to the plant's close proximity to the ocean, the new electrical building will be supported by auger cast piles to comply with Miami-Dade County's sea level rise and storm surge design criteria. As a result of these improvements, the plant will be more energy efficient, resulting in reduced power consumption.

WATR 2002 Norwood WTP Rehabilitation - Progressive Design Build
This WTP was originally built in 1945. This Lime Softening Rehabilitation project extends the life another 20 years. The plant's treatment capacity is 41 MGD which provides potable water service to more than 180,000 residents with a Daily Demand of about 20 MGD. The team performed a treatment screening evaluation to help the owner make better decisions for the new technologies offered during the RFQ as a potential new Pellet Softening System to replace the existing treatment process. The project is currently in the Basin of Design and PCL will Self-perform 60% of services.

RELEVANT PROJECT EXPERIENCE

GT Lohmeyer WWTP VPSA Oxygen Replacement
City of Fort Lauderdale, FL
Construction Manager
PCL is teaming with Wade Trim on this design-build project involving the design, permitting, construction, testing and startup of a new vacuum pressure swing adsorption (VPSA) oxygen production process and ancillary systems requirements for the George T. Lohmeyer Wastewater Treatment Plant. This new VPSA system will replace the existing cryogenic oxygen generation system.

Miami-Dade Central District WWTP Oxygen Production Facility Design-Build
Miami, Florida
This design-build wastewater oxygen production facility is located at the Central District Plant in Key Biscayne. PCL is constructing a new building to house two 90-ton-per-day, vacuum pressure swing adsorption oxygen production units; associated electrical, instrumentation and controls; as well as site and civil work. Construction also includes process mechanical, architectural, structural, plumbing, HVAC, and fire protection.

South District Wastewater Treatment Plant HDL Upgrade
Miami, Florida
Contract to construct the South District Wastewater Treatment Plant HDL upgrade to a capacity of 285 MGD. Construction included four new 200-foot-diameter concrete secondary clarifiers, rehabilitation of six existing secondary clarifiers, and nine new junction boxes. Work also included RAS pump station #3, new sludge wet wells at RAS pump station #2, and mechanical and electrical rehabilitation of RAS pump station #1. Excavations required a 40 MGD temporary dewatering system inside the sheet pile cofferdams. Construction of the junction boxes required separate cofferdams with concrete tremie seal slabs and the RAS pump station #3 had a 1,000+ cubic yard tremie slab below it. The project was completed two years ahead of schedule. Todd managed the 10-person construction team, at max 140 craft personnel.

Magnetic Ion Exchange (MIEX) Resin Plant and East WTP Improvements Progressive Design-Build
Boynton Beach, Florida
PCL partnered with Carollo and CDM on this design-build project of a 16 MGD MIEX treatment plant to pre-treat water from multiple wellfields prior to the lime softening process. The pre-treatment system reduces dissolved organic carbon, disinfection by-product material and color, and potentially reduces other treatment chemicals that are applied downstream of the MIEX process.

Pump Station 357, US Army Corps of Engineers*
Miami, Florida
Contract to construct pump station 357, 5.5 miles of canal excavation, and seven miles of levee and storm water treatment area. Structure construction of pump station #357 included a cofferdam with structural tieback anchors; 100 rock anchors which were cast into the 1,100-cubic-yard tremie concrete structural slab; cast-in-place concrete, hollow core slabs, and pre-stressed double tees for the roof. Todd managed the 9-person construction team, at max 110 craft personnel, and coordinated directly with the US Army Corps of Engineers and South Florida operations staff during functional start-up and turnover.

*Experience prior to PCL

JOHN KULESA

SUPERINTENDENT

John brings 33 years of construction experience to PCL, including 16 in Florida. His experience includes wastewater treatment plants, pump stations, bridges and roadway construction. John has directed activities ranging from installation of ductile iron and large-diameter steel pipe to sheet piles, concrete form work and placement, utility installation, demolition, road reconstruction, and earthwork operations.

YEARS OF EXPERIENCE

33 years

EDUCATIONAL BACKGROUND

Bachelor of Science, Construction Management, Syracuse University at Utica College

Associate of Science, Architectural Technology, SUNY Delhi, NY

TRAINING

OSHA 30 Hour
First Aid/CPR
HDPE Fusion Tech
Safety Trained Supervisor

RELEVANT PROJECT EXPERIENCE

Lake Hancock Outfall Wetland

Bartow, Florida

The project is a large-scale, flow-through, wetland creation to improve the quality of water that discharges from Lake Hancock to Saddle Creek. The finished project consists of a 1,008-acre treatment wetland located on former reclaimed phosphate mine clay settling areas.

Lift Station 85 Albert Whitted Master 30-inch Force Main

St. Petersburg, Florida

PCL constructed a new 36-MGD lift station within the existing Albert Whitted Water Reclamation Facility. Work included a 33-foot-below-grade concrete wet well and dry pit, climate-controlled electrical room, storage area and restroom, and six 330-HP pumps with valves/piping and related electrical instrumentation systems. Existing water, sewer, odor control, and power supply systems were relocated as part of the project. Work included storm drainage improvements and installation of 2,800 feet of 30-inch-diameter ductile iron pipe and RCW distribution pipelines, as well as "reward well" injection piping connections.

Largo WWRF Influent Pumping Station and Headworks

Clearwater, Florida

This project consisted of an 18-MGD influent pump station with six 100-HP submersible pumps, a new 5-MG open-top equalization tank, a headworks facility, a gravity sludge thickener, and an odor control system at an existing 15-MGD wastewater reclamation facility. PCL demolished one influent pump station and three headworks facilities, constructed modifications to a second influent pump station and the digester tanks, and converted the existing chlorine gas storage building to a new electrical building.

Lift Station 87 Structure

Sarasota, Florida

This project consists of a new above-ground lift station that will route the flow of 9.5 million gallons of wastewater per day beneath Hudson Bayou. Construction includes demolition of the existing station, an odor control system, piping, on-site and off-site tie-ins to the existing transmission main, site work, and electrical, instrumentation and controls. The lift station was designed to withstand a Category 3 hurricane.

RELEVANT PROJECT EXPERIENCE

Tampa Bay Water Regional Facility Pump Station Expansion
Tampa, Florida
This project consists of replacing of an unused 10 mgd (600 hp) jockey pump with a new 24 MGD (2,000 HP) split case pump at the regional facility high service booster pump station. Work includes structural modifications and installation of a variable frequency drive motor, electrical equipment, and mechanical equipment.

St. Petersburg NWWRF Improvements CMAR
St. Petersburg, Florida
PCL's scope of work included new temporary and permanent pump stations, interconnecting piping, multiple piping tie-ins, new and upgraded injection wells, and electrical improvements. All work was completed to handle increased transmission flows and sequenced so that upgrades were expedited to meet flow demands.

Pinellas Pump Station and Storage Tank
Oldsmar, Florida
PCL constructed a reclaimed water pump station and 5-MG 180-foot water storage tank with a 46-foot x 38-foot building. The system collects water from Clearwater and Oldsmar for distribution in North Pinellas County.

Carrollwood/Dale Mabry Reclaimed Water Pump Station Replacement
Tampa, Florida
Following a large population growth in the northern neighborhoods of Hillsborough County, Florida the County's pump station began reaching its operating capacity. PCL replaced the existing reclaimed water pump station with a larger, more modern facility that accommodated the County's recent growth, and allowed for future expansion. The Carrollwood/Dale Mabry Reclaimed Water Pump Station Replacement project included the installation of new vertical turbine pumps and associated systems, which are designed to operate more efficiently than the station's original split-case centrifugal pumps. The new pump station included seven vertical turbine pumps, VFD's and appurtenances. In order to keep the existing plant fully operational, PCL underpinned the existing structures and performed long term bypasses (both mechanically and electrically). The project included tunneling under the existing ground storage tanks to install new intake piping, and demolition of the previous pump station and electrical building. This project was extremely fast track with a duration from notice to proceed to substantial completion of only seven months. PCL completed the project on time and under budget. The new and improved pump station allows for a higher daily capacity of reclaimed water to be used for irrigation in Hillsborough County, thus reducing the load on the potable water system during dry seasons.

Pasco County Lacoochee Well Improvements
Dade City, FL
Improvements to an existing well site to remove iron from water and improve water quality for the surrounding community. Improvements include installation of three pressure filter vessels and associated blowers and FRP backwash tank. Pressure filters are filled with sand and utilize NaOCl (bleach) to treat and remove iron content from the water.

Discovery Cove Expansion 2011 Grand Reef
Orlando, Florida
This project included the construction of 'Exploration Reef', a new 875,000 gallon saltwater reef experience at SeaWorld's Discovery Cove. Exploration Reef consists of an underwater dive experience, a shark exhibit, a lion fish exhibit, an eel exhibit, guest service buildings and a series of guest cabanas. Operated under a special work schedule in an effort to reduce construction noise and interruptions to park guests and animals.

NATE RINE

PIPELINE SUPERINTENDENT

Nate has 27 years of experience in the construction industry. For 14 years, he has been supervising the construction of a variety of water and wastewater facilities, including pipeline installations, lift stations, headworks, tanks, and aeration systems. Nate has expertise in scheduling, procurement, mechanical installation, start-up and commissioning, and specializes in underground mechanical.

YEARS OF EXPERIENCE
27 years

EDUCATIONAL BACKGROUND
Bachelor of Science, Mechanical Engineering, West Virginia University

TRAINING
OSHA 30 Hour
Forklift Operator Certificate
DEP Qualified Stormwater Management Inspector
NUCA Excavation Safety Competent Person
CPR/First Aid/AED

RELEVANT PROJECT EXPERIENCE

Lift Station 85 Albert Whitted Master 30-inch Force Main
St. Petersburg, Florida
PCL constructed a new 36-MGD lift station within the existing Albert Whitted Water Reclamation Facility. Work included a 33-foot-below-grade concrete wet well and dry pit, climate-controlled electrical room, storage area and restroom, and six 330-HP pumps with valves/piping and related electrical instrumentation systems. Existing water, sewer, odor control, and power supply systems were relocated as part of the project. Work included storm drainage improvements and installation of 2,800 feet of 30-inch-diameter ductile iron pipe and RCW distribution pipelines, as well as "reward well" injection piping connections.

Largo WWRF Influent Pumping Station and Headworks
Clearwater, Florida
This project consisted of an 18-MGD influent pump station with six 100-HP submersible pumps, a new 5-MG open-top equalization tank, a headworks facility, a gravity sludge thickener, and an odor control system at an existing 15-MGD wastewater reclamation facility. PCL demolished one influent pump station and three headworks facilities, constructed modifications to a second influent pump station and the digester tanks, and converted the existing chlorine gas storage building to a new electrical building.

Blacks Ford Water Reclamation Facility Phase 4 Expansion
St. Johns, Florida
The project consisted of a variety of upgrades to expand the capacity of the wastewater treatment plant to 6 MGD to accommodate recent growth in the Jacksonville area. Construction included new treatment process equipment and chemical systems, , RAS/WAS pump stations, new equalization tank blowers, new submersible aerators, expansion of the existing filters and ultraviolet disinfection channels, and upgrades to electrical, instrumentation and control systems.

Lift Station 87 Structure
Sarasota, Florida
This project consists of a new above-ground lift station that will route the flow of 9.5 million gallons of wastewater per day beneath Hudson Bayou. Construction includes demolition of the existing station, an odor control system, piping, on-site and off-site tie-ins to the existing transmission main, site work, and electrical, instrumentation and controls. The lift station was designed to withstand a Category 3 hurricane.

PCL CONSTRUCTION

RELEVANT PROJECT EXPERIENCE

Tampa Bay Water Regional Facility Pump Station Expansion
Tampa, Florida
This project consists of replacing of an unused 10 mgd (600 hp) jockey pump with a new 24 MGD (2,000 HP) split case pump at the regional facility high service booster pump station. Work includes structural modifications and installation of a variable frequency drive motor, electrical equipment, and mechanical equipment.

South Central Regional WWTP Blower and Efficiency Upgrades Progressive Design-Build
Delray Beach, Florida
This is a progressive design build project to increase the plant's water treatment capacity from 24 MGD to 36 MGD. Work includes replacing blowers and aeration systems, raising influent boxes and increasing overall aeration capacity, and performing restoration and maintenance to the aging plant.

St. Petersburg NWWRF Improvements CMAR
St. Petersburg, Florida
PCL's scope of work included new temporary and permanent pump stations, interconnecting piping, multiple piping tie-ins, new and upgraded injection wells, and electrical improvements. All work was completed to handle increased transmission flows and sequenced so that upgrades were expedited to meet flow demands.

Marshall Street Influent Pump Station Repair
Clearwater, Florida
This project consisted of replacement of influent pumps, new suction and discharge piping, concrete rehabilitation, electrical, instrumentation and controls, structural modifications, and programming of PLC control logic.

South Cross Bayou Water Reclamation Facility – UV Disinfection System & Related Improvements
St. Petersburg, Florida
Constructed modifications to four automatic backwash filter basins which were replaced by four vertical ultraviolet disinfection channels, an influent channel, a bypass channel, effluent pump station and associated mechanical and electrical work. Additional improvements included upgrades to the facility's aeration blowers, from two 800-HP blowers to three 400-HP turbo blower systems.

Hillsborough South County Wastewater Treatment Plant
Ruskin, Florida
The project included construction of a new 10 MGD facility incorporating features of the existing plant into the new plant while the existing plant remained completely operational. The major new facilities included a new headworks, bio-reactor basins, clarifiers and filters, UV disinfection facility, storage tanks, pump stations, chemical feed systems, an administration building, and electrical, instrumentation, and controls.

W.E. Dunn WRF Facility Filtration and Disinfection Improvements Design-Build
Palm Harbor, Florida
This $12.6 million design-build project for Pinellas County consists of new AquaDiamond cloth media traveling bridge filters, a new sodium hypochlorite disinfection facility, and a new secondary fine screening facility. The scope of work also includes decommissioning of the existing chlorine gas disinfection facility. This complex project includes multiple mechanical and structural upgrades across the plant that must be installed, tested, and placed into service while existing operations remain functional.

SHAWN LOHNES

SUPERINTENDENT

Shawn has 30 years of experience in the construction of large water and wastewater treatment infrastructure. Shawn specializes in the installation of large-diameter underground pipe and has served as a superintendent for 19 years. His responsibilities include management of multiple crews, subcontractor and supplier coordination, and quality control.

YEARS OF EXPERIENCE
30 years

EDUCATIONAL BACKGROUND
Certificate, Pipe Fitting and Welding, The Industrial Company Pipe Fitting School

TRAINING
Safety Trained Supervisor
CPR/First Aid
Excavation and Trenching
HDPE Pipe Fusion Certification

RELEVANT PROJECT EXPERIENCE

Glendale Cholla Water Treatment Plant Process Improvements and Booster Pump Station Improvements CMAR
Glendale, Arizona
PCL provided CMAR services for upgrades and improvements at the 30-MGD Cholla WTP to optimize treatment process efficiency, including replacing several vertical turbine pumps and rehabilitating two booster pump stations within Zones 1A, 1B, and 2. Construction included modifying the raw water flow meter, low-lift pump station, bypass pipeline, and splitter box; improving the chemical feed system, site/electrical systems, and communication; and upgrading UPS/PLC. Additionally, PCL upgraded two 10-MG reservoirs, including replacing a reservoir roof and installing new security vents and additional hatches and access points on the other reservoir. PCL also recoated and installed new drives in seven secondary clarifiers, replaced two flocculators, and replaced a chemical tank and piping and containment coatings.

Lift Station 85 Albert Whitted Master 30-inch Force Main
St. Petersburg, Florida
PCL constructed a new 36-MGD lift station within the existing Albert Whitted Water Reclamation Facility. Work included a 33-foot-below-grade concrete wet well and dry pit, climate-controlled electrical room, storage area and restroom, and six 330-HP pumps with valves/piping and related electrical instrumentation systems. Existing water, sewer, odor control, and power supply systems were relocated as part of the project. Work included storm drainage improvements and installation of 2,800 feet of 30-inch-diameter ductile iron pipe and RCW distribution pipelines, as well as "reward well" injection piping connections.

Paradise Valley Phoenix Interconnect CMAR
Paradise Valley, Arizona
This project included installation of 11,400 LF of 24-inch DIP through the right-of-way of a highly travelled corridor. The installation required four jack-and-bore operations to cross under existing culverts and storm drains, an open trench crossing of a traffic intersection, and detailed traffic control coordination to maintain access to the numerous churches, resorts, businesses, and residents along the route.

RELEVANT PROJECT EXPERIENCE

North Avondale Water Supply Project CMAR
Avondale, Arizona
This project included installation of over 9,000 LF of 10- to 18-inch DIP through the right-of-way on 107th Avenue, Indian School Road, and Thomas Road. PCL also installed fiber optic conduit in a joint trench with the water line. The project includes two jack-and-bore operations; a tie-in to a 24-inch City of Phoenix main; a Roosevelt Irrigation District canal crossing; and coordination with businesses, utility companies, residents, and a school.

Largo WWRF Influent Pumping Station and Headworks
Clearwater, Florida
This project consisted of an 18-MGD influent pump station with six 100-HP submersible pumps, a new 5-MG open-top equalization tank, a headworks facility, a gravity sludge thickener, and an odor control system at an existing 15-MGD wastewater reclamation facility. PCL demolished one influent pump station and three headworks facilities, constructed modifications to a second influent pump station and the digester tanks, and converted the existing chlorine gas storage building to a new electrical building.

Blacks Ford Water Reclamation Facility Phase 4 Expansion
St. Johns, Florida
The project consisted of a variety of upgrades to expand the capacity of the wastewater treatment plant to 6 MGD to accommodate recent growth in the Jacksonville area. Construction included new treatment process equipment and chemical systems, , RAS/WAS pump stations, new equalization tank blowers, new submersible aerators, expansion of the existing filters and ultraviolet disinfection channels, and upgrades to electrical, instrumentation and control systems.

Hillsborough South County Wastewater Treatment Plant
Ruskin, Florida
The project included construction of a new 10 MGD facility incorporating features of the existing plant into the new plant while the existing plant remained completely operational. The major new facilities included a new headworks, bio-reactor basins, clarifiers and filters, UV disinfection facility, storage tanks, pump stations, chemical feed systems, an administration building, and electrical, instrumentation, and controls.

Johnny G. Martinez Water Treatment Plant - CMAR*
Tempe, Arizona
This was a six-year, multi-phase CMAR project for the construction of a 12-MG concrete reservoir and water pump station that included installation of 10,200 feet of underground water and sewer utilities, placement of 8,000 yards of structural concrete, and civil improvements. Shawn supervised the installation of 6,000 feet of 60-inch RCP water transmission line along Curry Road and Scottsdale Road.

City of Mesa 30-inch Transmission Waterline on McKellips from Val Vista to Higley*
Mesa, Arizona
$2.3 million design-bid-build project consisted of Installation of 6,000 LF of 30-inch water transmission line and an additional 12-inch DIP waterline as well as removal and replacement of pavement, curb and gutter.

*Experience prior to PCL

ERIC WINDERS, CSP

HSE MANAGER

Eric has 18 years of experience implementing and managing site safety programs for water and wastewater infrastructure projects. Eric ensures compliance with State and Federal OSHA rules and regulations as well as PCL's strict Health, Safety and Environment (HSE) policies and procedures.

YEARS OF EXPERIENCE
18 years

EDUCATIONAL BACKGROUND
Bachelor of Science, Safety Management, University of Central Missouri

LICENSES / ACCREDITATIONS
Certified NCCER Instructor for Construction Site Safety Orientation and Core Curricula
Safety Trained Supervisor
Certified Safety Professional

TRAINING
OSHA 30-Hour
Fall Protection
Scaffold
Confined Space
Rigging
Trench/Excavation
Aerial Lifts
Respiratory
Lock Out/Tag Out

RELEVANT PROJECT EXPERIENCE

Hyperion Secondary Effluent Pump Station Improvements
Playa Del Rey, California
The project involves consists of a new pump station with two 21-MGD, 800-HP, medium voltage pumping units adjacent to the existing secondary effluent pump station and a new 3-megawatt, emergency, diesel-fueled engine generator. Construction includes tie-in to an existing pressurized underground concrete secondary effluent channel; connecting the new pump station to the existing 60-inch-diameter force main immediately adjacent to the site; and additional air/vacuum valves at various locations along the length of the force main.

Solana Beach Sewer Pump Station Upgrades
Solana Beach, California
This project includes two underground reinforced concrete wet wells, an overflow storage tank, two submersible wastewater pumps, three dry-pit close-coupled submersible pumps with required piping and appurtenances, and replacement of a portion of the existing CMU pump building.

South Central Regional WWTP Blower and Efficiency Upgrades Progressive Design-Build
Delray Beach, Florida
This is a progressive design build project to increase the plant's water treatment capacity from 24 MGD to 36 MGD. Work includes replacing blowers and aeration systems, raising influent boxes and increasing overall aeration capacity, and performing restoration and maintenance to the aging plant.

Miami-Dade Central District WWTP Oxygen Production Facility Design-Build
Miami, Florida
This design-build wastewater oxygen production facility is located at the Central District Plant in Key Biscayne. PCL is constructing a new building to house two 90-ton-per-day, vacuum pressure swing adsorption oxygen production units; associated electrical, instrumentation and controls; as well as site and civil work. Construction also includes process mechanical, architectural, structural, plumbing, HVAC, and fire protection.

RELEVANT PROJECT EXPERIENCE

Manatee County Lake Manatee WTP Filter Upgrade
Bradenton, Florida
This project will replace the existing water filtration system with more advanced filtration technology that will improve water filtration levels. The scope of work includes retrofitting the existing filter building with ultrafiltration membrane trains, including air scour blowers, a compressed air system, a clean-in-place system, chemical storage, and four bar screens.

Baker Water Treatment Plant
Lake Forest, California
This project consisted of a new 28.1-MGD membrane bioreactor surface water treatment plant, which supplies water to five local water agencies. The plant uses advanced microfiltration treatment technology that complies with stricter standards than the current regulatory requirements, providing a higher quality source of potable water.

Longmont WWTP Ammonia Treatment and Biosolids Dewatering Progressive Design-Build
Longmont, Colorado
PCL constructed improvements to meet new ammonia limits set by the Colorado Department of Public Health and Environment. The project included a new secondary clarifier, a new aeration basin, new RAS/WAS pump station, improvements to the dewatering facility including odor control, cogeneration facility improvements, and a new maintenance building.

Riverside Regional Water Quality Control Plant Phase 1 Expansion
Riverside, California
This $198 million project was a conversion of an existing traditional treatment facility to a 26-MGD membrane bioreactor facility. It included construction of a new stormwater equalization basin, clarifiers, conversion of secondary clarifiers to an MBR basin, and ancillary facilities. Work also included retrofitting an existing activated train, repairing and replacing clarifier mechanisms, and upgrading electrical generators.

San Jacinto Valley Regional WRF Title 22 Tertiary Treatment Upgrade and Plant 2 Facilities
San Jacinto, California
This expansion project to the existing facility allows a maximum capacity of 14 MGD. Construction included a new effluent pump station with ten vertical turbine pumps with a total operating capacity of 46 MGD, retrofitting existing plant facilities, new digester structures, sludge storage, additional chlorine contact structure, primary and secondary clarifiers, aerobic basin structure, new headworks, biofilters, flocculation basin, new operations and administration buildings, a main electrical building, minor electrical buildings throughout the project site, and a warehouse.

Full-Scale Fixed-Bed Biological Perchlorate Destruction Demonstration for the West Valley Water District - Design-Build
Rialto, California
PCL provided design and construction services for this new biological treatment system, which treats 0.9 MGD and operates in parallel with the current treatment process. Construction included a fixed-bed biofilter, new outdoor bulk chemical storage facility, chemical metering pumps, backwash supply and waste equalization tanks, and a new sanitary sewer line that is tied into an existing sewer.

ANDREW HOGAN, PEng, ENV SP

QUALITY CONTROL MANAGER

Andrew has 13 years of industrial construction experience at PCL with a focus on project management of newly constructed and operating plants. His duties include monitoring and assisting in the implementation of project quality and safety programs; scheduling and planning; preparation of quantity take-offs; constructability reviews; and collaboration with owners, engineers, and other stakeholders.

YEARS OF EXPERIENCE
13 years

EDUCATIONAL BACKGROUND
Bachelor of Science, Mechanical Engineering, University of Alberta

LICENSES / ACCREDITATIONS
Envision Sustainability Professional (ENV SP)

TRAINING
Safety Trained Supervisor Certification
OSHA 30 Hour
CPR/First Aid/AED
E3-100 Leadership Training

RELEVANT PROJECT EXPERIENCE

Tampa Bay Water Southern Hillsborough County Supply Expansion: Brandon Booster Pump Station CMAR Brandon Booster Station CMAR
Brandon, Florida
The Brandon BPS project included design, permitting, and construction of a new, in-line, booster pump station and two new 36-inch-diameter pipelines to supply an additional 5-7 MGD of water to Hillsborough County's Lithia Water Treatment Plant. The new pipelines connect the booster station to the Brandon-South Central transmission main that runs along Durant Road. PCL installed approximately five 250-HP horizontal split case pumps and associated electrical, valves, and piping, and replaced a vertical turbine pump with a well and a new pressure-release valve. The unstaffed station is approximately 6,500-square-foot building that houses the pumps, an electrical room, control room, storage room, and restroom. PCL provided CMAR services, including constructability review of design documents.

South Central Regional WWTP Blower and Efficiency Upgrades Progressive Design-Build
Delray Beach, Florida
This is a progressive design build project to increase the plant's water treatment capacity from 24 MGD to 36 MGD. Work includes replacing blowers and aeration systems, raising influent boxes and increasing overall aeration capacity, and performing restoration and maintenance to the aging plant.

St. Petersburg NWWRF Improvements CMAR
St. Petersburg, Florida
PCL's scope of work included new temporary and permanent pump stations, interconnecting piping, multiple piping tie-ins, new and upgraded injection wells, and electrical improvements. All work was completed to handle increased transmission flows and sequenced so that upgrades were expedited to meet flow demands.

RELEVANT PROJECT EXPERIENCE

Miami-Dade Central District WWTP Oxygen Production Facility Design-Build
Miami, Florida
This design-build wastewater oxygen production facility is located at the Central District Plant in Key Biscayne. PCL is constructing a new building to house two 90-ton-per-day, vacuum pressure swing adsorption oxygen production units; associated electrical, instrumentation and controls; as well as site and civil work. Construction also includes process mechanical, architectural, structural, plumbing, HVAC, and fire protection.

South Central Regional Headworks Channel Rehabilitation CMAR
Delray Beach, Florida
The SCR Headworks Channel Rehabilitation project included rehabilitation of headworks channels for the 24-MGD South Central Regional Water Reclamation Facility. Rehabilitation work included the removal of the existing compromised coating system and weakened concrete, restorations concrete and reinforcement steel, and application of new high performance coatings system. The scope also included new miscellaneous metals, including cover plates, stopgates, and walkways. PCL also replaced two existing bar screens and installed one additional screen.

Magnetic Ion Exchange (MIEX) Resin Plant and East WTP Improvements Progressive Design-Build
Boynton Beach, Florida
PCL partnered with Carollo and CDM on this design-build project of a 16 MGD MIEX treatment plant to pre-treat water from multiple wellfields prior to the lime softening process. The pre-treatment system reduces dissolved organic carbon, disinfection by-product material and color, and potentially reduces other treatment chemicals that are applied downstream of the MIEX process.

W.E. Dunn WRF Facility Filtration and Disinfection Improvements Design-Build
Palm Harbor, Florida
This $12.6 million design-build project for Pinellas County consists of new AquaDiamond cloth media traveling bridge filters, a new sodium hypochlorite disinfection facility, and a new secondary fine screening facility. The scope of work also includes decommissioning of the existing chlorine gas disinfection facility. This complex project includes multiple mechanical and structural upgrades across the plant that must be installed, tested, and placed into service while existing operations remain functional.

St. Petersburg Cosme WTP Operational and SCADA Improvements Design-Build
St. Petersburg, Florida
This project encompasses many of the plant's systems and operations and will upgrade aging plant infrastructure while also incorporating redundancy provided by TBW. The overall project combines two previously designed projects: Cosme Main Header Valve Replacement and Cosme WTP Optimization. These projects targeted improving effluent water control, blending, bypassing, and quality through piping, chemical, and SCADA improvements and replacing critical high-service pump isolation and control valves.

Sunrise Sawgrass WTP ION Exchange
Sunrise, Florida
PCL is constructing a post-treatment process to provide additional filtration at this 18 MGD existing water treatment facility. The project consists of construction of a new oxidation, pre-filtration, and ion exchange treatment system as well as a cleaning system for the existing degasifiers. Construction of a Chemical/Mechanical masonry building with chemical storage and containment and new electrical room to service expanded plant treatment, associated electrical, instrumentation, and controls. The project includes a new ammonia analyzer, waste equalization, and coating of two existing ground storage tanks.

PCL CONSTRUCTION

RYAN SINCLAIR

ELECTRICAL PRECONSTRUCTION MANAGER

Ryan has over 20 years of experience in the industrial construction industry, most of which has been in the capacity of supervisory and management roles. He has also overseen operations of project personnel and maintained and developed excellent relationships with clients, engineers and subcontractors. Ryan leads and motivates all personnel to foster a cohesive organization with reaching common goals.

YEARS OF EXPERIENCE
20 years

EDUCATIONAL BACKGROUND
Primavera Project Management Scheduling & Control Red Deer College

LICENSES / ACCREDITATIONS
Certified Journeyman Electrician
NCSO (National Construction Safety Officer)
PMP (Project Management Professional)

RELEVANT PROJECT EXPERIENCE

Gilbert North Water Treatment Plant CMAR
Gilbert, Arizona
This project consists of installation of a new electrical system for the solids building in the North Water Treatment Facility, including providing the new electrical system gear. Construction will include providing subcontractors for fiber optic terminations, fie alarm system, security system and lightning protection system. This installation will provide a more updated facility with more efficiencies.

APS Clarifier Train 6
Tonopah, Arizona
This project consists of replacing mechanical components in the clarifiers within Train 1, including the clarifier turbine, rake drives, pumps, piping, as well as electrical, instrumentation and control upgrades. Construction also includes demolition, earthwork and structural concrete repairs, removal and replacement of the piping and drives. These modifications will enable the facility to produce more water than it consumes, increasing the plant's efficiency and allowing a train to be taken offline without impacting the cooling towers.

South Tempe Water Treatment Plant Reservoir Improvements
Tempe, Arizona
PCL performed a variety of improvements at the South Tempe Water Treatment Plant Reservoir. Electrical improvements included demolition of the existing cathodic protection system, including breaker buckets, light poles, disconnects, and associated existing cable and conduit. PCL installed electrical equipment, including motor starters, control panels, duel drive, instrumentation, sediment motors, all necessary conduit, power and control cables, grounding systems, and equipment supports.

Tempe Asset Management - Johnny G. Martinez Water Treatment Plant and South Tempe Water Treatment Plant
Tempe, Arizona
This project consists of demolition of the current cathodic protection system, one breaker basket, three light poles, one disconnect, and the existing cable. PCL is replacing all cable, conduit, and equipment supports, including three meltric plugs, a motor starter, a control panel, an existing duel drive and reconnecting eight sediment motors and three new 20-foot light poles.

RELEVANT PROJECT EXPERIENCE

R127A and TARP Advanced Oxidation Process Improvements - CMAR
Tucson, Arizona
This CMAR project for City of Tucson Water is a 1,400-gpm expansion to an existing groundwater treatment system that uses an ultraviolet advanced oxidation process (UV/AOP) and granular activated carbon (GAC), including a new 1,300-gpm well for groundwater treatment. Construction includes drilling and equipping a new off-site remediation well, new booster pumps, effluent re-lift pump station expansion, mechanical piping, and approximately 1,500 feet of well piping in a residential neighborhood with tie-in to existing underground pipe.

TARP Recycled System Source Water Improvements
Tucson, Arizona
Role: EIC Manager
PCL Industrial provided electrical support for the city of Tucson Groundwater Remediation Project. The scope included one booster pump station, equipment additions, and one existing booster pump station. PCL provided and installed electrical distribution equipment, instrumentation, and bulk materials. The primary raceway method included underground duct-bank routing throughout the worksite. Work also included one new electrical building, four 350-HP booster pumps, and one new water well.

APS Palo Verde Generating Station Water Reclamation Facility Train 2 Refurbishment
Tonopah, Arizona
Role: EIC Manager
This project included demolition of existing control panels and associated conduits and installation of a new Ovivo system, new control panels, underground duct banks, and above ground conduits to the Train 2 clarifier.

APS Palo Verde Water Reclamation Facility Train 3 Clarifier Refurbishment
Tonopah, Arizona
PCL's scope of work included demolition of existing power and controls to Train 3 and installation of new power, control cabinets, and instrumentation to the clarifier on Train 3.

APS Palo Verde Generating Station Water Reclamation Facility Train 1 Clarifier Refurbishment
Tonopah, Arizona
Project consists of replacing mechanical components in the clarifiers within Train 1, including the clarifier turbine, rake drives, piping, as well as electrical, instrumentation and control upgrades. Construction also includes demolition, earthwork and structural concrete repairs, removal and replacement of the piping and drives.

91st Ave Wastewater Treatment Plant Sludge Solar Drying Bed
Phoenix, Arizona
This project includes removal of existing locks and tags on the existing feeder breakers, megger testing on all feeders; replacement of the alarm panel to the load; replacement of owner-supplied lighting; and modifications and maintenance to the MCC.

Wastewater Facilities General Construction Job Order Contract
Phoenix, Arizona
PCL has been providing preconstruction and construction services on a job order basis for wastewater projects in multiple locations throughout Phoenix. Job orders have included upgrading and repairing treatment plants and facilities; installing new booster pump stations, lift stations, and pipelines; rehabilitating digesters and replacing digester domes; and completing other minor jobs as needed. This JOC has continually been renewed since 2007 based upon successful performance.

PCL CONSTRUCTION

SECTION 5

Financial Capability and Legal

PCL Construction, Inc. retains the financial strength and stability to successfully execute this project.

a) ATTACHMENT B: CLAIMS, LIENS, AND LITIGATION HISTORY, AND ATTACHMENT C: AFFIDAVIT OF SOLVENCY

Please see **page vii for Attachment B and page ix for Attachment C.**

b) AUDITED FINANCIAL STATEMENTS/BALANCE SHEET

These are **attached under separate cover.**

c) JOINT-VENTURE (JV) STATUS

PCL Construction, Inc., is not submitting as a JV.

d) EVIDENCE OF PERFORMANCE AND PAYMENT BOND AND CERTIFICATE OF INSURANCE

Evidence of performance and payment bond of at least $150 million begins on **page x** and the Certificate of Insurance is on **page xvii.**

e) COUNTIES REPRESENTATION DISCLOSURE

PCL has not represented Charlotte, DeSoto, Manatee or Sarasota Counties, and/or the City of North Port, in any capacity.

f) CURRENT LITIGATION AGAINST THE AUTHORITY OR ANY CUSTOMERS

Per Addendum 1, please see **Attachment B, page vii.**

g) LITIGATION AND LEGAL ACTIONS DISCLOSURES

Per Addendum 1, please see **Attachment B, page vii.** PCL Construction, Inc., does not have any cases relating to breach of contract within the last five years.

h) BANKRUPTCY DISCLOSURE

PCL Construction, Inc., is not involved in any ongoing bankruptcy actions.

a) Form/Attachment B: Claims, Liens, and Litigation History

ATTACHMENT B

CLAIMS, LIENS, LITIGATION HISTORY

1. Within the past 5 years, has your organization filed suit or a formal claim against a project owner (as a prime or subcontractor) or been sued by or had a formal claim filed by an owner, subcontractor or supplier resulting from a construction dispute? Yes ____ No X
   If yes, please attach additional sheet(s) to include:
   Description of every action Captions of the Litigation or Arbitration
   Amount at issue: _____ Name (s) of the attorneys representing all parties:
   _____
   Amount actually recovered, if any: _____
   Name(s) of the project owner(s)/manager(s) to include address and phone number:
   _____
2. List all pending litigation and or arbitration. None
3. List and explain all litigation and arbitration within the past five (5) years - pending, resolved, dismissed, etc. See the following page.
4. Within the past 5 years, please list all Liens, including Federal, State and Local, which have been filed against your Company. List in detail the type of Lien, date, amount and current status of each Lien.
   None
   _____
   _____
   _____
5. Have you ever abandoned a job, been terminated or had a performance/surety bond called to complete a job? Yes_____ No X_____ If yes, please explain in detail:
   _____
   _____
   _____
6. For all claims filed against your company within the past five-(5) years, have all been resolved satisfactorily with final judgment in favor of your company within 90 days of the date the judgment became final? Yes X_____ No _____ If no, please explain why?
   _____
   _____
7. List the status of all pending claims currently filed against your company:
   Not Applicable
   _____

Liquidated Damages

1. Has a project owner ever withheld retainage, issued liquidated damages or made a claim against any Performance and Payment Bonds? Yes_____ No X_____ If yes, please explain in detail:
   _____
   _____

(Use additional or supplemental pages as needed)

A) 3. LITIGATION AND ARBITRATION (FROM ATTACHMENT B)

The following are claims filed in court, mediation, arbitration, and OSHA citations for PCL Construction, Inc. over the last five years. No claims will affect PCL's ability to deliver this project. Additional information is available upon request.

June 30, 2020: Erik Schleehauf v. PCL Construction, Inc.
Mr. Schleehauf submitted a claim for wrongful termination. The case was dismissed in September 2020.

a) Form/Attachment C: Affidavit of Solvency

ATTACHMENT C

AFFIDAVIT OF SOLVENCY

PERTAINING TO THE SOLVENCY OF PCL Construction, Inc. (Respondent), being of lawful age and being duly sworn I, Jim Holtje Area Manager & Authorized Signer (Affiant), as Area Manager (Title) *(ex: CEO, officer, president, duly authorized representative, etc.)* hereby certify under penalty of perjury that:

1. I have reviewed and am familiar with the financial status of above stated entity.
2. The above stated entity possesses adequate capital in relation to its business operations or any contemplated or undertaken transaction to timely pay its debts and liabilities (including, but not limited to, unliquidated liabilities, unmatured liabilities and contingent liabilities) as they become absolute and due.
3. The above stated entity has not, nor intends to, incur any debts and/or liabilities beyond its ability to timely pay such debts and/or liabilities as they become due.
4. I fully understand failure to make truthful disclosure of any fact or item of information contained herein may result in denial of the application, revocation of the Certificate of Public Necessity if granted and/or other action authorized by law.

The undersigned has executed this Affidavit of Solvency, in his/her capacity as a duly authorized representative of the above stated entity, and not individually, as of this 31 day of July, 2023.

Signature of Affiant

STATE OF Florida
COUNTY OF Hillsborough

Sworn to (or affirmed) and subscribed before me by means of ☑ physical presence or ☐ online notarization, this 31 day of July, 2023, by Affiant. who is personally known to me or has produced _____ as identification.

Notary Public

KRISTAL COHEN
Notary Public
State of Florida
Comm# HH244194
Expires 4/30/2026

Name typed, printed or stamped

My Commission Expires: 4/30/2026

d) Evidence of Performance and Payment Bond

CHUBB
FEDERAL INSURANCE COMPANY
PACIFIC INDEMNITY COMPANY
VIGILANT INSURANCE COMPANY

Surety
202B Halls Mill Road, PO Box 1650
Whitehouse Station, NJ 08889-1650

O + 908.903.3485
F + 908.903.3656

July 27, 2023

Peace River Manasota Regional Water Supply Authority
9415 Town Center Pkwy
Lakewood Ranch, Florida 34202

RE: PCL Construction Services, Inc. – Bonding Capacity
SOQ for Construction Management At-Risk Services for PR3 Pumping and Conveyance Facilities
Estimated Contract Price: $150,000,000+/-

Federal Insurance Company, a Chubb Insurance Company, as lead surety, along with Travelers Casualty and Surety Company of America, Berkshire Hathaway Specialty Insurance Company, and Liberty Mutual Insurance Company wish to advise that we collectively act as co-sureties on behalf of the *PCL* family of companies, which includes *PCL Construction Services, Inc. PCL* enjoys the well-deserved reputation of being one of the foremost Construction entities in North America with a record of excellence, virtually unparalleled.

As sureties, we are among the major providers of contract surety bonds across the U.S., are each licensed to transact business in all U.S. States, including each duly licensed and authorized to conduct business in the State of Florida, and are each listed in the U.S. Department of Treasury's Circular 570 as acceptable sureties. Federal Insurance Company currently have an AM Best Rating of A++ XV and an active State of Florida Certificate of Authority #801299. Travelers Casualty and Surety Company of America currently has an AM Best Rating of A++ XV and an active State of Florida Certificate of Authority #836284. Berkshire Hathaway Specialty Insurance Company currently has an AM Best Rating of A++ XV and an active State of Florida Certificate of Authority #809670. Liberty Mutual Insurance Company currently has an AM Best Rating of A XV and an active State of Florida Certificate of Authority #802137.

At present, we as co-sureties, provide surety capacity to the *PCL* family of companies based upon a total co-surety program of $12 Billion dollars in bonded backlog (aggregate capacity), and have provided single job support in the range of $2 Billion. Due to *PCL's* financial strength and their outstanding history of performance and professionalism they are in the enviable position of benefiting from one of the highest levels of surety support of any general contractor operating in North America. Federal Insurance Company, Travelers Casualty and Surety Company of America, Berkshire Hathaway Specialty Insurance Company, and Liberty Mutual Insurance Company value our association with this fine organization and have no reservation about giving any company in the *PCL* family our highest recommendation.

The above information is offered for your consideration in your review of *PCL Construction Services, Inc.*, as we understand that our valued client is being considered for the above captioned project. We confirm that *PCL* has sufficient bonding capacity to include this project, if awarded, as their current bonding capacity available is approximately 60% of the above listed co-surety program. At *PCL's* request, we anticipate the issuance of a 100% Performance Bond and a 100% Payment Bond to guarantee the construction contract, subject to both PCL's and our review and acceptance of all the relevant construction contract documents' terms and conditions, bond forms, and full project financing being in place at the time the bonds are requested. Our consideration and issuance of bonds is a matter solely between PCL. and ourselves, and we assume no liability to you or to any third party by the issuance of this letter.

Sincerely,
FEDERAL INSURANCE COMPANY
TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA
BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY
LIBERTY MUTUAL INSURANCE COMPANY

By: Susan A Welsh
Susan A. Welsh, Attorney-in-Fact

Seal No. 5708

ACKNOWLEDGEMENT BY SURETY

STATE OF ILLINOIS
COUNTY OF COOK

On this 27th day of July, 2023 before me, Sandra M. Winsted, a Notary Public, within and for said County and State, personally appeared Susan A. Welsh to me personally known to be the Attorney-in-Fact of and for Federal Insurance Company, Travelers Casualty and Surety Company of America, Berkshire Hathaway Specialty Insurance Company, Liberty Mutual Insurance Company and acknowledged that she executed the said instrument as the free act and deed of said Company.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, at my office in the aforesaid County, the day and year in this certificate first above written.

Notary Public in the State of Illinois
County of Cook

OFFICIAL SEAL
SANDRA M WINSTED
NOTARY PUBLIC, STATE OF ILLINOIS
COOK COUNTY
MY COMMISSION EXPIRES 11/28/2025

CHUBB

Power of Attorney

Federal Insurance Company | Vigilant Insurance Company | Pacific Indemnity Company
Westchester Fire Insurance Company | ACE American Insurance Company

Know All by These Presents, that **FEDERAL INSURANCE COMPANY**, an Indiana corporation, **VIGILANT INSURANCE COMPANY**, a New York corporation, **PACIFIC INDEMNITY COMPANY**, a Wisconsin corporation, **WESTCHESTER FIRE INSURANCE COMPANY** and **ACE AMERICAN INSURANCE COMPANY** corporations of the Commonwealth of Pennsylvania, do each hereby constitute and appoint Richard Casas, Corinne Chapman, Samantha Chierici, Jessica B. Dempsey, Derek J. Elston, Rachel Fore, Kristin L Hannigan, Jennifer L. Jakaitis, Nicholas Kertesz, Judith A. Lucky-Eftimov, James B. McTaggart, Nicholas Pantazis, Roger Paraison, Tara A. Reimer, Christina L. Sandoval, Bartlomiej Siepierski, Jean Torres, Christopher P. Troha, Aerie Walton, Susan A. Welsh, Sandra M. Winsted and Dartonya Wright of Chicago, Illinois ----------

each as their true and lawful Attorney-in-Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, bonds and undertakings and other writings obligatory in the nature thereof (other than bail bonds) given or executed in the course of business, and any instruments amending or altering the same, and consents to the modification or alteration of any instrument referred to in said bonds or obligations.

In Witness Whereof, said **FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, PACIFIC INDEMNITY COMPANY, WESTCHESTER FIRE INSURANCE COMPANY** and **ACE AMERICAN INSURANCE COMPANY** have each executed and attested these presents and affixed their corporate seals on this **5th** day of **May, 2023.**

Dawn M. Chloros, Assistant Secretary

Stephen M. Haney, Vice President

STATE OF NEW JERSEY
County of Hunterdon ss.

On this **5th** day of **May 2023** before me, a Notary Public of New Jersey, personally came Dawn M. Chloros and Stephen M. Haney, to me known to be Assistant Secretary and Vice President, respectively, of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, PACIFIC INDEMNITY COMPANY, WESTCHESTER FIRE INSURANCE COMPANY and ACE AMERICAN INSURANCE COMPANY, the companies which executed the foregoing Power of Attorney, and the said Dawn M. Chloros and Stephen M. Haney, being by me duly sworn, severally and each for herself and himself did depose and say that they are Assistant Secretary and Vice President, respectively, of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, PACIFIC INDEMNITY COMPANY, WESTCHESTER FIRE INSURANCE COMPANY and ACE AMERICAN INSURANCE COMPANY and know the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of said Companies; and that their signatures as such officers were duly affixed and subscribed by like authority.

Notarial Seal

Albert Contursi
NOTARY PUBLIC OF NEW JERSEY
No 50202369
Commission Expires August 22,2027

Notary Public

CERTIFICATION

Resolutions adopted by the Boards of Directors of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY on August 30, 2016; WESTCHESTER FIRE INSURANCE COMPANY on December 11, 2006; and ACE AMERICAN INSURANCE COMPANY on March 20, 2009:

"RESOLVED, that the following authorizations relate to the execution, for and on behalf of the Company, of bonds, undertakings, recognizances, contracts and other written commitments of the Company entered into in the ordinary course of business (each a "Written Commitment"):

(1) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise.

(2) Each duly appointed attorney-in-fact of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise, to the extent that such action is authorized by the grant of powers provided for in such person's written appointment as such attorney-in-fact.

(3) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to appoint in writing any person the attorney-in-fact of the Company with full power and authority to execute, for and on behalf of the Company, under the seal of the Company or otherwise, such Written Commitments of the Company as may be specified in such written appointment, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.

(4) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to delegate in writing to any other officer of the Company the authority to execute, for and on behalf of the Company, under the Company's seal or otherwise, such Written Commitments of the Company as are specified in such written delegation, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.

(5) The signature of any officer or other person executing any Written Commitment or appointment or delegation pursuant to this Resolution, and the seal of the Company, may be affixed by facsimile on such Written Commitment or written appointment or delegation.

FURTHER RESOLVED, that the foregoing Resolution shall not be deemed to be an exclusive statement of the powers and authority of officers, employees and other persons to act for and on behalf of the Company, and such Resolution shall not limit or otherwise affect the exercise of any such power or authority otherwise validly granted or vested."

I, Dawn M. Chloros, Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, PACIFIC INDEMNITY COMPANY, WESTCHESTER FIRE INSURANCE COMPANY and ACE AMERICAN INSURANCE COMPANY (the "Companies") do hereby certify that

(i) the foregoing Resolutions adopted by the Board of Directors of the Companies are true, correct and in full force and effect,
(ii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Whitehouse Station, NJ, this 7/27/2023

Dawn M. Chloros, Assistant Secretary

IN THE EVENT YOU WISH TO VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT:
Telephone (908) 903- 3493 Fax (908) 903- 3656 e-mail: surety@chubb.com

Combined: FED-VIG-PI-WFIC-AAIC (rev. 11-19)

TRAVELERS	**Travelers Casualty and Surety Company of America** **Travelers Casualty and Surety Company** **St. Paul Fire and Marine Insurance Company**

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Susan A. Welsh** of **CHICAGO**, **Illinois**, their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April, 2021**.

State of Connecticut

City of Hartford ss.

By: _____
Robert L. Raney, Senior Vice President

On this the **21st** day of **April, 2021**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June, 2026**

_____
Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 27 day of July 2023

_____
Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

34960

Berkshire Hathaway Specialty Insurance

Power Of Attorney

BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY
NATIONAL INDEMNITY COMPANY / NATIONAL LIABILITY & FIRE INSURANCE COMPANY

Know all men by these presents, that **BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY**, a corporation existing under and by virtue of the laws of the State of Nebraska and having an office at One Lincoln Street, 23rd Floor, Boston, Massachusetts 02111, **NATIONAL INDEMNITY COMPANY**, a corporation existing under and by virtue of the laws of the State of Nebraska and having an office at 3024 Harney Street, Omaha, Nebraska 68131 and **NATIONAL LIABILITY & FIRE INSURANCE COMPANY**, a corporation existing under and by virtue of the laws of the State of Connecticut and having an office at 100 First Stamford Place, Stamford, Connecticut 06902 (hereinafter collectively the "Companies"), pursuant to and by the authority granted as set forth herein, do hereby name, constitute and appoint: **Sandra M. Winsted, Susan A. Welsh, Derek J. Elston, Christopher P. Troha, Jessica B. Dempsey, Judith A. Lucky-Eftimov, Christina L. Sandoval, Aerie Walton, Bartlomiej Siepierski, Rachel Fore, Samantha Chierici, Corinne Chapman, Roger Paraison, Kristin L. Hannigan, Jean Torres, Nicholas Kertesz, Dartonya Wright, Tara Reimer, 200 East Randolph St, Aon Center of the city of Chicago, State of Illinois,** their true and lawful attorney(s)-in-fact to make, execute, seal, acknowledge, and deliver, for and on their behalf as surety and as their act and deed, any and all undertakings, bonds, or other such writings obligatory in the nature thereof, in pursuance of these presents, the execution of which shall be as binding upon the Companies as if it has been duly signed and executed by their regularly elected officers in their own proper persons. **This authority for the Attorney-in-Fact shall be limited to the execution of the attached bond(s) or other such writings obligatory in the nature thereof.**

In witness whereof, this Power of Attorney has been subscribed by an authorized officer of the Companies, and the corporate seals of the Companies have been affixed hereto this date of December 20, 2018. This Power of Attorney is made and executed pursuant to and by authority of the Bylaws, Resolutions of the Board of Directors, and other Authorizations of **BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY, NATIONAL INDEMNITY COMPANY** and **NATIONAL LIABILITY & FIRE INSURANCE COMPANY**, which are in full force and effect, each reading as appears on the back page of this Power of Attorney, respectively. **The following signature by an authorized officer of the Company may be a facsimile, which shall be deemed the equivalent of and constitute the written signature of such officer of the Company for all purposes regarding this Power of Attorney, including satisfaction of any signature requirements on any and all undertakings, bonds, or other such writings obligatory in the nature thereof, to which this Power of Attorney applies.**

BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY,

By: _____
David Fields, Executive Vice President

NATIONAL INDEMNITY COMPANY, NATIONAL LIABILITY & FIRE INSURANCE COMPANY,

By: _____
David Fields, Vice President

NOTARY
State of Massachusetts, County of Suffolk, ss:
On this 20th day of December, 2018, before me appeared David Fields, Executive Vice President of BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY and Vice President of NATIONAL INDEMNITY COMPANY and NATIONAL LIABILITY & FIRE INSURANCE COMPANY, who being duly sworn, says that his capacity is as designated above for such Companies; that he knows the corporate seals of the Companies; that the seals affixed to the foregoing instrument are such corporate seals; that they were affixed by order of the board of directors or other governing body of said Companies pursuant to its Bylaws, Resolutions and other Authorizations, and that he signed said instrument in that capacity of said Companies.

[Notary Seal]

GEOFFERY A. DELISIO
Notary Public
Commonwealth of Massachusetts
My Comm. Expires November 29, 2024

_____
Notary Public

I, Ralph Tortorella, the undersigned, Officer of **BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY, NATIONAL INDEMNITY COMPANY** and **NATIONAL LIABILITY & FIRE INSURANCE COMPANY**, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies which is in full force and effect and has not been revoked. IN TESTIMONY WHEREOF, see hereunto affixed the seals of said Companies this July 27, 2023.

_____
Officer

To verify the authenticity of this Power of Attorney please contact us at: BHSI Surety Department, Berkshire Hathaway Specialty Insurance Company, One Lincoln Street, 23rd Floor Boston, MA 02111 | (770) 625-2516 or by email at Jennifer.Porter@bhspecialty.com *THIS POWER OF ATTORNEY IS VOID IF ALTERED*

To notify us of a claim please contact us on our 24-hour toll free number at (855) 453-9675, via email at claimsnotice@bhspecialty.com, via fax to (617) 507-8259, or via mail.

BHSIC, NICO & NLF POA (2018)

BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY (BYLAWS)

ARTICLE V.

CORPORATE ACTIONS

. . . .

EXECUTION OF DOCUMENTS:

. . . .

Section 6.(b) The President, any Vice President or the Secretary, shall have the power and authority:

(1) To appoint Attorneys-in-fact, and to authorize them to execute on behalf of the Company bonds and other undertakings, and

(2) To remove at any time any such Attorney-in-fact and revoke the authority given him.

NATIONAL INDEMNITY COMPANY (BY-LAWS)

Section 4. Officers, Agents, and Employees:

A. The officers shall be a President, one or more Vice Presidents, a Secretary, one or more Assistant Secretaries, a Treasurer, and one or more Assistant Treasurers none of whom shall be required to be shareholders or Directors and each of whom shall be elected annually by the Board of Directors at each annual meeting to serve a term of office of one year or until a successor has been elected and qualified, may serve successive terms of office, may be removed from office at any time for or without cause by a vote of a majority of the Board of Directors, and shall have such powers and rights and be charged with such duties and obligations as usually are vested in and pertain to such office or as may be directed from time to time by the Board of Directors; and the Board of Directors or the officers may from time to time appoint, discharge, engage, or remove such agents and employees as may be appropriate, convenient, or necessary to the affairs and business of the corporation.

NATIONAL INDEMNITY COMPANY (BOARD RESOLUTION ADOPTED AUGUST 6, 2014)

RESOLVED, That the President, any Vice President or the Secretary, shall have the power and authority to (1) appoint Attorneys-in-fact, and to authorize them to execute on behalf of this Company bonds and other undertakings and (2) remove at any time any such Attorney-in-fact and revoke the authority given.

NATIONAL LIABILITY & FIRE INSURANCE COMPANY (BY-LAWS)

ARTICLE IV

Officers

Section 1. Officers, Agents and Employees:

A. The officers shall be a president, one or more vice presidents, one or more assistant vice presidents, a secretary, one or more assistant secretaries, a treasurer, and one or more assistant treasurers, none of whom shall be required to be shareholders or directors, and each of whom shall be elected annually by the board of directors at each annual meeting to serve a term of office of one year or until a successor has been elected and qualified, may serve successive terms of office, may be removed from office at any time for or without cause by a vote of a majority of the board of directors. The president and secretary shall be different individuals. Election or appointment of an officer or agent shall not create contract rights. The officers of the Corporation shall have such powers and rights and be charged with such duties and obligations as usually are vested in and pertain to such office or as may be directed from time to time by the board of directors; and the board of directors or the officers may from time to time appoint, discharge, engage, or remove such agents and employees as may be appropriate, convenient, or necessary to the affairs and business of the Corporation.

NATIONAL LIABILITY & FIRE INSURANCE COMPANY (BOARD RESOLUTION ADOPTED AUGUST 6, 2014)

RESOLVED, That the President, any Vice President or the Secretary, shall have the power and authority to (1) appoint Attorneys-in-fact, and to authorize them to execute on behalf of this Company bonds and other undertakings and (2) remove at any time any such Attorney-in-fact and revoke the authority given.

BHSIC, NICO & NLF POA (2018)

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: **8207154 - 285057**

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Christina L. Sandoval; Christopher T. Moser; Corinne Chapman; Diane M. O'Leary; James B. McTaggart; Jean Torres; Jennifer L. Jakaitis; Jessica B Dempsey; Judith A. Lucky-Eftimov; Kristin L. Hannigan; Nicholas Kertesz; Roger Paraison; Samantha Chierici; Sandra M. Nowak; Sandra M. Winsted; Susan A. Welsh

all of the city of Chicago state of IL each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 20th day of January, 2022.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: _____
David M. Carey, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY ss

On this 20th day of January, 2022 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.

Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: _____
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS: Section 12. Power of Attorney.
Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts: Section 5. Surety Bonds and Undertakings.
Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 27 day of July, 2023

By: _____
Renee C. Llewellyn, Assistant Secretary

LMS-12873 LMIC OCIC WAIC Multi Co 02/21

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.

d) Certificate of Insurance

Marsh

Carolyn Clements

Marsh USA LLC
1050 Connecticut Avenue, NW, Suite 700
Washington, DC 20036-5386
+1 202 263 7600
carolyn.clements@marsh.com
www.marsh.com

July 20, 2023

Peace River Manasota Regional Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch, FL 34202

Re: Peace River Regional Reservoir No. 3 (PR3) Pumping and Conveyance Facilities

As the insurance broker for PCL Construction, Inc. (the "Client"), we have been requested to provide you with this letter with respect to certain insurance to be placed by us on the Client's behalf. In the event the Client is awarded the above noted project, Marsh USA LLC anticipates no obstacles, based on current market conditions, in providing the required insurance coverages ("the Policies") as outlined in Exhibit F-Bonds and Insurance Requirements of the Construction Agreement ("Agreement") document and as highlighted below.

Type of Insurance (Policies)	Amount($)
Builder's Risk	Builder's Risk can be procured in the amount equal to a reasonable, commercially-available limit considering the size and scope of the project.

We express no view and assume no liability with respect to the solvency or future ability to pay of any of the insurance companies which have issued the Policies. We have not read or reviewed the balance of the Agreement, including without limitation any provision thereof which might relate to or influence the meaning of the language in the Insurance Requirements.

This letter is given on the understanding that we will have no liability to you based upon the placement of the Policies and/or the statements made herein except to the extent arising out of our gross negligence or fraud.

This letter may not be republished by you or used for any other purpose without our prior written consent.

This letter shall be governed by and construed in accordance with the laws of the State of New York, without regard to its conflicts of law provisions.

Should you require anything further please do not hesitate to contact us.

Very truly yours,

Carolyn Clements
Senior Vice President / Marsh USA LLC

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 07/20/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER MARSH USA LLC. 540 W. MADISON CHICAGO, IL 60661 TAM	**CONTACT NAME:** Marsh | U.S. Operations **PHONE (A/C, No, Ext):** 866-966-4664 **FAX (A/C, No):** 212-948-0770 **E-MAIL ADDRESS:** Chicago.CertRequest@marsh.com
INSURED PCL Construction, Inc. 1 N. Dale Mabry Highway, Suite 300 Tampa, FL 33609	**INSURER(S) AFFORDING COVERAGE** — **NAIC #** **INSURER A :** Old Republic Insurance Company — 24147 **INSURER B :** Indian Harbor Insurance Company — 36940 **INSURER C :** **INSURER D :** **INSURER E :** **INSURER F :**

COVERAGES **CERTIFICATE NUMBER:** CHI-010398223-01 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X **COMMERCIAL GENERAL LIABILITY** CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:			MWZY 313941-23	07/01/2023	07/01/2024	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 2,000,000 $ 2,000,000 $ 10,000 $ 2,000,000 $ 2,000,000 $ 2,000,000
A	**AUTOMOBILE LIABILITY** X ANY AUTO OWNED AUTOS ONLY HIRED AUTOS ONLY SCHEDULED AUTOS NON-OWNED AUTOS ONLY			MWTB 313942-23	07/01/2023	07/01/2024	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 2,000,000 $ $ $
B	**UMBRELLA LIAB** X OCCUR X **EXCESS LIAB** CLAIMS-MADE DED RETENTION $			CPX742008710	07/01/2023	07/01/2024	EACH OCCURRENCE AGGREGATE	$ 20,000,000 $ 20,000,000
A	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** Y / N ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		MWC 313940-23 (AL AK AR AZ CA CO CT FL GA HI ID IL KY LA MD MN MO MS MT NC NJ NY OK OR PA SC TN TX UT VT WI)	07/01/2023	07/01/2024	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 2,000,000 $ 2,000,000 $ 2,000,000
A	GENERAL LIABILITY EXCESS			MWZX 316962-23 Excess for General Liability Only	07/01/2023	07/01/2024	LIMIT	8,000,000 XS of $2M

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Peace River Manasota Regional Water Supply Authority is/are included as additional insured where required by written contract with respect to General and Auto Liability. General and Auto Liabilities are primary and non-contributory over any existing insurance and limited to liability arising out of the operations of the named insured subject to policy terms and conditions. Explosion, Collapse, and Underground Coverage is included in the above referenced General Liability policy where required by written contract.

CERTIFICATE HOLDER

Peace River Manasota Regional
Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch, FL 34202

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Marsh USA LLC

POLICY NUMBER:

COMMERCIAL AUTO
CA 20 48 10 13

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED INSURED FOR COVERED AUTOS LIABILITY COVERAGE

This endorsement modifies insurance provided under the following:

AUTO DEALERS COVERAGE FORM
BUSINESS AUTO COVERAGE FORM
MOTOR CARRIER COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by this endorsement.

This endorsement identifies person(s) or organization(s) who are "insureds" for Covered Autos Liability Coverage under the Who Is An Insured provision of the Coverage Form. This endorsement does not alter coverage provided in the Coverage Form.

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

Named Insured: PCL Construction Enterprises, Inc.

Endorsement Effective Date: 07/01/23

SCHEDULE

Name Of Person(s) Or Organization(s):
Any person or organization with whom you have agreed , through written contract, agreement or permit, executed prior to the loss, to provide additional insured coverage on a primary, non-contributory basis.
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

Each person or organization shown in the Schedule is an "insured" for Covered Autos Liability Coverage, but only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured provision contained in Paragraph **A.1.** of Section **II** – Covered Autos Liability Coverage in the Business Auto and Motor Carrier Coverage Forms and Paragraph **D.2.** of Section **I** – Covered Autos Coverages of the Auto Dealers Coverage Form.

IL 10 (12/06) OLD REPUBLIC INSURANCE COMPANY

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BLANKET NOTIFICATION TO OTHERS CANCELLATION

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

SCHEDULE

Number of Days Notice:	30
Person or Organization:	All certificate holders where notice of cancellation is required by written contract with the named insured subject to the following procedures: We will mail or deliver notification that such coverage part has been cancelled to each person or organization shown in an accurate schedule provided to us by the first named insured at inception of the policy or as periodically updated. Notice will be mailed or delivered as soon as practicable after an accurate list of names and addresses is provided to us by the first named insured in response to our request.

A. If we cancel this Policy by written notice to the first Named Insured for any reason other than nonpayment of premium, we will mail or deliver a copy of such written notice of cancellation:

1. To the name and address corresponding to each Person or Organization shown in the above Schedule, and

2. At least 10 days prior to the effective date of the cancellation, as advised in our notice to the first Named Insured, or the longer Number of Days Notice if indicated in the above Schedule.

B. If we cancel this Policy by written notice to the first Named Insured for nonpayment of premium, we will mail or deliver a copy of such written notice of cancellation to the name and address corresponding to each Person or Organization shown in the above Schedule at least 10 days prior to the effective date of such cancellation.

C. If notice as described in paragraphs **A.** or **B.** of this endorsement is mailed, proof of mailing will be sufficient proof of such notice.

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 26 12 19

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – DESIGNATED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):
All persons or organizations as required by contract or agreement
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

A. **Section II – Who Is An Insured** is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your acts or omissions or the acts or omissions of those acting on your behalf:

1. In the performance of your ongoing operations; or
2. In connection with your premises owned by or rented to you.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable limits of insurance;

whichever is less.

This endorsement shall not increase the applicable limits of insurance.

IL 10 (12/06) OLD REPUBLIC INSURANCE COMPANY

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BLANKET NOTIFICATION TO OTHERS CANCELLATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART/FORM

SCHEDULE

Number of Days Notice:	30
Person or Organization:	All certificate holders where notice of cancellation is required by written contract with the named insured subject to the following procedures: We will mail or deliver notification that such coverage part has been cancelled to each person or organization shown in an accurate schedule provided to us by the first named insured at inception of the policy or as periodically updated. Notice will be mailed or delivered as soon as practicable after an accurate list of names and addresses is provided to us by the first named insured in response to our request.

A. If we cancel this Policy by written notice to the first Named Insured for any reason other than nonpayment of premium, we will mail or deliver a copy of such written notice of cancellation:

1. To the name and address corresponding to each Person or Organization shown in the above Schedule, and

2. At least 10 days prior to the effective date of the cancellation, as advised in our notice to the first Named Insured, or the longer Number of Days Notice if indicated in the above Schedule.

B. If we cancel this Policy by written notice to the first Named Insured for nonpayment of premium, we will mail or deliver a copy of such written notice of cancellation to the name and address corresponding to each Person or Organization shown in the above Schedule at least 10 days prior to the effective date of such cancellation.

C. If notice as described in paragraphs **A.** or **B.** of this endorsement is mailed, proof of mailing will be sufficient proof of such notice.

IL 10 (12/06) OLD REPUBLIC INSURANCE

BLANKET NOTIFICATION TO OTHERS CANCELLATION

THIS ENDORSEMENT MODIFIES INSURANCE PROVIDED UNDER THE FOLLOWING:

WORKERS COMPENSATION AND EMPLOYERS LIABILITY INSURANCE POLICY

SCHEDULE

NUMBER OF DAYS NOTICE: 30

PERSON OR ORGANIZATION: All certificate holders where notice of cancellation is required by written contract with the named insured subject to the following procedures:

We will mail or deliver notification that such coverage part has been cancelled to each person or organization shown in an accurate schedule provided to us by the first named insured at inception of the policy or as periodically updated.

Notice will be mailed or delivered as soon as practicable after an accurate list of names and addresses is provided to us by the first named insured in response to our request.

A. IF WE CANCEL THIS POLICY BY WRITTEN NOTICE TO THE FIRST NAMED INSURED FOR ANY REASON OTHER THAN NONPAYMENT OF PREMIUM, WE WILL MAIL OR DELIVER A COPY OF SUCH WRITTEN NOTICE OF CANCELLATION:

1. TO THE NAMED AND ADDRESS CORRESPONDING TO EACH PERSON OR ORGANIZATION SHOWN IN THE ABOVE SCHEDULE AND

2. AT LEAST 10 DAYS PRIOR TO THE EFFECTIVE DATE OF THE CANCELLATION, AS ADVISED IN OUR NOTICE TO THE FIRST NAMED INSURED, OR THE LONGER NUMBER OF DAYS NOTICE IF INDICATED IN THE ABOVE SCHEDULE.

FORM A

B. IF WE CANCEL THIS POLICY BY WRITTEN NOTICE TO THE FIRST NAMED INSURED FOR NONPAYMENT OF PREMIUM, WE WILL MAIL OR DELIVER A COPY OF SUCH WRITTEN NOTICE OF CANCELLATION TO THE NAME AND ADDRESS CORRESPONDING TO EACH PERSON OR ORGANIZATION SHOWN IN THE ABOVE SCHEDULE AT LEAST 10 DAYS PRIOR TO THE EFFECTIVE DATE OF SUCH CANCELLATION.

C. IF NOTICE AS DESCRIBED IN PARAGRAPHS A. OR B. OF THIS ENDORSEMENT IS MAILED, PROOF OF MAILING WILL BE SUFFICIENT PROOF OF SUCH NOTICE.

IL 10 (12/06) OLD REPUBLIC INSURANCE COMPANY

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PRIMARY NON-CONTRIBUTORY ENDORSEMENT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART/FORM

SCHEDULE

Person or Organization: All persons or organizations as required by contract or agreement

Location and Description of Covered Operations: All locations as required by contract or agreement

For the purposes of the coverage provided by this endorsement:

The following paragraph is added to SECTION IV - COMMERCIAL GENERAL LIABILITY CONDITIONS, 4. Other Insurance, a. Primary Insurance:

This insurance is primary insurance with respect to coverage provided for an additional insured Person or Organization named in the above Schedule, where the written contract or written agreement requires that this insurance be primary and noncontributory. In that event, we will not seek contribution from any other insurance policy available to the Person or Organization on which the Person or Organization is a Named Insured.

APPENDIX:
REQUIRED FORMS

Form/Attachment A: Key Personnel and Reference Project Table

Peace River Manasota Regional Water Supply Authority
PR3 Pumping and Conveyance Facilities (Project)
Key Personnel and Reference Project Table

Key Personnel	Key Personnel Role on Phase I Preconstruction Services for Project	Key Personnel Role on Phase II Construction Services for Project	Current Employer	Years of Exp	Assigned Office City/State	Lake Hancock Outfall Wetland	BPS 3D & 4A Water Treatment Plant Improvements CMAR	Southern Hillsborough County Supply Expansion: Brandon Booster Pump Station CMAR	Cholla Water Treatment Plant Process and Booster Pump Station Improvements CMAR	Lift Station 85 Albert Whitted Master Force Main Part E
Jim Holtje, PE	Principal-in-Charge	Principal-In-Charge	PCL Construction, Inc.	19	Tampa, Florida	-	-	Principal-in-Charge	-	-
Aaron Tomita	Project Manager	Project Manager	PCL Construction, Inc.	24	Tampa, Florida	-	-	Construction Manager	Construction Manager	-
Craig Yakubow	Preconstruction Manager	Preconstruction Manager	PCL Construction, Inc.	27	Tampa, Florida	Chief Estimator	Chief Estimator	Chief Estimator	Chief Estimator	Chief Estimator
Yaakov Welner	Lead Estimator	Lead Estimator	PCL Construction, Inc.	17	Tampa, Florida	-	Lead Estimator	-	Estimator	-
Eric Nash, ENV SP	Constructability V/E	Constructability V/E	PCL Construction, Inc.	15	Tampa, Florida	-	-	Project Manager	-	-
Todd Palmatier, CGC	Construction Manager	Construction Manager	PCL Construction, Inc.	23	Tampa, Florida	-	-	-	-	-
John Kulesa	Lead Superintendent	Lead Superintendent	PCL Construction, Inc.	33	Tampa, Florida	Superintendent	-	-	-	Superintendent
Nate Rine	-	Pipeline Superintendent	PCL Construction, Inc.	27	Tampa, Florida	-	-	-	-	Superintendent
Shawn Lohnes	-	Pipeline Superintendent	PCL Construction, Inc.	30	Tampa, Florida		-	-	Superintendent	Superintendent
Eric Winders, CSPS	-	HSE Manager	PCL Construction, Inc.	18	Tampa, Florida	-	-	HSE Manager	-	-
Andrew Hogan, P.Eng, ENV SP	-	QA/QC Manager	PCL Construction, Inc.	13	Tampa, Florida	-	-	QA/QC Manager	-	-
Ryan Sinclair	Electrical Preconstruction	-	PCL Construction, Inc.	21	Bakersfield, California	-	-	-	-	-
Reference Project Details										
Reference project was completed for the Authority (X)						-	-	-	-	-
Reference Project Location						Bartow, Florida	Phoenix, Arizona	Brandon, Florida	Glendale, Arizona	St. Petersburg, Florida
Reference Project Budget at NTP ($ million **not** including contingency and allowance)						$20,128,700	$35,675,508	$10,800,000	$22,253,267	$10,687,294
Reference Project Cost at Completion ($ million including contingency and allowance)						$20,128,700	$48,675,258	$15,617,416	$30,948,758	$10,457,473
Contract Extension (Actual Final Completion Date minus Scheduled Final Completion Date at NTP)						291	38	*TBD*	404	45
Project Status - (Complete, Ongoing, Other)						Complete	Complete	*Ongoing*	Complete	Complete
Reference Project Delivery Method - Design Bid Build (DBB), Progressive Design-Build (PDB), Design-Build (DB), Construction Management at Risk (CMAR), Other (O)						DBB	CMAR	CMAR	CMAR	DBB
Reference Project Preference Collaborative Delivery (X)							X	X	X	
Reference Project Preference large diameter pressure pipeline ≥42-inch diameter (Largest Inch Dia.)						48"	84"	36"	48"	36"
Reference Project Preference dewatering in high groundwater conditions typical of Florida (X)						X				X
Reference Project Preference pump station ≥200 HP or ≥50 MGD pumping capacity (Largest MGD/HP)						10 MGD / 200 HP	76 MGD / 1,250 HP	20 MGD / 250 HP	30 MGD / 500 HP	36 MGD / 330 HP

Form: Sworn Statement

SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1) This sworn statement is submitted to PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY by Jim Holtje, Area Manager
(Print individual's name and title)

for PCL Construction Inc.
(Print name of entity submitting sworn statement)

whose business address is 1 N. Dale Mabry Hwy, Suite 300, Tampa FL 33609

and (if applicable) its Federal Employer Identification Number (FEIN)
20-3598843 (If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____).

2) I understand that a "public entity crime" as defined in Section 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid, statement of qualifications, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Section 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an "affiliate" as defined in Section 287.133(1)(a), Florida Statutes, means:

a) A predecessor or successor of a person convicted of a public entity crime; OR

b) An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Section 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. **(Indicate which statement applies.)**

_X_ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives,

partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. **(Attach a copy of the Final Order.)**

I UNDERSTAND THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES, FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

(Signature) 7/31/23 (Date)

STATE OF Florida

COUNTY OF

Hillsborough

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 31 day of July, 2023 by Jim Holtje as Area Manager of PCL Construction Inc a _____ company organized under the laws of the State of Florida, on behalf of the company, who is personally known to me or has produced Personally Known as identification.

Notary Public
Kristal Cohen

Name typed, printed or stamped

My Commission Expires: 4/30/2026

KRISTAL COHEN
Notary Public
State of Florida
Comm# HH244194
Expires 4/30/2026

Form: E-Verify Affidavit & Required Evidence

Contract Holder E-Verify Registration and Affidavit

As provided in Section 33 of the Agreement, pursuant to Section 448.095, Florida Statutes, beginning January 1, 2021, Contract Holder shall register with and use the U.S. Department of Homeland Security's E-Verify system, (https://e-verify.uscis.gov/emp) to verify the work authorization status of all Contract Holder employees hired on and after January 1, 2021. Additionally, Contract Holder shall require all sub-Contract Holders performing work under this Agreement to use the E-Verify system for any employees hired on and after January 1, 2021. Contract Holder must provide evidence to the Authority of compliance with Section 448.095, Florida Statutes, prior to entering the Agreement.

Affidavit

I hereby certify that PCL Construction Inc (Contract Holder) does not employ, contract with, or subcontract with any unauthorized aliens, and is otherwise in full compliance with Section 448.095, Florida Statutes.

All employees hired on or ager January 1, 2021, have had their work authorization status verified through the E-Verify system.

A true and correct copy of PCL Construction Inc. (Contract Holder) proof of registration in the E-Verify system is attached to this Affidavit.

7/31/23

Signature Date

Jim Holtje

Print Name

STATE OF Florida

COUNTY OF Hillsborough

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 31 day of July, 2023 by _____ (name of officer or agent, title of officer or agent) of PCL Construction Inc. (name of Contract Holder company acknowledging), a Colorado (state or place of incorporation) corporation, on behalf of the corporation. He/she is personally known to me or has produced Personally Known (type of identification) as identification.

Notary Public

KRISTAL COHEN
Notary Public
State of Florida
Comm# HH244194
Expires 4/30/2026

Name (typed, printed or stamped

My Commission Expires: 4/30/2026

Reference Project Form: Lake Hancock Outfall Wetland

REFERENCE FORM
Lake Hancock Outfall Wetland

Respondent: PCL Construction, Inc.

Role on Reference Project (Prime, Sub-Contractor, Engineer of Record, etc.) Prime

Reference Entity: Southwest Florida Water Management District

Reference Contact Person: Janie Hagberg

Reference Address: 7601 Highway 301 North

Reference Email Address: janie.hagberg@swfwmd.st.fl.us

Reference Phone No.: 813-336-1074

Project Delivery Method: Design-Bid-Build

Project Location: Bartow, Florida

Respondent Project Manager: John Kulesa (Superintentent)

Project Engineer of Record: WSP (Formerly Parsons Brinkerhoff)

Date Project Commenced: September 26, 2011

Date of Final Completion or Status: July 18, 2014

Project Budget at NTP ($ million not including contingency and allowance): $20,128,700

Project Cost at Final Completion ($ million including contingency and allowance): $20,128,700

Preference Satisfied: ☑ 3.a. ≥42-inch Pipeline ☑ 3.b. ≥50-MGD Capacity or ≥200 HP Pump Station

☐3.c. Alternative Project Delivery ☑3.d High Groundwater Conditions

Description of Work Performed and Explanation of Differences in Budget and Final Cost:

The Lake Hancock Outfall Wetland Project is part of the Southwest Florida Water Management District's strategy for meeting the minimum flows in the upper Peace River, improving water quality in the Peace River, and protecting Charlotte Harbor–an estuary of national significance. The project is a large-scale, flow-through 1,008-acre treatment wetland located on former reclaimed phosphate mine clay settling areas now owned by the District. Water is pumped by three 200-HP pumps from the southern shore of the lake through three wetland cells. The cells incorporate narrow planting strips separated by larger natural recruitment zones. The treated water discharges from the Cell 3 wetland outfall structure into Lower Saddle Creek, which is downstream of the lake outfall structure. Work included construction of a raw water intake with a pump station capable of pumping over 10 MGD, instrumentation and controls, water control structures, earthwork, an embankment, a slurry cut-off wall, channels, an aeration structure, and an access road. This project was partially funded with federal EPA grants, which required PCL to meet disadvantaged business goal requirements, EEO requirements, environmental requirements, and other DEP requirements.

The owner changed the grade elevations and shapes of 2012 and 2013 were abnormally wet, preventing any site work from occurring for several months. Delay between actual substantial and actual was due to the planting season.

Reference Project Form: BPS 3D & 4A Water Treatment Plant Improvements CMAR

REFERENCE FORM
BPS 3D & 4A WTP Improvements

Respondent: PCL Construction, Inc.

Role on Reference Project (Prime, Sub-Contractor, Engineer of Record, etc.) Prime

Reference Entity: City of Phoenix

Reference Contact Person: Darlene Helm

Reference Address: Water Services Department - 200 W.Washington Street,Phoenix, AZ 85003

Reference Email Address: darlene.helm@phoenix.gov

Reference Phone No.: 602-534-9138

Project Delivery Method: CMAR

Project Location: Phoenix, Arizona

Respondent Project Manager: Seth Richards

Project Engineer of Record: Carollo Engineers, Inc.

Date Project Commenced: May 26, 2021

Date of Final Completion or Status: January 19, 2023

Project Budget at NTP ($ million not including contingency and allowance): $35,675,508

Project Cost at Final Completion ($ million including contingency and allowance): $48,675,258

Preference Satisfied: ☑ 3.a. ≥42-inch Pipeline ☑ 3.b. ≥50-MGD Capacity or ≥200 HP Pump Station

☑3.c. Alternative Project Delivery ☐3.d High Groundwater Conditions

Description of Work Performed and Explanation of Differences in Budget and Final Cost:

PCL provided CMAR services at the 24th Street WTP for a new 76-MGD booster pump station with pump cans and vertical turbine pumps. Construction included a supporting surge system consisting of one suction surge tank and two discharge tanks, 66- to 84-inch-diameter suction and discharge piping, and a PRV station with pressure-reducing valves and isolation valves. The pump station has control valves, isolation butterfly valves, and gate valves. Site work included a decorative block wall, grading, drainage, and site paving.
An owner driven change order was issued for approximately $13MM for the construction of a new 15 kV electrical building and two new redundant power feeds throughout the plant.

Reference Project Form: Southern Hillsborough County Supply Expansion: Brandon Booster Pump Station CMAR

REFERENCE FORM
Southern Hillsborough County Supply Expansion: Brandon Booster Pump Station

Respondent: PCL Construction, Inc.

Role on Reference Project (Prime, Sub-Contractor, Engineer of Record, etc.) Prime

Reference Entity: Tampa Bay Water

Reference Contact Person: Richard Menzies

Reference Address: 2575 Enterprise Road, Clearwater, Florida 33763

Reference Email Address: rmenzies@tampabaywater.org

Reference Phone No.: 727-796-2355

Project Delivery Method: CMAR

Project Location: Brandon, Florida

Respondent Project Manager: Eric Nash

Project Engineer of Record: CHA Consulants, Inc.

Date Project Commenced: August 26, 2021

Date of Final Completion or Status: Ongoing

Project Budget at NTP ($ million not including contingency and allowance): $13,974,491

Project Cost at Final Completion ($ million including contingency and allowance): Ongoing

Preference Satisfied: ☐ 3.a. >42-inch Pipeline ☑ 3.b. ≥50-MGD Capacity or >200 HP Pump Station

☑3.c. Alternative Project Delivery ☐3.d High Groundwater Conditions

Description of Work Performed and Explanation of Differences in Budget and Final Cost:

The Brandon BPS project included design, permitting, and construction of a new, in-line, booster pump station and two new 36-inch-diameter pipelines to supply an additional 5-7 MGD of water to Hillsborough County's Lithia Water Treatment Plant. The new pipelines connect the booster station to the Brandon-South Central transmission main that runs along Durant Road. PCL installed five 250-HP horizontal split case pumps and associated electrical, valves, and piping, and replaced a vertical turbine pump with a well and a new pressure-release valve. The unstaffed station is approximately 6,500-square-foot building that houses the pumps, an electrical room, control room, storage room, and restroom. PCL provided CMAR services, including constructability review of design documents.

Reference Project Form: Cholla Water Treatment Plant Process and Booster Pump Station Improvements CMAR

REFERENCE FORM
Cholla Water Treatment Plant Process and Booster Pump Station Improvements (GMP 1, 2, & 3)

Respondent: PCL Construction, Inc.

Role on Reference Project (Prime, Sub-Contractor, Engineer of Record, etc.) Prime

Reference Entity: City of Glendale

Reference Contact Person: Tom Kaczmarowski

Reference Address: 5850 West Glendale Avenue, Arizona 85301

Reference Email Address: tkaczmarowski@glendaleaz.com

Reference Phone No.: 623-930-3640

Project Delivery Method: CMAR

Project Location: Glendale, Arizona

Respondent Project Manager: Aaron Tomita

Project Engineer of Record: HDR and Black & Veatch Corporation

Date Project Commenced: June 1, 2018

Date of Final Completion or Status: June 30, 2023

Project Budget at NTP ($ million not including contingency and allowance): $22,253,267

Project Cost at Final Completion ($ million including contingency and allowance): $30,948,758

Preference Satisfied: ☑ 3.a. ≥42-inch Pipeline ☑ 3.b. ≥50-MGD Capacity or ≥200 HP Pump Station

☑3.c. Alternative Project Delivery ☐3.d High Groundwater Conditions

Description of Work Performed and Explanation of Differences in Budget and Final Cost:

PCL constructed upgrades and improvements at the 30-MGD Cholla WTP to optimize treatment process efficiency, including replacing several vertical turbine pumps and rehabilitating two booster pump stations within Zones 1A, 1B, and 2. Construction included a raw water flow meter modifications, low-lift pump station modifications, bypass pipeline and splitter box modifications, chemical feed system improvements, site and electrical improvements, and UPS/ PLC upgrades and communication improvements. PCL also upgraded two 10-MG reservoirs, including replacing a reservoir roof and installing new security vents and additional hatches and access points on the other reservoir.
PCL also recoated and installed new drives in seven secondary clarifiers, replaced two flocculators, and replaced a chemical tank and piping and containment coatings.
The difference in cost was due to additional GMPs added by the client.

Reference Project Form: Lift Station 85 Albert Whitted Master Force Main Part E

REFERENCE FORM
Lift Station 85 Albert Whitted Master Force Main Part E, and Related Projects

Respondent: PCL Construction, Inc.

Role on Reference Project (Prime, Sub-Contractor, Engineer of Record, etc.) Prime

Reference Entity: City of St. Petersburg

Reference Contact Person: Mark Laney

Reference Address: Municipalities Services Center- One Fourth Street North St.Petersburg, FL 33701

Reference Email Address: mark.laney@stpete.org

Reference Phone No.: 727-893-7671

Project Delivery Method: Design-Bid-Build

Project Location: St. Petersburg, Florida

Respondent Project Manager: John Kulesa (Superintentent)

Project Engineer of Record: AECOM Technical Services, Inc.

Date Project Commenced: April 29, 2013

Date of Final Completion or Status: January 23, 2015

Project Budget at NTP ($ million not including contingency and allowance): $10,687,294

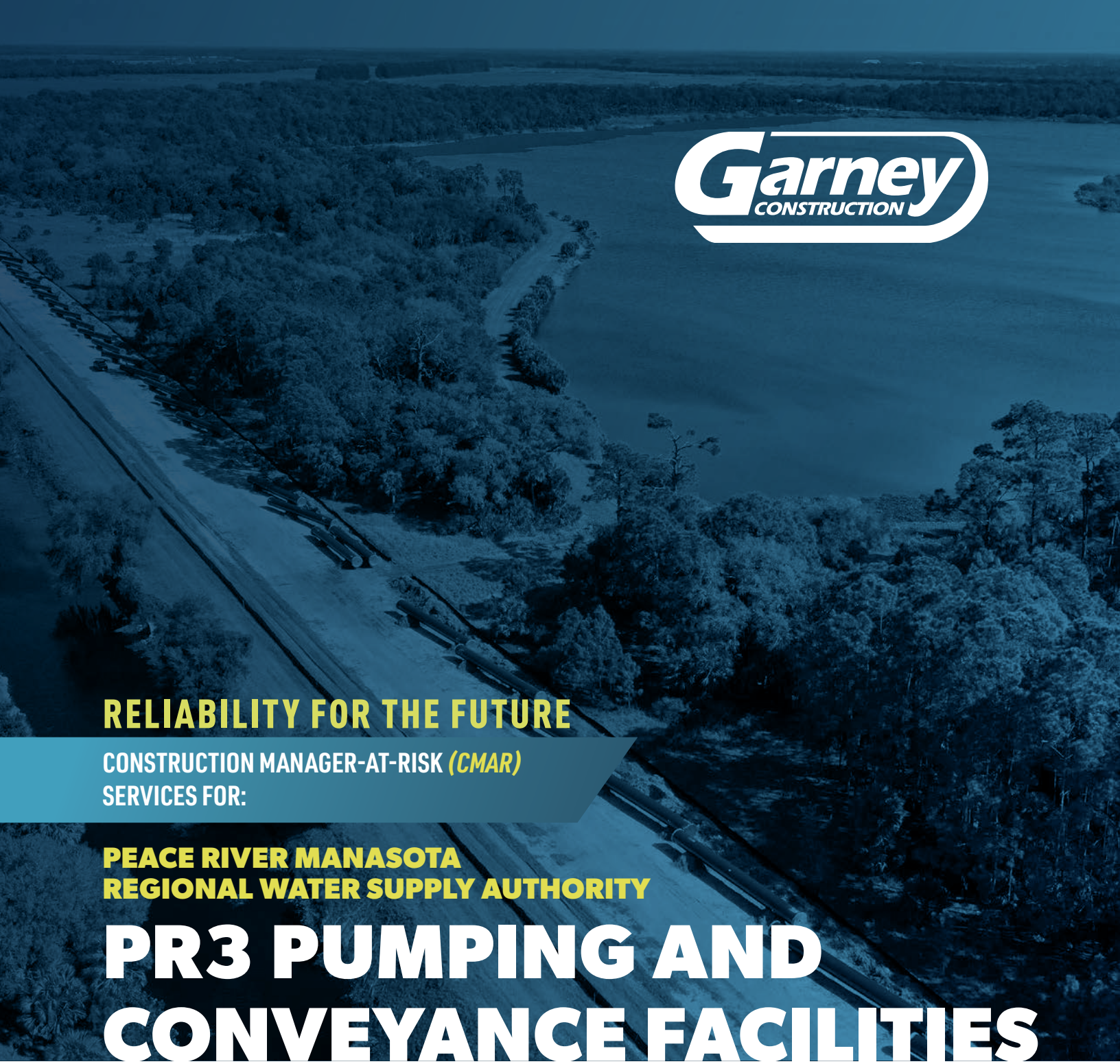
Project Cost at Final Completion ($ million including contingency and allowance): $10,457,473

Preference Satisfied: ☐ 3.a. ≥42-inch Pipeline ☑ 3.b. ≥50-MGD Capacity or ≥200 HP Pump Station

☐3.c. Alternative Project Delivery ☑3.d High Groundwater Conditions

Description of Work Performed and Explanation of Differences in Budget and Final Cost:

Due to underruns and return of allowance, the final cost was lower than the budget at NTP. PCL constructed a new 36-MGD lift station within the existing Albert Whitted Water Reclamation Facility which included a 33-foot-deep concrete wet well and dry pit, climate-controlled electrical room, storage area and restroom, and six 330-HP pumps with valves/piping and electrical instrumentation systems. PCL relocated the existing water, sewer, odor control, and power supply systems. During excavation of the wet well, PCL performed well point and deep well dewatering. Construction included storm drainage improvements and installation of 2,800 feet of 30-inch-diameter ductile iron pipe and reinforced concrete distribution pipelines; 16-inch, 20-inch and 36-inch pipe; and "reward well" injection piping connections. The project required excavation within an active airport runway, therefore, the runway had to be shut down for a short amount of time. Utilizing our Construction Engineering Department, PCL developed a 3D model of the existing utilities in the area of excavation, as well as a 3D excavation plan. These models allowed the PCL team to perform more efficient excavation, minimizing the shutdown period and reducing the amount of runway that had to be excavated. The project required an extensive bypass pumping system to allow for the construction of the pump station while ensuring the water supply continued flowing to the treatment facility. This was a long-duration operation that had to be fully redundant, provide emergency response capability, and ensure full regulatory compliance with no unregulated discharges during the entire operation.



RELIABILITY FOR THE FUTURE

CONSTRUCTION MANAGER-AT-RISK *(CMAR)*
SERVICES FOR:

PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY

PR3 PUMPING AND CONVEYANCE FACILITIES

PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY

9415 Town Center Parkway
Lakewood Ranch, FL 34202

SUBMITTED BY:

Garney Companies, Inc.
2930 University Parkway
Sarasota, FL 34243

TABLE OF CONTENTS

RELIABILITY FOR THE FUTURE

10
PROJECTS FOR PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

290+
CMAR PROJECTS TOTALING MORE THAN $5.9B

280+
PUMP STATION PROJECTS TOTALING MORE THAN $1.1B

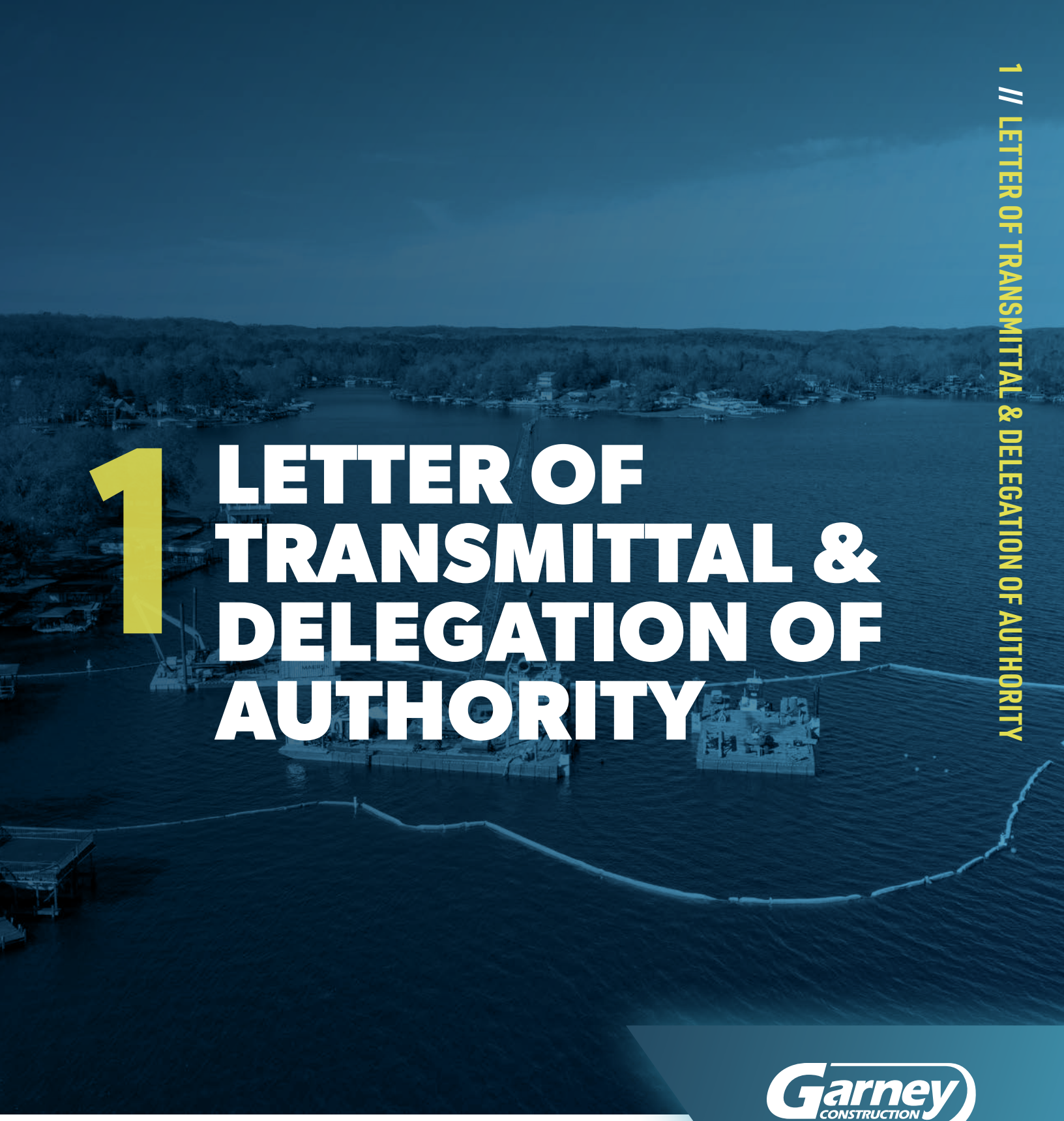
2,330,600+
LF OF 24" OR GREATER PIPELINE INSTALLED IN FLORIDA

4,278,793
LABOR HOURS IN 2022

WHAT THIS MEANS FOR YOUR FIRST CMAR PROJECT

Garney is your trusted partner who understands the complexities and history behind this project and shares the same vision of **creating reliable and sustainable futures.** We will draw upon our experiences working within the loop system, on the Peace River Facility site, and within the state of Florida to offer custom innovative solutions that reduce cost, ensure schedule adherence, and mitigate risk with qualified CMAR experts who self-perform all aspects of this project.

WE OFFER **RELIABILITY FOR THE FUTURE**
BECAUSE WE ARE **INVESTED IN YOUR PAST, PRESENT, AND FUTURE SUCCESS.**



1 LETTER OF TRANSMITTAL & DELEGATION OF AUTHORITY

Garney CONSTRUCTION

PR3 PUMPING AND CONVEYANCE FACILITIES

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

RELIABILITY FOR THE FUTURE

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY CONSTRUCTION MANAGEMENT AT-RISK SERVICES FOR THE PR3 PUMPING AND CONVEYANCE FACILITIES

August 17, 2023

9415 Town Center Parkway | Lakewood Ranch, FL 34202

ATTN: Mike Coates, Executive Director

Dear Mr. Coates and Selection Committee Members,

In February 2019, Peace River Manasota Regional Water Supply Authority (Authority) obtained an updated water use permit (WUP) to withdraw 258 MGD of water from the Peace River for the next 50 years.

The Peace River Regional Reservoir No. 3 (PR3) project will provide the means to make full use of the WUP and fulfill your mission to continue to provide high-quality, safe drinking water supply that is reliable, sustainable, and affordable to your stakeholders now and into the future.

The Authority's decision to use construction manager at-risk (CMAR) in delivering key components of this project aligns with your long-term vision of collaborating to create and maintain your regional water supply system. The success of selecting and implementing the CMAR process will be reliant on the CMAR's understanding of your past, present, and future plans / needs, as well as having in-depth experience with the key project components and CMAR delivery method. Garney Companies, Inc. (Garney) and the key team members identified in this SOQ have been working with the Authority since 2007 and have the experience to achieve project success.

We understand your systems and facilities, have in-depth experience with each component of the project, and are national leaders in collaborative delivery of water projects. Our 16-year collaborative partnership with the Authority is a testament to our commitment to your continued success and has resulted in a high level of trust.

Within this proposal, we have detailed our team's local, in-depth experience with CMAR. **Our extensive experience with large-diameter pipelines and pump stations, coupled with our local team members who understand the importance of collaboration, *makes Garney just what the Otter ordered.***

We are the right partner for the Authority to successfully implement your first CMAR project.

Jason Seubert
VP / COO - Eastern Pipe Operations
816.746.7233 | jseubert@garney.com

Garney acknowledges receipt of addendum 1 dated July 27, 2023.

Garney Companies, Inc.
2930 University Parkway,
Sarasota, FL 34243

SECTION 1

LETTER OF TRANSMITTAL & DELEGATION OF AUTHORITY

LEGAL COMPANY NAME AND TYPE

Garney Companies, Inc. // Corporation
State of FL CGC License Number: CGC1515632
State of FL CBC License Number: CBC1255831

PHYSICAL / MAILING ADDRESS

Physical Address
2930 University Parkway,
Sarasota, FL 34243

Mailing Address
370 E. Crown Point Road,
Winter Garden, FL 34787

PRIMARY COMPANY POINT-OF-CONTACT

Jason A. Seubert – Company Contact
VP / COO - Eastern Pipe Operations
Ph: 816.746.7233
E: jseubert@garney.com

Rob Fults – Project Contact
Construction Manager
Ph: 941.451.1488
E: rfults@garney.com

COMPANY HISTORY

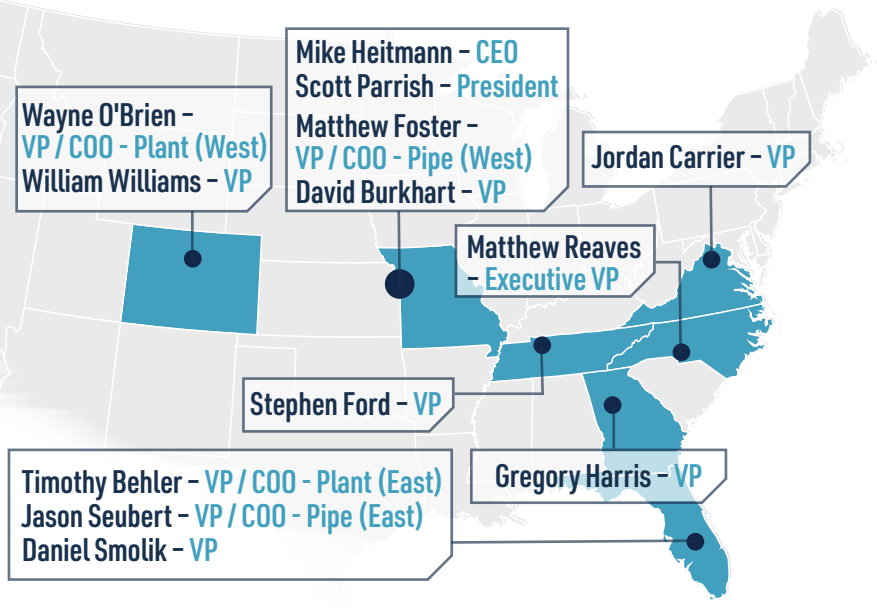
Garney is a 100% employee owned contractor established in 1961 with more than 2,100 employees to date. We focus solely on the construction of pipelines, pumping stations, water storage tanks, and water and wastewater treatment facilities for municipal, federal, industrial, and private clients.

RELIABILITY IN EXPERIENCE

- **1,300+ PIPELINE PROJECTS NATIONWIDE TOTALING $9.6B+**
- **280+ PUMP STATION PROJECTS NATIONWIDE TOTALING $1.1B+**
- **490+ WATER / WASTEWATER PROJECTS IN FL TOTALING $3.8B+**

NAMES AND TITLES OF PRINCIPALS, PARTNERS, OR OWNERS AS APPLICABLE

Garney is the largest contractor in our line of work and has a tremendous depth of resources spread across the country, including more than 2,100 employees in 17 offices nationwide, of which 290+ employees work out of our three Florida offices. ***The map (right) depicts our firm's current officers and their location.***



BUSINESS PHILOSOPHY

Garney is a 100% employee owned firm, which separates us from our competition. Ownership is a powerful tool—those who have it work harder and smarter, resulting in a safe project executed at the highest quality level possible. ***Simply put, our employee-owners work harder because your success is our success.***

GARNEY'S G&PS

GOALS	PHILOSOPHIES
SAFETY	INTEGRITY IS THE SHORTEST PATH TO SUCCESS
QUALITY	WIN / WIN
ALLOW ALL EMPLOYEE-OWNERS TO ACHIEVE THEIR FULL POTENTIAL	100% EMPLOYEE OWNED
JOB SECURITY AND ESOP PERPETUATION	EXCELLENCE IS THE STANDARD
PROFITABILITY	OUR GOALS AND PHILOSOPHIES HAVE BEEN THE FOUNDATION OF OUR COMPANY SINCE 1961.
SERVICE TO OUR CUSTOMERS AND THE COMMUNITY	

KEY PERSONNEL INVOLVEMENT
JASON SEUBERT (Principal-in-Charge)
ROB FULTS (Project Manager)
DUSTAN PATE (Project Engineer)

48" STEEL PIPE ON THE REGIONAL INTEGRATED LOOP SYSTEM PHASE 3B INTERCONNECT

RELIABILITY IN PARTNERSHIP

With 16 years of experience working collaboratively with the Authority, Garney has successfully worked on 10 projects in support of the Authority's mission to provide high-quality, safe drinking water to the region. Our familiarity with the Authority's loop system and the Peace River Facility will benefit the project by contributing unique, site-specific knowledge that drives innovative solutions.

COMPLIANCE WITH PROVISIONS

Garney has extensive experience complying with Federal regulations including Federal Acquisition Regulation (FAR) and the Code of Federal Regulations (CFR) including Title 2 - Grants and Agreements the required contract clauses detailed in 2 C.F.R. Part 200, Appendix II and Federal Labor Standards Provisions (Davis-Bacon and Related Acts 29 C.F.R Parts 1, 3 and 5). Garney agrees to fully comply with all these regulations and codes required as part of this solicitation and any contracts that result from it.

INTEREST IN THIS PROJECT

RELIABILITY IN COMMITMENT

Garney has established an exceptional track record, solidifying a longstanding relationship with the Authority. As the prime contractor for numerous projects, including the Peace River Facility Expansion Contract No. 2, as well as the Phase 1A, 3A, 3B, and 3C regional transmission main initiatives, our contributions have consistently exceeded expectations. Our commitment to the Authority's vision, goals, and mission, is demonstrated by our ongoing continuing services contract. This enduring partnership has been built upon mutual trust and an unwavering dedication to excellence.

Garney is eager to channel our collective expertise towards the success of this project. We are committed to continuing our partnership with the Authority, leveraging our proven capabilities to accomplish your objectives.

DELEGATION OF AUTHORITY

CERTIFIED COPY OF RESOLUTION
OF SOLE DIRECTOR OF GARNEY COMPANIES, INC.

The undersigned, Thomas J. Roberts, hereby certifies that he is the duly elected and qualified Secretary of Garney Companies, Inc. a Missouri Corporation (the "Company"), and that as Secretary, he maintains the records and the corporate seal of the Company. The undersigned further certifies that the following is a true and correct copy of the resolution adopted by the Sole Director of the Company on the 5th day of December, 2022 and that such resolution is now in full force and effect:

RESOLVED: That the following individuals listed below

Michael H. Heitmann	CEO
Scott A. Parrish	President
Executive Vice President	Matthew W. Reaves
Timothy M. Behler	Vice President/COO - Eastern Plant
Wayne A. O'Brien	Vice President/COO - Western Plant
Matthew T. Foster	Vice President/COO - Western Pipe
Jason A. Seubert	Vice President/COO - Eastern Pipe
David R. Burkhart	Vice President
Stephen P. Ford	Vice President
Gregory K. Harris	Vice President
Jordan S. Carrier	Vice President
Daniel R. Smolik	Vice President
William D. Williams	Vice President
Jay L. McQuillen, Jr.	Director - Garney Federal
Thomas J. Roberts	Director of Financial Reporting/Secretary
Mark A. Kelly	Director - Business Development
Michael D. Strong	Director - General Counsel
Scott J. Reuter	Director
Jeffrey P. Seal	Director
Michael Joel Heimbuck	Director
Eric C. Wagner	Director
Brian B. Brandstetter	Director
Patrick S. Vidonish	Director

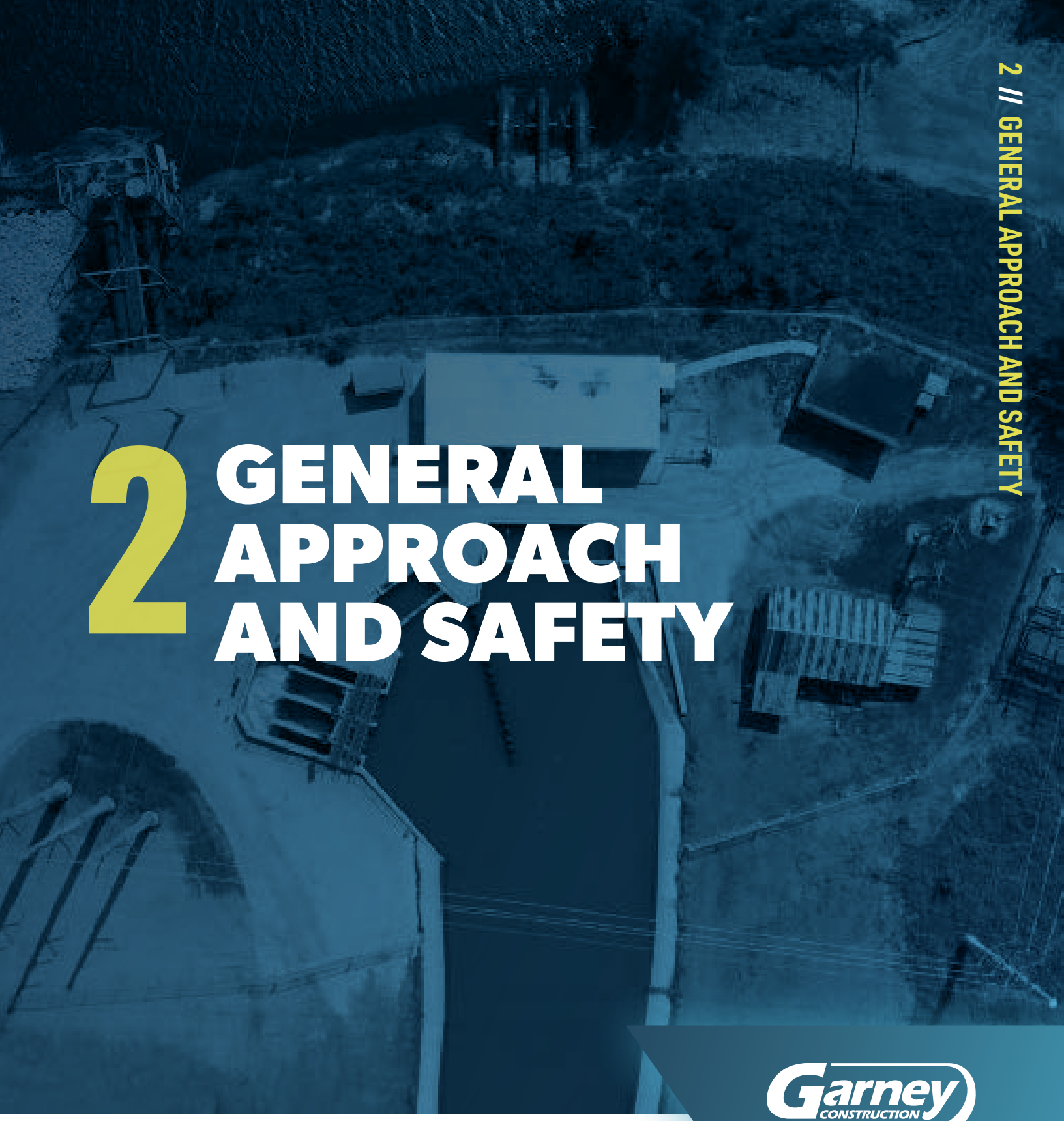
are hereby authorized and instructed to execute and deliver on behalf of the Corporation and its name, contracts, offers and bids pertaining to contracting and construction work to be performed by the Company.

IN WITNESS WHEREOF, the undersigned has hereby affixed his name as Secretary and caused the corporate seal of the Company to be affixed hereto this 5th day of December, 2022.

GARNEY COMPANIES, INC. CORPORATE SEAL STATE OF MISSOURI

Thomas J. Roberts

Thomas J. Roberts, Corporate Secretary



2 GENERAL APPROACH AND SAFETY

Garney CONSTRUCTION

PR3 PUMPING AND CONVEYANCE FACILITIES

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

RELIABILITY FOR THE FUTURE

SECTION 2

GENERAL APPROACH AND SAFETY

ESTABLISHED PARTNERSHIP WITH THE AUTHORITY

Our relationship with the Authority began in **2007** when Garney was the low bidder for the Peace River Water Treatment Plant (WTP) Expansion Contract #2. This design-bid-build project consisted of a bid of $88M, nearly 15% over the Authority's budget. Following award, Garney collaborated with the Authority and engineers to develop value engineering (VE), constructability, and scope reduction ideas. Our team developed 75 ideas, of which 51 were incorporated.

Garney's involvement reduced the project cost by $13.7M, with minimal impact to the capacity or quality of the final project.

Since that time, we've worked on 10 projects for the Authority totaling over $182M. Four of these projects were pipeline projects: 1A, 3A, 3B, and the ongoing 3C project—***the Authority's first progressive design-build (PDB).***

These pipeline projects included over 161,000 LF of 24" – 48" diameter pipe, along with two significant pump stations 25 and 5.4 MGD, and two ground storage tanks (5MG and 500,000G).

Additionally, we have held continuing services contracts with the Authority since 2012 and have completed multiple projects under these contracts, including several on your pumping and transmission systems.

REGIONAL INTEGRATED LOOP SYSTEM - PHASE 3A INTERCONNECT PROJECT

Jason Seubert and **Rob Fults** had direct involvement on this project for the Authority, which consisted of 47,500 LF of 48" steel pipeline, 25 MGD high service regional pump station, and 210 LF subaqueous crossing of the Myakka River via micro tunneling with 60" casing.

BENEFIT TO THE AUTHORITY

What does this mean? We know your system and we know you. We understand your expectations and standards for products, quality, and safety. We have established relationships and communication processes. There is no learning curve. We can integrate on day one to meet the challenging schedules for these projects.

RELIABILITY IN A TRUSTED TEAM

More than half of our proposed team has experience working on the Regional Integrated Loop Phase 3C Pipeline (PDB) project together. Our first-hand experience with the Authority will be reflected in best-value solutions, providing better control over cost, schedule, quality, and safety on the PR3 project.

EXPERIENCE WITH BROWN & CALDWELL

The Authority selected Brown & Caldwell (BC) as the owner's Agent (OA) to provide professional services as needed to complete Capital Improvement Plan (CIP) projects and / or Renewal and Replacement (R&R) projects through the year 2030, with the overall goal of enhancing the functionality of the Authority's infrastructure. Part of BC's role will include working with external staff selected for specific work packages over the next several years. Our established relationship with BC offers the Authority the benefit of seamless decision-making and efficient communication throughout all phases of the project.

Garney has worked with BC on 46 water or wastewater infrastructure projects valued at $715M, of which 23 were pipeline / pump station projects valued at $282M. Garney and BC have worked on 12 collaborative delivery (design-build / CMAR) projects worth $386M.

Locally, Garney has similar project experience with both **Michael Condran**, BC's planned Program Manager and **Todd Bosso, PE**, Director and Client Services Manager. On our referenced River Oaks Diversion Design-Build project, Michael was on our team as the Lead Quality Control Engineer while employed at GHD. Todd was the Design Project Manager for the City of Largo's Wet Weather Monitoring & Pumping System, for which BC provided engineering services, and Garney served as the Lead Contractor for replacement / upgrades of seven pump stations and 80,000 LF of 12″ to 30″ diameter pipelines.

This relevant project experience working together to solve many of the challenges this project will face, such as maintaining an effective maintenance of plant operations (MOPO) plan, successful public engagement, connection to an operational system, meeting schedule deadlines for water supply demands, and phasing / sequencing of the work, will provide us with lessons learned to the benefit of the Authority.

Our team's prior experience together and established relationships will allow us to immediately dive into the details and needs of the project, saving time on the tight project schedule. It will promote a high degree of collaboration ensuring the preconstruction and design intent is understood and carried through to construction.

WET WEATHER MONITORING & PUMPING SYSTEM

BC was the Lead Engineer, while Garney delivered pumping improvements to seven city lift stations, included new wet wells, pumps, power supply, and bypassing, installation of 77,000 LF of 12″ to 30″ force main, HDD, auger boring to cross FDOT and CSX rights-of-way, and reconstruction of a City roadway.

POPLIN ROAD PIPELINE AND PUMP STATION (PDB)

This $15M PDB project included a new 10MGD Overflow Pump Station, 4MG ground storage tank, and 5,400 LF of 24 to 18" diameter DIP sanitary gravity and force main pipelines for Union County, NC. BC was the Program Manager / OA.

EXPERIENCE WITH HDR

For nearly four decades, Garney and HDR have been collaborating on multi-year and multi-phased, complex water and wastewater programs all across the United States. Together, we have successfully completed projects including large-diameter pipelines, pump stations, WTPs, reservoirs, and marine work on similar collaborative delivery projects.

Garney has worked with HDR on 73 water or wastewater infrastructure projects valued at more than $1B, of which 50 were pipeline / pump station projects valued at $630M. Garney and HDR have worked on 18 collaborative delivery (design-build / CMAR) projects worth $649M.

EXPERIENCE WITH HAZEN

Garney and Hazen and Sawyer (Hazen) have 20 years of collaborative experience on large-scale water programs. We recently partnered with Hazen Project Manager, **Andre Dieffenthaller, PE**, on the San Carlos Pumping Station Rehabilitation (PDB) project in collaboration with Garney for the City of Tampa, FL. This $25M project included rehabilitation for a 55 MGD pump station. Garney is presently teamed with Hazen on the Howard Curren AWTP Improvement, a $300M PDB for the City of Tampa, FL.

Garney has worked with Hazen on 48 water or wastewater infrastructure projects valued at more than $1.7B, of which 27 were pipeline / pump station projects valued at $766M. Garney and Hazen have worked on 14 collaborative delivery (design-build / CMAR) projects worth more than $1.3B.

RELIABILITY IN PROVEN PARTNERSHIPS

Our decades of partnership have resulted in an established foundation of trust and accountability, providing the Authority best-practice CMAR strategies, built upon effective and continuous communication. These best-practices directly translate to schedule and budget certainty through efficient execution of critical front-end CMAR tasks including design milestones, VE, timely permitting approval, and accurate GMP development.

GARNEY + HDR + HAZEN EXPERIENCE

STOWE REGIONAL WATER RESOURCE RECOVERY FACILITY (PDB) $200M

Garney, HDR, and Hazen is collaborating on the design, construction, and commissioning of the new greenfield Stowe Regional Water Resource Recovery Facility with an initial capacity of 15 MGD expandable to 25 MGD. **The preconstruction phase includes a kick-off meeting, progress and partnering meetings, risk mitigation workshops, and process selection, and scheduling workshops.**

GARNEY MARINE

YADKIN REGIONAL WATER SUPPLY PROJECT - RAW WATER INFRASTRUCTURE (PDB) $156M

This project included a new raw water intake, 45 MGD pump station, 300 LF microtunnel using 54″ steel raw waterline, and 29 miles of 42″ and 52″ mortar-lined steel water line. The preconstruction phase included overall project scoping, design workshops, development of an initial opinion of cost, design services through 30%, and design completion to 60% including a GMP and schedule for the construction phase. **By the final design submittals, the owner realized about $7.5M in savings from VE through collaboration between Garney, HDR, and Hazen.**

RELIABILITY IN OUR CMAR PROCESS

Serving as the CMAR, Garney's CMAR process will result in leveraging our knowledge and experience to provide input during design to:

- **Eliminate / minimize changes during construction**
- **Provide best value methods and processes**
- **Sequence construction for minimal interruption to plant access and plant facilities**
- **Complete the project on or ahead of schedule for a competitive cost**

Garney's in-depth experience has taught us that communication and teamwork are the cornerstones to making the CMAR process a success. ***To establish and maintain a collaborative atmosphere and relationship, four attributes need to be present: Trust, Integrity, Transparency and Communication.*** Our team will work in partnership with the Authority, BC, HDR, and Hazen to foster these items throughout the project.

Our process starts with team strategy / partnering session. This session with the Authority, BC, HDR, Hazen, and other impacted stakeholders will be to craft a project / team mission statement and list out the key objectives for the process and project. This session is where each stakeholder shares their wants, needs, and concerns about the project and the delivery method. ***The session will lay the foundation for building trust and establishing open honest lines of communication between all team members.***

STEPS TO MAKING THE PROJECT A SUCCESS

Each party plays a role in the successful outcome of the project. Using the CMAR delivery process, the Authority holds the advisor, design and construction contracts, has the final decision-making power, and accountability if issues arise between each party. The OA is there to support the Authority and process by bringing accountability to each party while not affecting each party's role.

The design engineer is accountable to the project and the CMAR in delivering timely design concepts and revisions to meet the overall schedule and reviews of submittals and other required information—minimizing impact on project schedule and cost. The CMAR has a responsibility of actively engaging with all parties to manage the development of the overall project schedule and cost while providing insightful, invaluable reviews of the design and documents as they progress.

The CMAR process has three distinct stages:

PRECONSTRUCTION

CONSTRUCTION

START-UP & COMMISSIONING

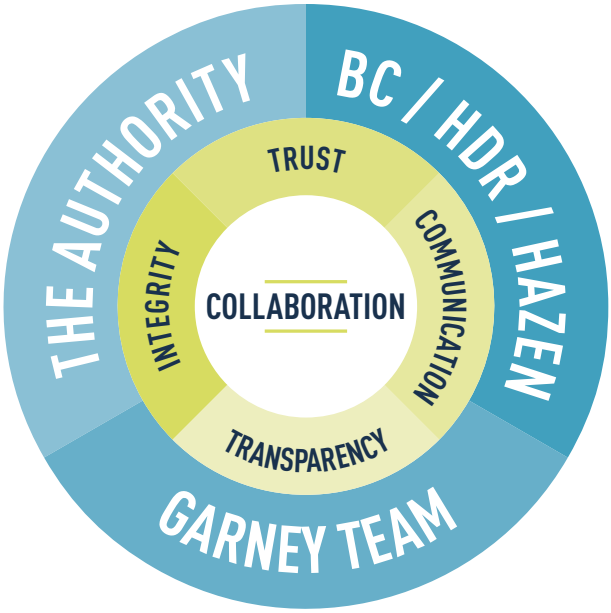
During preconstruction, our team will act as an advocate for the Authority by reviewing the design and bringing value and certainty related to the schedule and budget to meet your project objectives. During construction, we must ensure the design intent transfers in the final work product, constructing a quality project in a safe manner.

PRINCIPLES OF COLLABORATION

To provide consistency across all three stages we must foster a team atmosphere, working in partnership with the Authority, BC, HDR, and Hazen to keep everyone's project goals in alignment. ***The key elements to maintaining this team atmosphere include:***

- **Communicate openly and honestly with all team members**
- **Delegate decision-making authority to the project team**
- **Pre-plan to minimize impacts or disruptions during design and construction**
- **Resolve problems proactively**
- **Create a win / win atmosphere based on trust**

True collaboration can only be achieved through these four principles.



COMMUNICATION AMONGST ALL STAKEHOLDERS

Collaboration is most successful when clear lines of communication are established. **Rob Fults**, Construction Manager, will work directly with the Authority's Project Manager to ensure that communication between the Authority, BC, HDR, Hazen, stakeholders, and our team remains constant, open, transparent, and productive during all phases. ***We will take the lead role in communication. Garney proposes intentional meetings to streamline and simplify communication. This will consist of the following:***

- ☑ Develop a detailed project team organizational chart with roles and responsibilities
- ☑ Hold regular on-site meetings
- ☑ Hold schedule reviews to keep the project on track
- ☑ Develop and maintain project action log
- ☑ Utilize email, Teams meetings, and phone calls to keep in touch and share information
- ☑ Prepare an emergency contact list

In our initial workshops, we will develop a preferred method of communication with all stakeholders required to be involved. Our team will establish and document expectations with well-defined project deliverables, working collaboratively to build your vision together. ***The following are other potential methods and processes we have successfully used.***

TYPES OF COMMUNICATION

- **Weekly progress meetings**
- **Microsoft Teams site for living action logs**
- **Design challenge meetings**
- **Subconsultant coordination meetings**
- **Bi-monthly update emails**
- **Monthly progress reports**
- **SharePoint site for document sharing**
- **Project website for external stakeholders**

CONSTRUCTION PROJECT MANAGEMENT SOFTWARE

Garney's ability to provide efficient coordination and continuous communication with the Authority, BC, HDR, and Hazen is critical to the success of the project. Together, our team will establish procedures agreeable to all parties for reporting, communication, and administration early in the preconstruction phase.

Garney effectively manages project documentation using **CMiC** and **Bluebeam** software. We provide comprehensive access and training for our customized filing system within CMiC. This system serves as the hub for entering, tracking, and managing project information, including crucial elements like RFIs, submittals, and punch-lists. Additionally, all team members are granted access to project records as they are developed. Alongside CMiC, we utilize Bluebeam for efficient document control and management of as-built drawings.

Garney utilizes CMiC and Bluebeam software to handle all project documentation. This integrated approach streamlines our documentation processes, ensuring effective collaboration and project management.

Bluebeam Revu is utilized as a collaborative tool for project red lines and final punch-out of the project. Bluebeam permits multiple users across multiple organizations to access and edit the same document in real time. Everyone will have the ability to see real time project redlines and punch-out status. Bluebeam also affords the ability to streamline documentation of the punch-out process. All punch-out items can be recorded as complete with digital photos. Contractors can mark items as complete, attach photos showing completion, and notify the CMAR for final confirmation.

We take a proactive approach to shop drawings and RFI management and review. This process starts by developing a detailed submittal schedule to identify critical and long lead items. Each subcontract or purchase order will include dates for when submittals are required, along with when the material should be delivered. Logs will then be developed and tracked to ensure these dates are met. When shop drawings are received, they will be logged in and distributed to our team for detailed review and coordination, along with any impacted subcontractors.

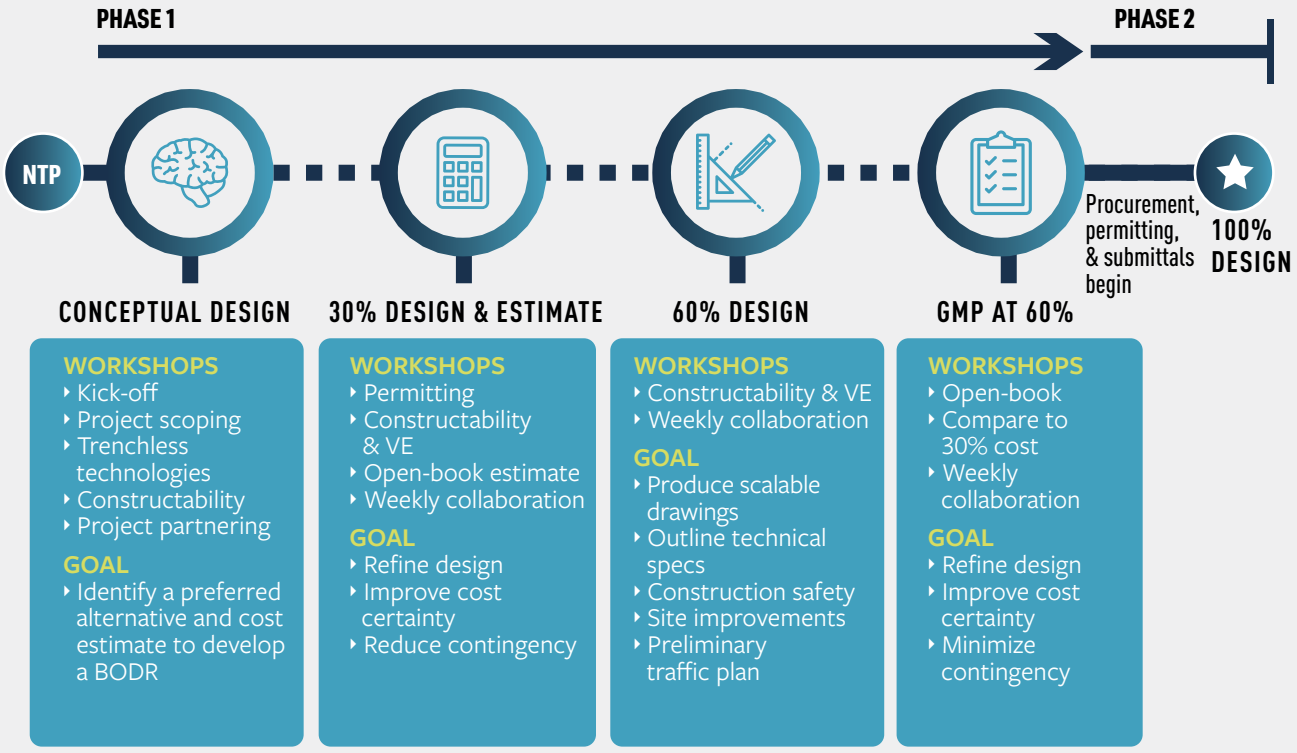
This thorough review process takes place before any shop drawings are provided to the Authority, BC, HDR, and Hazen. The intended outcome of this process is to minimize the review time and eliminate oversights that could impact the schedule. RFIs are included within CMiC, but are managed through constant and open communication. Once an RFI is submitted, we expect quick turnarounds as all parties are fully versed on the issue and resolution.

Sharing information and storing files, such as contract documents, needs to be executed in an organized manner. Ease of access for the Authority, BC, HDR, Hazen, and Garney is critical for efficiency. Garney typically establishes a project SharePoint site for document storage. The entire team can access the shared project files from anywhere with an internet connection. We also propose the use of Microsoft Teams for online collaboration meetings.

DESIGN REVIEW WORKSHOPS

To implement these tasks throughout phase I – preconstruction, several workshop meetings will be scheduled (the Authority, BC, HDR, Hazen, and Garney) to meet so that our estimators and constructability reviewers can meet face-to-face with the Authority and design engineers to support partnering and increase efficiency of design development.

Clear expectations and responsibilities of each party will be identified to assure a team mentality with the same objective is achieved. The team will discuss and agree on a communication plan, project schedule, specific project milestones, and progress tracking documentation such as decision and action log formats. These team workshops will identify, understand, prioritize, and update all preconstruction tasks.



The decision and action logs will both be living documents that are reviewed continually and modified by the team to accept or reject items with the purpose of advancing the design development forward while monitoring budget impacts. If the design and / or scope is changed, we will apply cost / benefit analysis to the change so project budgets are maintained in real time—allowing the Authority to adjust or maintain course. During the team workshop meetings, Garney will share its experience with lessons learned from past projects.

APPROACH TO RISK MANAGEMENT

Meeting schedule and budget is dependent on identifying and mitigating risks during all phases of the project. The CMAR delivery method provides a unique opportunity to manage risks effectively as it allows the CMAR to collaborate with the engineers to have control over the design and construction activities. ***Our team's approach to risk management starts with the identification and classification of risks.*** We do this in a strategy / partnering session workshop. Identified and classified risks are then captured in a risk register. All risks that are logged in the risk register are considered open (or active) by default. ***Once risks have been evaluated, the team assigns specific individuals (assignee) to be responsible for that risk throughout the project. The assignee is responsible for developing a risk mitigation plan to address the risk.***

PERMITTING

To develop a meaningful schedule, we must understand the permits required, their requirements, and the timeline needed to obtain final approved permits. ***We anticipate permits from the following agencies may be required:***

- ***Florida Department of Environmental Protection (FDEP)***
- ***Florida Department of Health (FDOH)***
- ***U.S. Army Corps of Engineers***
- ***Florida Fish and Wildlife Conservation Commission (FWC)***
- ***Local City and / or County Governments***
- ***Florida Department of Transportation (FDOT)***
- ***Florida Power and Light***

Garney's critical path method (CPM) will reflect a duration for each permit which will commence upon completion of the 60% GMP design phase with permits obtained prior to construction.

VE AND CONSTRUCTABILITY REVIEW LOG

Garney will bring creative and innovative solutions through the constructability and VE review process. Our depth of experience will ensure the Authority will achieve the best constructable design by eliminating issues that would cause costly delays during construction.

Preconstruction activities—such as design reviews, constructability evaluations, and VE—are activities that we incorporate into every project and are typically done simultaneously. We will evaluate the unique components that are necessary for the project and identify potential ways to streamline the process. Garney will look for better design options, most cost-effective construction techniques, best materials, schedule advantages, maintenance of plant operations (MOPO), and operational benefits to maximize efficiency and reduce cost.

Based on Garney's CMAR and self-performance experience, our constructability reviews will provide input on many critical aspects during preconstruction. VE and constructability reviews will be conducted as an ongoing process throughout the preconstruction phase.

VE SAVINGS // EAST CMAR PROJECTS

PROJECT	OWNER	VALUE	VE SAVINGS
Green Meadows WTP and Wellfield Expansion (CMAR)	Lee County Utilities, FL	$75M	$1.5M
Apopka WRF Expansion (CMAR)	City of Apopka, FL	$62M	$4M
Rifle Range Road WWTP Expansion (CMAR)	Mount Pleasant Waterworks, SC	$59M	$8M
Mark B. Whitaker WTP Filters 11-16 Installation (CMAR)	Knoxville Utilities Board, TN	$50M	$7M
Plant City WRF Expansion (CMAR)	City of Plant City, FL	$44M	$4M
T.Z. Osborne WRF 56 MGD Upgrade - Package 3 (CMAR)	City of Greensboro NC	$18M	$1M
Southwest WRF (CMAR)	City of North Port, FL	$38M	$448K
Bartram / US 1 and Cecil Field Water Main Project (CMAR)	Jacksonville Electric Authority, FL	$12M	$430K

Early in preconstruction, Garney suggested a radical change to the clarification technology and site layout which eliminated two phases of construction, limited impact to the existing facility, reduced the project duration by 12 months, and reduced the cost of the project by $4M.

MAINTENANCE OF PLANT OPERATIONS

In order to maintain the plant's operations during construction, the team will develop MOPO plans during preconstruction. ***We will work with your operations staff to identify operation constraints using the following considerations:***

Early discussions and pre-planning with plant operations staff

Minimum of 72-hour notice of tie-ins and / or interface. This notice may be lengthened if necessary, dependent on the type and critical nature of the interface

Interface activities will be incorporated into the CPM schedule

Interface activities included in four-week near term schedule

Work packages will specifically address the safety, length of interface / shutdown

Contingency plan

Electrical tie-ins –maintain existing plant operations while installing new electrical feeds and controls

Expediting shutdowns during low flow periods

Maintaining site access

START-UP

We establish our approach and plan to start-up, performance testing, and commissioning early in the project. Our project staff begins assembly of documents that will later be the backbone of this stage in the project as soon as they receive purchase orders and submittals. We will ensure the existing facility transitions from construction to start-up without interruption. We will take responsibility for executing all testing, check out, start-up, and commissioning required for the entire system. Coordination with the Authority's O&M staff for all planned equipment shutdowns, tie-ins, and start-ups will be executed.

STEPS TO START-UP, COMMISSIONING, TRAINING AND TURN-OVER PLAN

- START-UP
- EQUIPMENT TESTING
  Pipe Testing
  Electrical and I / O Checkout
  Manufacturer Inspection
- TRAINING
- PERFORMANCE AND PROCESS STABILIZATION
- TRANSFER OF OPERATION ACTIVITIES

SCHEDULING

To build the necessary schedule, Garney will collaborate with all key stakeholders to gather input from the entire project team, including design schedules. With this input, we will develop a comprehensive CPM schedule that identifies constraint activities during design and construction and will identify critical items like easement acquisition and permitting that will drive construction start dates. Using this CPM schedule, our team will then identify early work and material packages. ***Critical work scopes, such as trenchless installations, will be highlighted and assessed with a detailed level of activities.***

Variables, such as permitting and long lead time materials, will be identified and assessed with a CPM. The CPM schedule will be resource and cost-loaded to serve as a cash flow tool for the Authority's use in projecting spending across the project's duration. Updates to the schedule will be provided on a monthly basis and at each deliverable milestone established allowing the whole project team to evaluate cost and schedule performance.

CRITICAL PATH METHODOLOGY

The schedule will be the key driver for this project. Our team is experienced in meeting or beating consent decree deadlines and will take full advantage of the CMAR process by implementing a schedule that expedites the GMP development process during the preconstruction phase. Team workshops will be scheduled immediately after the NTP to discuss schedule milestones, project phases and sequencing, GMP breakdown activities, early-out work packages and critical path preconstruction and construction activities.

This logic-driven planning and scheduling system is based on CPM which will produce a variety of reports and charts depicting progress status of preconstruction and construction activities as well as required resources. The CPM schedule will be updated weekly and used proactively to update progress and manage changes throughout the life of the project so that decisions can be made in real time.

During the preconstruction phase, we will develop a work breakdown schedule (WBS) based on project phasing, the sequencing of the work, and the logical selection of work packages. It is important to identify which work packages are critical for each phase of the project and what work scope shall be included to reduce scope gap.

This analysis centers on the development of a master baseline resource- and cost-loaded schedule that is properly sequenced to show a clear critical path for the design, construction, and commissioning—allowing project milestones to be established.

SCHEDULE MONITORING AND UPDATING

Our schedule details the activities and the time allotted to complete each activity, as well as their interdependency and clearly defines the steps required to complete the project. Each Project Manager will monitor the schedule on a weekly basis and incorporate any changes with the team for each individual work area. They monitor not only the schedules of the individual work areas, but how they interact into the overall project. If our team identifies any slippage in the project schedule, we implement recovery measures such as assigning additional labor, extending daily working hours, extending weekly working time, or obtaining additional subcontracting staff as necessary.

The schedule will be reviewed with the Authority prior to approval and submitted on a bi-weekly or monthly basis as requested. The schedule will be communicated to stakeholders, subcontractors, and vendors to identify key dates and critical paths for completion of the each phase. Throughout the preconstruction phase, Garney will continually refine and update the schedule to accurately account for both costs and required resources as determined by submitted cost estimates. To monitor progress, the baseline schedule will be measured against any updated changes to the critical path to make sure the project remains on schedule.

Garney will work with each subcontractor following bidding the packages to further refine the schedule. As a result of our hands-on self-performance capabilities, Garney can also assist subcontractors with the ability to step in and provide additional resources to support recovering any schedule loss, if necessary.

To organize and track progress of these activities, Garney uses Primavera P6 Project Management and Primavera Contract Management software.

COST ESTIMATING & COMMUNICATING COST VARIATIONS THROUGHOUT THE DESIGN PROCESS

Upon NTP, our team will utilize the 30% Design Report (BODR) and provide an estimate in a format that closely reflects any past budget estimates for an apples-to-apples comparison. This allows us to have a useful conversation and tie current conditions back to any initial assumptions that were made. At the same time, we will propose a format based on prior CMAR experience, for estimating and iterative cost evaluation moving forward, ensuring that all of the Authority's expectations for the open-book procedure are met. With each iteration of the design, our team will provide review comments, meet to discuss and clarify any intent, and then update our cost to match the updated design based on comments received.

A consolidated budget update will follow each workshop—providing clear detail of any changes and a breakdown of the cost change related to labor, materials, and anticipated subcontractor components. Having this level of budget analysis ensures we do not lose sight of the project goals and identifies any shortfalls early in the process so we can correct them before the constraint becomes an issue. Garney will collaborate with the Authority on the format, breakdown, and structure of the GMP to meet your needs for this project. Each area will have a breakdown of the major cost components related to preconstruction, permitting, installation, performance testing, and project closeout. Our team will provide cost estimates at the BODR 30%, 60%, 90%, and reconciled at 100% design stages to inform the Authority through every step of the process. Our method of open-book, live estimating allows us to continually update both pipeline segments regardless of design progress for either. Throughout this process, we will document VE and constructability ideas, assigning cost and time where applicable.

OWNER DIRECT PURCHASE (ODP)

Within the past 15 years, Garney has assisted owners in managing $280M through ODP programs, saving owners over $17M. This does not include the cost of time saved by accelerating the procurement of long lead and critical path items, as we did on the Peace River Phase 1A Interconnect project. In addition to cost savings, Garney works directly with owners to ensure all aspects of the project requirements, including schedule and liabilities, are covered and meet the standards required by state statutes. We have had zero regulatory / compliance issues with owners or third-party agencies and zero litigation. Our established process allows for smooth implementation that results in on-time delivery.

We can do more with ODP because we leverage our proven contracts, long-standing relationships with key local suppliers, and national buying power as one of the largest self-performing contractors in the state.

RECENT ODP EXPERIENCE IN FLORIDA

PROJECT & OWNER	VALUE	ODP VALUE
NWRWRF Expansion (DB), *Hillsborough County, FL*	$193M	$18M
Green Meadows WTP Expansion (CMAR), *Lee County Utilities, FL*	$75M	$17M
Peace River WTP Expansion, *Peace River MRWSA, FL*	$61M	$17M
Apopka WRF Expansion (CMAR), *City of Apopka, FL*	$62M	$16M
Regional Integrated Loop Phase 3C Pipeline (PDB), *Peace River MRWSA, FL*	$55M	$8M
WRF Expansion (CMAR), *City of Plant City, FL*	$39M	$4M
Southwest WRF Improvements (CMAR), *City of North Port, FL*	$38M	$5M
River Oaks Diversion Project (DB), *Hillsborough County, FL*	$28M	$1M

ADVANTAGES OF SELF-PERFORMANCE

CRITICAL PATH
Self-performing the majority of critical path items means Garney has better control of the schedule.

EXPERIENCE
Garney's diverse resume allows us to accurately generate the duration of the self-performed construction activities.

WORK SHIFTS
Working shifts derived from our detailed estimate are used to accurately depict the self-perform activities in the schedule.

SCHEDULE
A well-developed schedule, coupled with regular on-site scheduling meetings, allows us to identify and react to changes early.

SELF-PERFORMANCE

Garney has the ability to provide trade skill resources to construct the majority of work (60-90%) on our projects which minimizes both risk and cost for our clients. In 2022, Garney completed 4,002,663 man-hours of work and presently has more than 513 field craft workers in the East region. As a CMAR, Garney will typically self-perform the critical aspects of the project which normally includes, sitework, yard pipe, concrete, process mechanical, above ground piping connections, equipment install, and start-ups.

Having unit responsibility for these portions of work allows Garney to have better control of managing costs, quality, and the ability to meet schedule milestones for the Authority. In addition, it is important to contractually keep the installation of equipment, start-up, and warranties under one contract to minimize risk.

We create customized work packages that take into account the project's critical path, schedule, market availability for qualified contractor / subcontractor participation, the project-specific needs, and Garney's self-performance capabilities. We look at dividing up work based on the typical CSI divisions of work or looking at complete components of a process as work packages. In a typical CMAR project, the outcome is a mix of both of those options to try to ensure that specialty items, such as electrical, have a uniform responsibility to one subcontractor to perform the work. We will incorporate the concepts / limits of each work packages into the overall design process. This step helps eliminate gaps in scope that can cause schedule or cost challenges.

GMP DEVELOPMENT

Based on today's market conditions and the Authority's desired schedule, we anticipate the potential need for a multiple GMP approach. As a self-performing contractor, we have an in-depth understanding of the work and cost history to perform quick and accurate budget analyses as we work through the project and make decisions. We will establish an overall project construction schedule identifying the different trades and their individual schedule needs, which is key to a successful procurement process and GMP execution. The project scope has specific specialty areas that will play a key role in the cost and schedule of the project. For electrical, the trenchless crossings of Kings Highway, and building components, we have included specialty design partners Cogburn, Huxted, and Willis-Smith who will provide preconstruction services for these specific items. Their constructability and VE reviews, along with schedule and budget development, will ensure expert input to provide certainty of outcome for these components.

CONTINGENCIES AND ALLOWANCES

The risk register will serve as the basis for quantifying the cost component of each major project risk. The project contingencies and allowances are designed to allow the Authority to absorb price increases due to unanticipated changes, i.e. unsuitable materials being encountered, or material price escalation, which could add cost during construction. Our experience and proven process during collaborative delivery utilizes the risk register to determine which party is best suited for managing each risk item. Risks to the Authority are carried within the project's allowances while risks best suited to be mitigated by Garney are carried within contingencies.

Flexibility in today's market is key and points to a major benefit of the CMAR approach for project delivery. We can build in that flexibility and have had great success with including material allowances within the preconstruction agreement to facilitate the acquisition of material when it best suits the project.
On a recent Florida project with allowance built in during preconstruction, Garney was able to procure piping materials early and the owner was able to capitalize on a savings of over $1.7M prior to the GMP.

PROCUREMENT AND ENSURING COMPETITIVE PRICING

Competitive solicitation for material suppliers and subcontract scopes of work will provide the Authority with the best value and satisfy any potential funding mandates. Using our estimating program developed in-house, our preconstruction team will provide real-time cost input to facilitate efficient decision-making during review meetings. Across the country, our vendors are pricing every pipe diameter, material and component we will need on this project for our ongoing operations. This minimizes lag, allows us to stay in tune with the market, provides live pricing updates, and takes advantage of a good material procurement opportunity when it presents itself.

We have been able to beat quoted lead times for materials and negotiate large early material purchases or diversions from long duration projects throughout the country to jump-start projects and satisfy our most critical client needs with no negative impact to ongoing operations. Furthermore, market conditions will be continually analyzed for cost and lead time changes to best understand the risk at the time of each GMP. We will be able to provide equitable contingencies and allowances backed by market data and our risk register to protect the Authority, provide more than adequate documentation to stakeholders, and allow flexible adjustments during construction if needed.

SUBCONTRACTOR OUTREACH AND SELECTION

At a minimum, Garney intends to provide open-book cost estimating and proposes self-performance services on the portion of the project determined to be critical path. This ensures the greatest level of schedule control and project success. Garney will also competitively bid other significant portions of the pipeline work necessary to backstop our own pricing estimates and ensure budget control for the Authority. In addition to the open-cut pipeline portions, Garney will develop bid packages for several other key supporting scopes that rely on consistency and continuity including surveying, erosion and environmental, and trenchless installations.

Bid packages will be evaluated and developed throughout the design process to identify the best possible combination of competition and economies of scale. While we maintain the craft and supervision needed to self-perform a large portion of the open-cut pipe work, that represents just a fraction of the cost of work as a whole and our open-book process will be utilized to prove out a fair and equitable outcome for the Authority. The magnitude of this project will require us to competitively solicit the project's cost of work, from materials to trenchless to restoration services to the open-cut work.

Utilizing multiple advertisement and outreach methods, we can gauge local interest and pull in trusted subcontractors from outside the region when necessary to meet the capacity needs of this project. Similarly, Garney's national craft resources can be utilized to supplement our own local forces when necessary to maintain and even expedite construction operations. As solicitations are received, Garney will tabulate, evaluate, and provide recommendation for award of each major scope.

QUALITY ASSURANCE / QUALITY CONTROL

Garney will prepare a quality assurance / quality control (QA / QC) plan that reflects the philosophy that quality is planned and built into the project, not inspected into a project. Our team will treat the QA / QC plan as a living document, initially established at the project's start, and continually improved upon as the project progresses.

PROJECT AND CONSTRUCTION MANAGEMENT

The entire process is kept streamlined in the same programs and formats as those created during the preconstruction phase. This method provides the project team opportunity for parallel design and construction—significantly reducing the overall timeline for the project. Our economical approach allows for the best long-term expenditure of the Authority's capital on the project. The construction phase will be a natural progression from earlier phases because we are committed to maintaining our core group of resources engaged from start to finish. This commitment ensures cohesive knowledge of the project and prevents loss of knowledge in the hand-off between phases that often occurs with a compartmentalized approach.

SAFETY

In all operations, Garney is guided by an established accident prevention policy. This policy is based on a sincere desire to eliminate occupational injuries and illnesses, damage to equipment and property, and to protect the public. ***Factors that contribute to Garney's sound safety culture and program include:***

- **180-day Safe Start to Ownership Program (SSTOP)**
- **Site-specific safety committee**
- **Pre-job safety conference**
- **Safety task analysis card (STAC)**
- **Weekly toolbox talks**
- **GOSHA inspections**
- **Certified safety professionals**
- **Craft, subcontractor, and supervision training**

Safety expectations will be set as a part of the bid packages developed during preconstruction; safety will be a criteria assessed to determine bidder quality; it will be discussed during a preconstruction and safety analysis meeting with each participating subcontractor; and it will be something that is continually evaluated on site. By integrating each subcontractor into our own culture of high expectations, safety on site will elevate across the board.

RELIABILITY IN SAFETY

FIRM	EMR			TRIR			LTIR		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
GARNEY	0.61	0.74	0.71	1.31	0.78	1.26	1.79	0.17	0.24
TWO TRAILS	0	0	0	0	0	0	0	0	0
WESTRA CONSTRUCTION	0.73	0.88	0.89	8.0	4.1	3.0	2.88	0	0
WILLIS-SMITH	0.71	0.71	0.74	0	0	0	0	0	0
COGBURN BROTHERS ELECTRIC	0.69	0.86	0.98	0.61	0.69	0.56	0.31	0.69	0.28
HUXTED TRENCHLESS	0.68	0.76	0.90	0	0	0	0	0	0

3 RELEVANT EXPERIENCE AND QUALIFICATIONS

Garney CONSTRUCTION

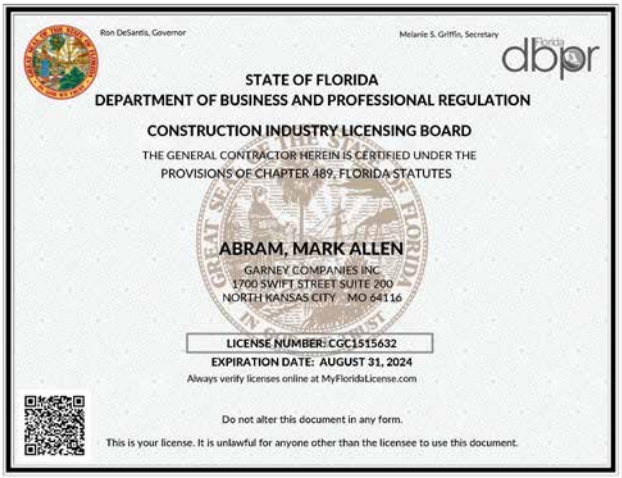
PR3 PUMPING AND CONVEYANCE FACILITIES

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

RELIABILITY FOR THE FUTURE

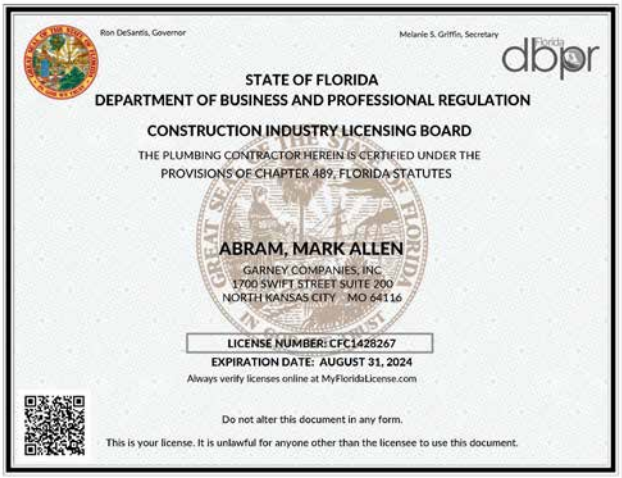
REQUIRED LICENSING

Garney holds all the appropriate licensing, certifications, and registrations at the local and State level to conduct this project. Copies of all such licenses are featured below and on the following pages. Garney's licenses have not been suspended or revoked in the last five (5) years.


Ron DeSantis, Governor
Melanie S. Griffin, Secretary
dbpr
STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
CONSTRUCTION INDUSTRY LICENSING BOARD
THE GENERAL CONTRACTOR HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES
ABRAM, MARK ALLEN
GARNEY COMPANIES INC
1700 SWIFT STREET SUITE 200
NORTH KANSAS CITY MO 64116
LICENSE NUMBER: CGC1515632
EXPIRATION DATE: AUGUST 31, 2024
Always verify licenses online at MyFloridaLicense.com
Do not alter this document in any form.
This is your license. It is unlawful for anyone other than the licensee to use this document.

GENERAL CONTRACTOR

License No.: CGC151632
Expiration: August 31, 2024


Ron DeSantis, Governor
Melanie S. Griffin, Secretary
dbpr
STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
CONSTRUCTION INDUSTRY LICENSING BOARD
THE PLUMBING CONTRACTOR HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES
ABRAM, MARK ALLEN
GARNEY COMPANIES, INC.
1700 SWIFT STREET SUITE 200
NORTH KANSAS CITY MO 64116
LICENSE NUMBER: CFC1428267
EXPIRATION DATE: AUGUST 31, 2024
Always verify licenses online at MyFloridaLicense.com
Do not alter this document in any form.
This is your license. It is unlawful for anyone other than the licensee to use this document.

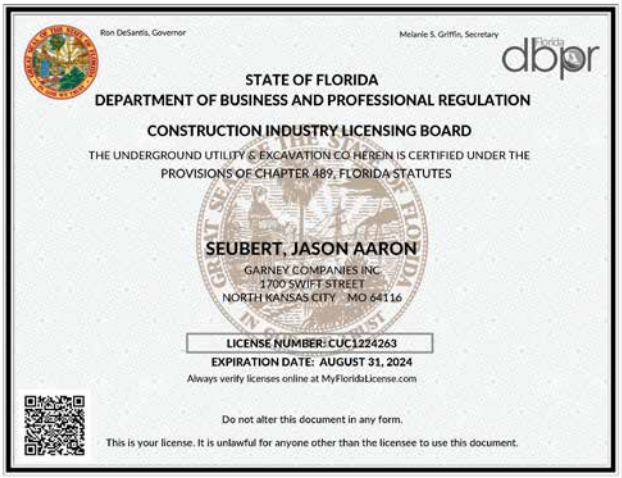
PLUMBING CONTRACTOR

License No.: CFC1428267
Expiration: August 31, 2024


Ron DeSantis, Governor
Melanie S. Griffin, Secretary
dbpr
STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
CONSTRUCTION INDUSTRY LICENSING BOARD
THE BUILDING CONTRACTOR HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES
SEUBERT, JASON AARON
GARNEY COMPANIES INC
1333 NW VIVION ROAD
KANSAS CITY MO 64118
LICENSE NUMBER: CBC1255831
EXPIRATION DATE: AUGUST 31, 2024
Always verify licenses online at MyFloridaLicense.com
Do not alter this document in any form.
This is your license. It is unlawful for anyone other than the licensee to use this document.

BUILDING CONTRACTOR

License No.: CBC1255831
Expiration: August 31, 2024


Ron DeSantis, Governor
Melanie S. Griffin, Secretary
dbpr
STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
CONSTRUCTION INDUSTRY LICENSING BOARD
THE UNDERGROUND UTILITY & EXCAVATION CO HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES
SEUBERT, JASON AARON
GARNEY COMPANIES INC
1700 SWIFT STREET
NORTH KANSAS CITY MO 64116
LICENSE NUMBER: CUC1224263
EXPIRATION DATE: AUGUST 31, 2024
Always verify licenses online at MyFloridaLicense.com
Do not alter this document in any form.
This is your license. It is unlawful for anyone other than the licensee to use this document.

UNDERGROUND UTILITY & EXCAVATION

License No.: CUC1224263
Expiration: August 31, 2024

SECTION 3

RELEVANT EXPERIENCE AND QUALIFICATIONS

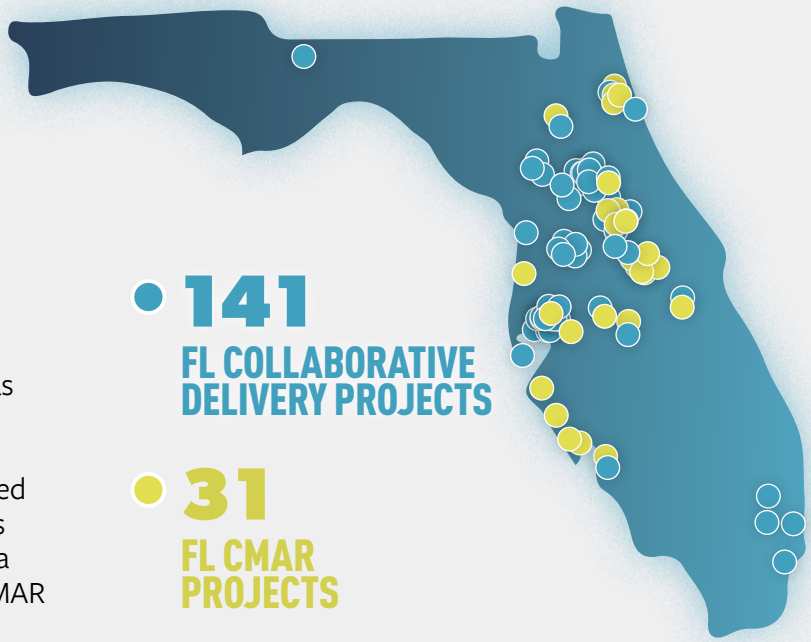
RELIABILITY IN COLLABORATION

UNMATCHED CMAR EXPERIENCE

OVER THE LAST THREE DECADES, GARNEY HAS WORKED ON:

- **544 collaborative delivery projects** valued at more than **$10.9B**
- **293 CMAR projects** valued at more than **$5.9B**
- **31 CMAR projects in Florida** valued at more than **$1.2B**

The CMAR construction delivery method has proven to be ideal for Garney's approach to building water / wastewater infrastructure. Our basic management philosophy is founded on the win-win principle and CMAR provides the perfect method of delivery. Garney has a strong record of successfully completing CMAR water / wastewater infrastructure projects.



INVESTED IN YOUR SUCCESS

GARNEY HAS LED

100 CLIENTS THROUGH THEIR FIRST COLLABORATIVE DELIVERY PROJECT

60 CLIENTS THROUGH THEIR FIRST CMAR PROJECT

WHAT THIS MEANS FOR THE PR3 PROJECT

As a 100% employee-owned company, trust, respect, and teamwork are critical elements of our success and the foundation of our client relationships.

We are able to leverage our experience and expertise as a national water CMAR leader by providing input and services during the design phase, which will translate into timely, cost-effective construction for the PR3 project.

BENEFITS OF OUR FL CMAR EXPERIENCE

RELIABILITY IN COST

In-house pump station, marine, and pipe CMAR experience to provide innovative and cost-effective solutions

RELIABILITY IN SCHEDULE

Proven collaborative mindset and approach to drive schedule and manage risk

RELIABILITY IN LOCAL RELATIONSHIPS

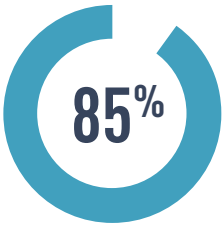
Longstanding history with specialized subcontractors to promote local engagement and provide best value

NATIONAL LEADER IN COLLABORATIVE DELIVERY

Our experience completing pipeline and water facility projects has allowed us to perfect our collaborative delivery project approach and management process. We have extensive preconstruction experience, which will be critical in addressing operational issues early in the design phase, providing VE solutions, developing detailed cost estimates, and creating an accurate GMP. ***Below is a sample of Garney's collaborative delivery experience.***

DID YOU KNOW?

85% OF GARNEY'S CURRENT PROJECTS ARE BEING DELIVERED VIA COLLABORATIVE DELIVERY.



SAMPLE OF GARNEY'S COLLABORATIVE DELIVERY EXPERIENCE

PROJECT		STATE	DELIVERY METHOD	COMPLETION DATE	VALUE
	BOIS D'ARC LAKE - WATER TREATMENT PLANT, PUMP STATIONS, AND PIPELINES	TX	CMAR	Mar-23	$728M
	VISTA RIDGE WATER SUPPLY PROJECT	TX	DB	Apr-20	$540M
	SISTER GROVE REGIONAL WATER RESOURCE RECOVERY FACILITY, PHASE 1	TX	CMAR	Ongoing	$356M
	LAKE TEXOMA OUTFALL TO WYLIE WTP PIPELINE	TX	CMAR	Jul-14	$281M
	BEE RIDGE WATER RECLAMATION FACILITY EXPANSION & CONVERSION TO ADVANCED WATER TREATMENT	FL	CMAR	Ongoing	$253M
	NORTHWEST REGIONAL WATER RECLAMATION FACILITY EXPANSION	FL	DB	Sept-20	$186M
	BOAT HARBOR TRANSMISSION FM - SUBAQUEOUS PORTION	VA	DB	Ongoing	$144M
	GREENLAND WRF PIPELINES: WATER, RECLAIMED WATER AND SANITARY SEWER FORCE MAINS	FL	CMAR	Ongoing	$53M

RELIABILITY IN EXPERIENCE

PUMP STATION EXPERIENCE

We excel in delivering turnkey solutions to our clients and understand that it takes a highly specialized team to provide customized water solutions. Nationally, Garney's experience includes 280 pump station projects valued at more than $1.1B, affording us with lessons learned and best practices that will be applied to your project.

PIPELINE EXPERIENCE

Garney has been recognized as the nation's leading pipeline contractor, and as ENR's #1 Contractor in Water Transmission Lines 12 years straight. Since 2004, Garney crews have installed more than 21M linear feet of pipe. Our team has installed virtually every type of pipeline, material, and configuration with pipelines ranging in size from 0.5" to 188". Garney has worked on 190+ pipeline projects in Florida totaling $890M+. Our knowledge of the topographical and geological conditions combined with our understanding of the project site provides a unique perspective necessary to mitigate risk, reduce cost, and avoid schedule delays.

MARINE EXPERIENCE

Garney has worked on 40+ marine projects totaling $1.3B+ including direct experience with the Authority on the Regional Integrated Loop System – Phase 1A Interconnect Project. Garney owns a fleet of mobile marine equipment and our in-house marine capabilities include subaqueous pipe crossings, marine coordination with HDD crossings, intakes, outfalls, dredging, cofferdams, bulkheads, piling, construction diving, and inspection diving.

FLORIDA MARINE EXPERIENCE HIGHLIGHTS

REGIONAL WATER TREATMENT FACILITY AT YANKEE LAKE

SEMINOLE COUNTY FL // $40,183,950

- 42,000 LF of two new 42" HDPE transmission pipelines
- Three pumps at the river intake structure each pump 5.7 MGD, totaling just over 17 MGD
- Intake of 20 MGD with expansion to over 60 MGD

TAMPA BYPASS CANAL PUMP STATION

TAMPA BAY WATER // $16,903,383

- 60″& 84″ steel raw waterline
- Four 800 hp vertical turbine raw water pumps totaling 259 MGD
- New 84″ intake screens

MARINE EXPERTISE IN PRECONSTRUCTION

Garney's in-house marine experts, led by **Jeff Seal, Assoc. DBIA**, are immediately available for this project. Jeff brings 21 years of industry experience and his resume includes 15 marine projects, including the $156M Yadkin Regional Water Supply Project - Raw Water Infrastructure (PDB). He has been involved on 12 collaborative delivery projects and the completion of 9 CMAR projects. This experience will be applied to your project early in the preconstruction phase to provide best-value solutions that save cost, reduce schedule, and ensure safety and quality on the PR3 project.

RELEVANT PROJECT EXPERIENCE

Below is a list of relevant projects highlighting similar experience with large water programs, pump stations, large-diameter pipelines, marine work, WTPs, and work around reservoirs. Our diverse resume allows us to plan ahead to mitigate risk and prepares us to overcome unexpected challenges that arise on your project.

			KEY PROJECT COMPONENTS								PERSONNEL INVOLVED							
PROJECT NAME	STATE	VALUE	WATER PROGRAM	RESERVOIR	LARGE-DIAMETER PIPE	PUMP STATION	MARINE WORK	WTP	10 YEARS OR LESS	COLLABORATIVE DELIVERY	JASON SEUBERT	ROB FULTS	DAVID BURKHART	WILL POCZEKAJ, ENV SP	DUSTAN PATE, ENV SP	HUMBERTO DEL CID	MIKE PARRISH	ERIC WAGNER
Bois d'Arc Lake - Water Treatment Plant, Pump Stations, and Pipelines (CMAR)	TX	$728M	✓	✓	✓	✓		✓	✓	✓		✓	✓					
Yadkin Regional Water Supply Project - Raw Water Infrastructure (PDB)	NC	$156M	✓		✓	✓	✓		✓	✓	✓							✓
Trinity River Main Stem Pump Station & Pipeline (CMAR)	TX	$103M	✓		✓	✓	✓		✓	✓			✓					
Greenland WRF Pipelines: Water, Reclaimed Water, and Sanitary Sewer Force Mains (PDB)	FL	$53M	✓		✓				✓	✓	✓	✓		✓		✓	✓	✓
River Oaks Diversion Project (DB)	FL	$27M	✓		✓	✓			✓	✓	✓			✓	✓	✓	✓	✓
Vista Ridge Water Supply Project (DB)	TX	$540M	✓	✓	✓	✓			✓	✓			✓					
Southeast Lower Floridan Aquifer (LFA) Wellfield Project, Phase 1 (CMAR)	FL	$344M	✓		✓	✓		✓	✓	✓				✓			✓	✓
Mallard Water Supply Project (PDB)	TX	$340M	✓		✓	✓		✓	✓	✓			✓					✓
Lake Texoma Outfall to Wylie WTP Pipeline (CMAR)	TX	$281M	✓	✓	✓	✓			✓	✓			✓	✓				
Kaw Lake Water Supply Program (CMAR)	OK	$243M	✓			✓	✓	✓	✓	✓			✓					✓
T-Bar Ranch Well Field Development & Delivery Project (DB)	TX	$157M	✓		✓	✓			✓	✓			✓					
Sabine River Pump Station Project (CMAR)	TX	$63M	✓		✓	✓	✓		✓	✓			✓					
★Regional Integrated Loop Phase 3C Pipeline (PDB)	FL	$55M	✓		✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	✓
Lane City Reservoir Project	TX	$42M	✓	✓	✓	✓	✓		✓				✓					
Regional Water Treatment Facility at Yankee Lake	FL	$40M	✓		✓	✓	✓	✓			✓							✓
★Regional Integrated Loop System - Phase 3A Interconnect Project	FL	$18M	✓		✓	✓					✓	✓						
★Regional Integrated Loop System - Phase 1A Interconnect Project	FL	$12M	✓			✓	✓				✓	✓						
★Regional Integrated Loop System - Phase 3B Interconnect Project	FL	$11M	✓		✓						✓	✓			✓			

DENOTES REFERENCE PROJECTS ★DENOTES PROJECT FOR THE AUTHORITY

REFERENCE FORM

BOIS D'ARC LAKE - WATER TREATMENT PLANT, PUMP STATIONS, AND PIPELINES (CMAR)

NORTH TEXAS MUNICIPAL WATER DISTRICT

RESPONDENT: Garney Companies, Inc.

ROLE ON THE PROJECT (PRIME, SUB-CONSULTANT, ENGINEER OF RECORD, ETC.): Construction Manager at Risk

REFERENCE ENTITY: North Texas Municipal Water District

REFERENCE CONTACT PERSON: Aliza Caraballo, PE

REFERENCE ADDRESS: 505 E. Brown Street, Wylie, TX 75098

REFERENCE EMAIL ADDRESS: acaraballo@ntmwd.com

REFERENCE PHONE NO.: 469.626.4730

PROJECT DELIVERY METHOD: CMAR

PROJECT LOCATION: Leonard, TX

RESPONDENT PROJECT MANAGER: Bart Slaymaker // Sam Marston

PROJECT ENGINEER OF RECORD: Freese & Nichols

DATE PROJECT COMMENCED: 11/07/2016

DATE OF FINAL COMPLETION OR STATUS: 03/09/2023

PROJECT BUDGET AT NTP ($ MILLION NOT INCLUDING CONTINGENCY AND ALLOWANCE): $728,996,811

PROJECT COST AT FINAL COMPLETION ($ MILLION INCLUDING CONTINGENCY AND ALLOWANCE): $728,996,811

ALTERNATIVE DELIVERY PROJECTS (ONLY) ORIGINAL GMP: $728,996,811 FINAL COST: $728,996,811

QUALIFICATION SATISFIED:

- ✓ **3.A.** ≥ 42" PIPELINE
- ✓ **3.B.** ≥50-MGD CAPACITY OR ≥200 HP PUMP STATION
- ✓ **3.C.** ALTERNATIVE PROJECT DELIVERY
- ✓ **3.D** HIGH GROUNDWATER CONDITIONS

DESCRIPTION OF WORK PERFORMED AND EXPLANATION OF DIFFERENCES IN BUDGET AND FINAL COST:

The first package consisted of constructing a raw water pump station (RWPS) located adjacent to the new reservoir, a water treatment plant (WTP), and a high service pump station (HSPS) located in Leonard, Texas. The RWPS will initially move up to 90 MGD from the reservoir to the WTP. The WTP will initially be able to treat up to 70 MGD of raw water from the reservoir into drinking water for NTWMD customers. The HSPS will initially be capable of moving up to 70 MGD of this drinking water from the WTP to its end users. The second package included the raw and treated water transmission pipelines. For this portion of work, Garney was the CMAR and self-performed a large portion of the work. The project scope includes the installation of 212,000 LF of 90" C200 steel raw water pipe, 132,000 LF of 84" C200 steel treated water pipe, and all associated appurtenances. Construction also includes dewatering, mass excavation, deep excavations, and electrical work.

BOIS D'ARC LAKE - WATER TREATMENT PLANT, PUMP STATIONS, AND PIPELINES (CMAR)

NORTH TEXAS MUNICIPAL WATER DISTRICT

MEETS MINIMUM QUALIFICATIONS: 3.A, 3.B, 3.C, 3.D

≥ 42" PIPELINE, ≥ 50-MGD CAPACITY OR >200 HP PUMP STATION, ALTERNATIVE PROJECT DELIVERY, HIGH GROUNDWATER CONDITIONS

EXPERIENCE AND BENEFIT TO PR3

SAVINGS THROUGH CONSTRUCTABILITY INPUT

During the preconstruction phase, Garney provided input throughout the constructability reviews of the plans and specifications, which led to several benefits to NTMWD. One example of this was Garney's input regarding the lime stabilized backfill. The original design called for select fill for backfill around structures and under slab-on-grade facilities. Garney suggested using native soil that has been lime stabilized instead of importing large quantities of select fill. Mixing the lime on site in "lime gardens" allowed more material to be mixed early in the project and ready when needed. ***This option was less expensive than hauling in select fill, higher quality, and ultimately saved the owner $4.8M.***

EARLY PROCUREMENT TO MEET CRITICAL MILESTONES

Early in the procurement process, Garney contracted with Suez to help with the design of the ozone building. Suez's equipment played a key role in the overall size and layout of the ozone building. ***Garney was able to ensure that the material that was used to complete the design was on site as outlined during procurement to meet critical project milestones and maintain schedule.***

RISK MITIGATION AS A SELF-PERFORMING CMAR

Garney self-performed $104M worth of the construction work. As a self-performing CMAR, Garney provides better control of safety, quality, risk, and schedule. For example, no water could leave the high service pump station until start-up and testing of the entire facility was complete.

84" DIAMETER C200 STEEL PIPE BEING INSTALLED OVER A COMBINED 56 MILES

Garney constructed temporary discharge piping to send water out the overflows of the clear well, carefully dechlorinating the water to ensure no impact to the environment, and discharged the water into a nearby creek. Garney installed large diameter temporary piping capable of handling flows up to 50 MGD to circulate water back into the clear well, allowing the pump station to be tested near full capacity without any water leaving the site.

Additionally, commissioning of the pipelines required thorough planning and coordination. Filling and testing of the raw water pipeline had to be completed prior to the testing of the raw water pump station (RWPS). This required a bypass around the RWPS, from the lake to the pipeline. Garney set a barge in the lake equipped with high-head pumps and temporary piping to deliver 64 MG of water to the terminal storage reservoir.

REFERENCE FORM

YADKIN REGIONAL WATER SUPPLY PROJECT - RAW WATER INFRASTRUCTURE (PDB)

UNION COUNTY, NC

RESPONDENT: Garney Companies, Inc.

ROLE ON THE PROJECT (PRIME, SUB-CONSULTANT, ENGINEER OF RECORD, ETC.): Prime

REFERENCE ENTITY: Union County, NC

REFERENCE CONTACT PERSON: John Shutak

REFERENCE ADDRESS: 4600 Goldmine Road, Monroe, NC 28110

REFERENCE EMAIL ADDRESS: John.shutak@unioncountync.gov

REFERENCE PHONE NO.: 704.283.3651

PROJECT DELIVERY METHOD: Progressive Design-Build

PROJECT LOCATION: Norwood, NC

RESPONDENT PROJECT MANAGER: Kyle Anderson // Ben Janson

PROJECT ENGINEER OF RECORD: Hazen and Sawyer

DATE PROJECT COMMENCED: 09/28/2018

DATE OF FINAL COMPLETION OR STATUS: Substantially Complete

PROJECT BUDGET AT NTP ($ MILLION NOT INCLUDING CONTINGENCY AND ALLOWANCE): $156,155,804

PROJECT COST AT FINAL COMPLETION ($ MILLION INCLUDING CONTINGENCY AND ALLOWANCE): Ongoing

ALTERNATIVE DELIVERY PROJECTS (ONLY) ORIGINAL GMP: $156,155,804 FINAL COST: Ongoing

QUALIFICATION SATISFIED:

- ✓ **3.A.** ≥ 42" PIPELINE
- ✓ **3.B.** ≥50-MGD CAPACITY OR ≥200 HP PUMP STATION
- ✓ **3.C.** ALTERNATIVE PROJECT DELIVERY
- ✓ **3.D** HIGH GROUNDWATER CONDITIONS

DESCRIPTION OF WORK PERFORMED AND EXPLANATION OF DIFFERENCES IN BUDGET AND FINAL COST:

This project was developed to ensure a sustainable water supply to its current, and future customers in the Yadkin River Basin Service Area. Detailed cost estimates were provided at each stage of the design, as well as updates in between as decisions and VE was developed to give the team a "live" look at budget status. Construction includes a new raw water intake into Lake Tillery with two 72" intake screens, as well as a common wet well to supply raw water for both the Town of Norwood and Union County including two 1,250 hp pumps rated at 6,000 GPM each and three 30 hp pumps rated at 1,600 GPM each for a station capacity of 45 MGD. The intake pipeline into the pump station consists of a 300 LF microtunnel using 54" steel raw waterline. The pipeline section includes the installation of 29 miles of 42" and 52" mortar-lined steel raw water pipeline from the new intake and pumping station to Union County's new water treatment plant, fifty 54" bores for 100 LF each, two 54" railroad crossings, rock excavation, marine work, and tree canopy management.

YADKIN REGIONAL WATER SUPPLY PROJECT - RAW WATER INFRASTRUCTURE (PDB)

UNION COUNTY, NC

MEETS MINIMUM QUALIFICATIONS: 3.A, 3.B, 3.C, 3.D

≥ 42" PIPELINE, ≥ 50-MGD CAPACITY OR >200 HP PUMP STATION, ALTERNATIVE PROJECT DELIVERY, HIGH GROUNDWATER CONDITIONS

EXPERIENCE AND BENEFIT TO PR3

EARLY COLLABORATION RESULTING IN COST-SAVING SOLUTIONS

Garney recommended utilizing secant piles for the pump station walls. This approach provides support for the excavation and serves as the permanent wall system for the wet well. ***It's a measure that saved on construction costs and reduced the amount of land that Union County needed to purchase.***

During the early phases of the pipeline design and construction, ***Garney performed cost assessments and recommended upsizing the line to 42", which changed the material to steel for increased durability and better pricing.*** The larger diameter allowed the owner to push construction of the second pipeline further out in the future.

The team was also able to save costs on the pipeline construction over two rivers by shifting the construction method from horizontal directional drilling to open cut. ***This adjustment helped save $2-3M on each of those crossings.***

EARLY PROCUREMENT TO MEET CRITICAL MILESTONES

During the design phase, Garney produced reliable estimates along with VE and cost-saving ideas, meeting all deadlines. ***Garney involved key subcontractors and long-lead equipment vendors early in preconstruction to provide accurate costs and to expedite the construction schedule.***

MARINE CREWS INSTALLING 54" COATED STEEL PIPE

During construction, Garney has worked overtime including several Saturdays and brought in experienced craft from around the region to maintain the critical path.

RISK MITIGATION AS A SELF-PERFORMING CMAR

As a self-performing CMAR, Garney recognizes the importance of reducing impact to stakeholders and ensuring the safety of those on site. The pump station was built on a 0.6-acre lot surrounded by two homes, a public road, and Lake Tillery. Garney coordinated additional off-site laydown areas with the County early in design and worked regularly with local public services and neighbors to arrange access during road closures.

REFERENCE FORM

TRINITY RIVER MAIN STEM PUMP STATION & PIPELINE (CMAR)

NORTH TEXAS MUNICIPAL WATER DISTRICT

RESPONDENT: Garney Companies, Inc.

ROLE ON THE PROJECT (PRIME, SUB-CONSULTANT, ENGINEER OF RECORD, ETC.): Construction Manager at Risk

REFERENCE ENTITY: North Texas Municipal Water District

REFERENCE CONTACT PERSON: Travis Markham

REFERENCE ADDRESS: 505 E. Brown Street, Wylie, TX 75098

REFERENCE EMAIL ADDRESS: tmarkham@ntmwd.com

REFERENCE PHONE NO.: 469.626.4724

PROJECT DELIVERY METHOD: CMAR

PROJECT LOCATION: Rosser, TX

RESPONDENT PROJECT MANAGER: Sam Marston // Wade Pierpoint

PROJECT ENGINEER OF RECORD: Freese and Nichols

DATE PROJECT COMMENCED: 10/27/2016

DATE OF FINAL COMPLETION OR STATUS: 10/31/2019

PROJECT BUDGET AT NTP ($ MILLION NOT INCLUDING CONTINGENCY AND ALLOWANCE): $107,634,931

PROJECT COST AT FINAL COMPLETION ($ MILLION INCLUDING CONTINGENCY AND ALLOWANCE): $103,509,665

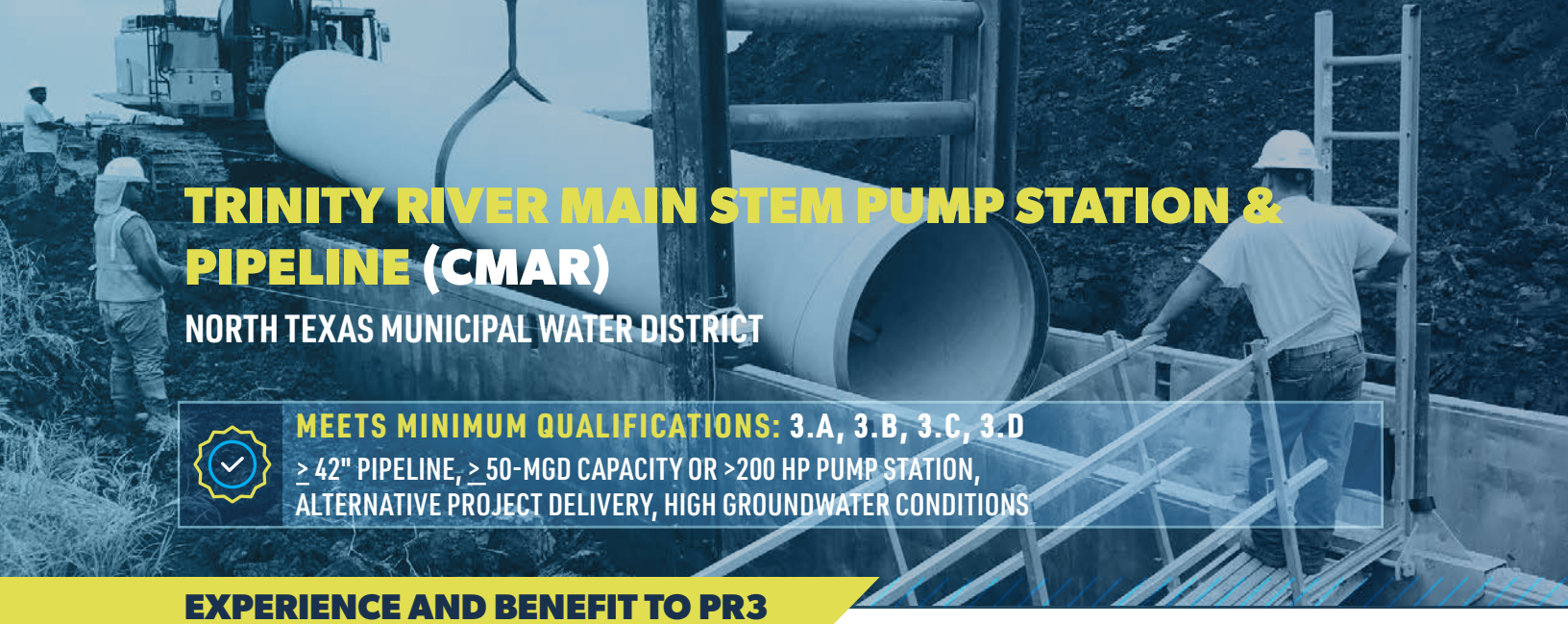
ALTERNATIVE DELIVERY PROJECTS (ONLY) ORIGINAL GMP: $107,634,931 FINAL COST: $103,509,665

QUALIFICATION SATISFIED:

- ✓ **3.A.** ≥ 42" PIPELINE
- ✓ **3.B.** ≥50-MGD CAPACITY OR ≥200 HP PUMP STATION
- ✓ **3.C.** ALTERNATIVE PROJECT DELIVERY
- ✓ **3.D** HIGH GROUNDWATER CONDITIONS

DESCRIPTION OF WORK PERFORMED AND EXPLANATION OF DIFFERENCES IN BUDGET AND FINAL COST:

As the CMAR, Garney worked with the design team in preconstruction to evaluate cost, provide constructability input, scheduling, and material procurement. Construction included the 100 MGD Main Stem pump station facility with four 1,500 hp horizontal centrifugal pumps that required dewatering, installing two 48" micro-tunnels to the Trinity River with a T-screen intake inside a cofferdam comprised of sheet piling inserted at 30 VF deep, construction of earthen flood protection berms over 2,500 CY surrounding the pump station to protect the pump station from river flood events, building an access road to the intake site, and stabilizing the bank. Upgrades included installing two new 3,500 hp raw water vertical turbine pumps at the 200 MGD conveyance pump station, upgrades to the weir box structure at a diversion pump station, new electrical, and SCADA. Also included 86,821 LF of 72" C200 spiral weld polyurethane-coated mortar-lined steel raw water pipeline, in-line valves, air release valves, and blowoff valves, and required several tunneled crossings.



TRINITY RIVER MAIN STEM PUMP STATION & PIPELINE (CMAR)

NORTH TEXAS MUNICIPAL WATER DISTRICT

MEETS MINIMUM QUALIFICATIONS: 3.A, 3.B, 3.C, 3.D

≥ 42" PIPELINE, ≥ 50-MGD CAPACITY OR >200 HP PUMP STATION, ALTERNATIVE PROJECT DELIVERY, HIGH GROUNDWATER CONDITIONS

EXPERIENCE AND BENEFIT TO PR3

EARLY COLLABORATION RESULTING IN COST-SAVING SOLUTIONS

Garney worked closely with the engineering team to evaluate several VE options throughout the design process, which led to significant cost savings to the owner. One example was the addition of a bentonite clay slurry wall that surrounded the Main Stem Pump Station and forebay. Initial designs of the pump station and forebay relied on rock anchors drilled deep into the subgrade to prevent the structure from floating due to uplift from the surrounding ground water. Combining the slurry wall option with an increased base slab thickness completely removed the need for rock anchors. ***These costs savings were incorporated into the budget estimate.***

EARLY BID PACKAGE COORDINATION EXPEDITING CONSTRUCTION SCHEDULE

The tunneling construction packages were solicited and work started when the design was at 60% completion. The pipeline construction package was solicited and awarded when the pump station design was nearing final completion. At 100% design, the tunnel construction was far enough in front of the contractor selected for the pipeline installation package that construction of the pipeline could advance with no interference or overlap in sequencing. ***Identifying these early work packages allowed work to start months ahead of schedule.***

RISK MITIGATION AS A SELF-PERFORMING CMAR

The river reached flood level elevations 11 times during construction. One particularly high flood level event filled the entire excavation with more than 20 MG of water in under 10 hours. Garney crews worked with subcontractors to contain the damage and recover the site to resume work activities. ***This team effort and working relationship minimized the overall loss to the project schedule due to this specific event to less than one month.***

The majority of the pipeline alignment was within the floodplain of the Trinity River. Roughly five miles of temporary access roads were built across the river bottoms to allow pipe and aggregate deliveries to the project site at a rate of 45 to 50 loads per day for nine months. With the project being in the floodplain, varying soil types of clay, alluvium, silt, sand, and gravel required the management of dewatering equipment and surface drainage to allow pipe installation to continue. ***Garney successfully installed 17 miles of pipe in roughly two years.***

> *"Garney displayed strength in their scheduling and project management. They were able to time the purchase and manufacture of steel pipe for the project at a time when several pipe manufactures had space in their production schedules and steel prices were low saving an estimated six million dollars."*
>
> **– TRAVIS MARKHAM, PE**
> **NTMWD WATER CONVEYANCE MANAGER**

REFERENCE FORM

GREENLAND WRF PIPELINES: WATER, RECLAIMED WATER AND SANITARY SEWER FORCE MAINS (PDB)

JEA

RESPONDENT: Garney Companies, Inc.

ROLE ON THE PROJECT (PRIME, SUB-CONSULTANT, ENGINEER OF RECORD, ETC.): Prime

REFERENCE ENTITY: JEA

REFERENCE CONTACT PERSON: Elizabeth DiMeo

REFERENCE ADDRESS: 21 West Church Street, Tower 5, Jacksonville, FL 32202

REFERENCE EMAIL ADDRESS: dimeea@jea.com

REFERENCE PHONE NO.: 904.665.8139

PROJECT DELIVERY METHOD: Progressive Design-Build

PROJECT LOCATION: Jacksonville, FL

RESPONDENT PROJECT MANAGER: Rob Fults

PROJECT ENGINEER OF RECORD: Wright-Pierce

DATE PROJECT COMMENCED: 06/16/2019

DATE OF FINAL COMPLETION OR STATUS: Ongoing (Scheduled for 5/19/2024)

PROJECT BUDGET AT NTP ($ MILLION NOT INCLUDING CONTINGENCY AND ALLOWANCE): $53,955,900

PROJECT COST AT FINAL COMPLETION ($ MILLION INCLUDING CONTINGENCY AND ALLOWANCE): Ongoing

ALTERNATIVE DELIVERY PROJECTS (ONLY) ORIGINAL GMP: $63,850,000 FINAL COST: Ongoing

QUALIFICATION SATISFIED:

- ☑ **3.A.** ≥ 42" PIPELINE
- ☐ **3.B.** ≥50-MGD CAPACITY OR ≥200 HP PUMP STATION
- ☑ **3.C.** ALTERNATIVE PROJECT DELIVERY
- ☑ **3.D** HIGH GROUNDWATER CONDITIONS

DESCRIPTION OF WORK PERFORMED AND EXPLANATION OF DIFFERENCES IN BUDGET AND FINAL COST:

This project includes a preconstruction phase to bring the project to a 90% design level, followed by the development of the GMP which involves designing the project to 100%, permit acquisition, and the construction phase. Garney provides project management services including coordination, scheduling, route analysis, and constructability reviews during the 10%, 30%, and 60% design milestones. Design services led by Mott MacDonald include modeling, technical design reviews, site survey, utility investigations, geotechnical, environmental, and traffic control analysis.Construction includes the installation of 1,880 LF of 36" PVC sanitary force main including a horizontal directional drill (HDD) of 1,700 LF of 42" HDPE; waterlines consisting of 15,246 LF of 24" ductile iron pipe (DIP) and HDD of 3,923 LF of 30" HDPE; reclaimed waterlines consisting of 2,806 LF of 24", 27,530 LF of 30", and 2,153 LF of 36" DIP, as well as HDDs of 1,700 LF of 30", 5,230 LF of 36", and 1,700 LF of 42" HDPE; and raw waterlines consisting of 551 LF of 30" DIP and HDDs of 1,730 LF of 36" HDPE.

GREENLAND WRF PIPELINES: WATER, RECLAIMED WATER AND SANITARY SEWER FORCE MAINS (PDB)

JEA

MEETS MINIMUM QUALIFICATIONS: 3.A, 3.C, 3.D

≥ 42" PIPELINE, ALTERNATIVE PROJECT DELIVERY, HIGH GROUNDWATER CONDITIONS

EXPERIENCE AND BENEFIT TO PR3

EARLY COLLABORATION RESULTING IN COST-SAVING SOLUTIONS

Throughout the scope of services, Garney maintained strict accounting records related to costs to date and projected costs. Having a sound, continuous understanding of the costs allowed us to keep the owner informed of budget and future expenditures. As the services progressed, we recognized unused values in which the owner could use for other expenditures. This became critical when the design milestones were impacted by permitting. Our team proposed a continuation of design services planned for phase II to be completed during phase I preconstruction, using the remaining funds. This allowed design progression to continue two of the three pipelines while the permitting process was resolved for the final pipeline. ***Shifting the unused funds allowed the design to be finalized, and ultimately establish the GMPs with more cost certainty with less contingency or allowance needs.***

EXPEDITING CONSTRUCTION SCHEDULE THROUGH PERMITTING EXPERIENCE

The permitting agency's review for the water main design required significant revisions, which jeopardized our ability to hit the GMP milestone. The revisions were prioritized from a design standpoint, and we provided cost and schedule analysis to the owner to assist with their decision-making process. ***Our experience with permitting allowed us to reach an amicable resolution that advanced other design aspects during this time to limit overall impact to the owner's original schedule.***

WORKING WITHIN AN EXISTING RAILROAD & FDOT RIGHT-OF-WAY

NAVIGATING MATERIAL PROCUREMENT IN A VOLATILE MARKET THROUGH LONG-STANDING NATIONAL RELATIONSHIPS AND PROJECT TEAM ALIGNMENT

Garney was able to navigate the price increases by being completely transparent with the owner—keeping them informed on the pricing volatility and market projections. ***Through our longstanding vendor relationships, we were able to lock in pricing for many of the main pipeline materials to avoid future increases. At the same time, we postponed purchasing other materials with the anticipation of a future price stabilization.*** Both tactics proved to be effective and were made possible by the trust and alignment of objectives amongst all parties.

REFERENCE FORM

RIVER OAKS DIVERSION PROJECT (DB)

HILLSBOROUGH COUNTY, FL

RESPONDENT: Garney Companies, Inc.

ROLE ON THE PROJECT (PRIME, SUB-CONSULTANT, ENGINEER OF RECORD, ETC.): Prime

REFERENCE ENTITY: Hillsborough County, FL

REFERENCE CONTACT PERSON: Brad Warholak, PE

REFERENCE ADDRESS: 925 E. Twiggs Street, Tampa, FL 33602

REFERENCE EMAIL ADDRESS: warholakb@HillsboroughCounty.org

REFERENCE PHONE NO.: 813.209.3051

PROJECT DELIVERY METHOD: Design-Build

PROJECT LOCATION: Tampa, FL

RESPONDENT PROJECT MANAGER: Will Poczekaj

PROJECT ENGINEER OF RECORD: Ardurra

DATE PROJECT COMMENCED: 03/27/2017

DATE OF FINAL COMPLETION OR STATUS: 09/30/2020

PROJECT BUDGET AT NTP ($ MILLION NOT INCLUDING CONTINGENCY AND ALLOWANCE): $28,491,000

PROJECT COST AT FINAL COMPLETION ($ MILLION INCLUDING CONTINGENCY AND ALLOWANCE): $27,472,682

ALTERNATIVE DELIVERY PROJECTS (ONLY) ORIGINAL GMP: $28,491,000 FINAL COST: $27,472,682

QUALIFICATION SATISFIED:

- ○ **3.A.** ≥ 42" PIPELINE
- ✓ **3.B.** ≥50-MGD CAPACITY OR ≥200 HP PUMP STATION
- ✓ **3.C.** ALTERNATIVE PROJECT DELIVERY
- ✓ **3.D** HIGH GROUNDWATER CONDITIONS

DESCRIPTION OF WORK PERFORMED AND EXPLANATION OF DIFFERENCES IN BUDGET AND FINAL COST:

Preconstruction phase services included route selection, geotechnical, utility investigation, permitting, surveying, and cost estimating. Construction included a wastewater pump station consisting of four 385 hp submersible pumps rated at 5,600 GPM with a capacity of 32.3 MGD, two 140 hp submersible jockey pumps rated at 5,375 GPM with a capacity of 15.5 MGD, two back-up diesel 475 hp horizontal pumps rated at 8,350 GPM with a capacity of 24.1 MGD; wastewater transfer force mains consisting of 12,800 LF of 30" and 5,040 LF of 36" DIP which included a 36" aerial crossing of the Tampa Bay Watershed for 225 LF; and the relocation of the River Oaks outfall which included a new cast-in-place structure. Also included the installation of 10,020 LF of 20" DIP reclaimed waterline through residential areas, trenchless installations including 390 LF of 48" and 225 LF of 36" casing installed using jack and bore to cross roadways and railroads, 2,700 LF of 20" horizontal directional drill using fusible PVC, and miscellaneous electrical.

RIVER OAKS DIVERSION PROJECT (DESIGN-BUILD)

HILLSBOROUGH COUNTY, FL

MEETS MINIMUM QUALIFICATIONS: 3.A, 3.B, 3.C, 3.D

≥ 50-MGD CAPACITY OR >200 HP PUMP STATION,
ALTERNATIVE PROJECT DELIVERY, HIGH GROUNDWATER CONDITIONS

EXPERIENCE AND BENEFIT TO PR3

EARLY COLLABORATION RESULTING IN COST-SAVING SOLUTIONS

A risk assessment was performed during the design phase process by Garney. The goal of this process was to identify the risks and minimize the risks and / or eliminate them completely. The analysis included evaluating permitting risks to the project schedule, safety, community impacts, project delivery, and financials, to name a few. Multiple allowances were proposed. Allowances included a $200,000 owner's Allowance and $50,000 specifically for permitting costs. Providing these allowances for unknown costs upfront in the proposal process alleviated including unneeded costs. ***As a result, more than $22,000 was credited back to the County.***

PERMITTING EXPERIENCE EXPEDITING CONSTRUCTION SCHEDULE

Army Corps permitting review delays had the potential to create major setbacks to the project schedule. Due to Garney's early involvement in the collaborative delivery process and previous permitting experience, we were able to work with the County to reroute a critical section of pipeline into an already established and permitted corridor, ***avoiding both delays and the need for additional wetland impacts.*** These changes did extend the length of pipeline required to make necessary connections and thus had a representative impact on cost. ***However, previous VE and open-book negotiations of the changes resulted in no added cost to the original GMP.***

MASTER PUMP STATION PUMPING UNITS CONSISTING OF FOUR 385 HORSEPOWER (HP) MAIN PUMPS AND TWO 140 HP JOCKEY PUMPS

MAINTAINING QUALITY THROUGH PROJECT TEAM COORDINATION

This project required multiple tie-ins, including process piping, electrical power, fiber optic systems, and SCADA interfaces. Installation coordination meetings were conducted by Garney with applicable subcontractors, King, the County, and other applicable parties, prior to a tie-in being performed.

Third-party contractors, the County's inspection group, and King provided additional quality assurance monitoring. ***Through the collective and interactive efforts between all members of the project team, a high level of quality was maintained, and challenges were resolved in a timely manner.***

ATTACHMENT A – KEY PERSONNEL AND REFERENCE PROJECT TABLE

KEY PERSONNEL	KEY PERSONNEL ROLE ON PHASE I PRECONSTRUCTION SERVICES FOR PROJECT	KEY PERSONNEL ROLE ON PHASE II CONSTRUCTION SERVICES FOR PROJECT	CURRENT EMPLOYER	YEARS OF EXP.	ASSIGNED OFFICE CITY/STATE	BOIS D'ARC LAKE - WATER TREATMENT PLANT, PUMP STATIONS, AND PIPELINES (CMAR)	YADKIN REGIONAL WATER SUPPLY PROJECT - RAW WATER INFRASTRUCTURE (PDB)	TRINITY RIVER MAIN STEM PUMP STATION & PIPELINE (CMAR)	GREENLAND WRF PIPELINES: WATER RECLAIMED WATER AND SANITARY SEWER FORCE MAINS (PDB)	RIVER OAKS DIVERSION PROJECT (DB)
JASON SEUBERT	Principal-in-Charge Pipelines Constructability Reviews/VE	Principal-in-Charge	GARNEY	31	Sarasota, FL		PRINCIPAL-IN-CHARGE		PRINCIPAL-IN-CHARGE	PRINCIPAL-IN-CHARGE
ROB FULTS	Construction Manager	Construction Manager	GARNEY	24	Sarasota, FL	SENIOR PROJECT MANAGER			PROJECT MANAGER	
DAVID BURKHART	CMAR Technical Advisor	CMAR Technical Advisor	GARNEY	21	North Kansas City, MO	PRINCIPAL-IN-CHARGE		SENIOR PROJECT MANAGER		
WILL POCZEKAJ, ENV SP	Pipeline Estimator		GARNEY	13	Winter Garden, FL				SENIOR PROJECT MANAGER	PROJECT MANAGER
DUSTAN PATE, ENV SP		Pipelines Project Manager	GARNEY	6	Sarasota, FL					
HUMBERTO DEL CID		Pipelines Superintendent	GARNEY	24	Sarasota, FL				SUPERINTENDENT	SUPERINTENDENT
MIKE PARRISH	Pump Station Estimator		GARNEY	19	Winter Garden, FL		SENIOR ESTIMATOR			SENIOR ESTIMATOR
TYLER BOLTON, ENV SP		Pump Stations Project Manager	GARNEY	17	Sarasota, FL					
DAVID GAZTAMBIDE	Pump Stations Constructability Review/VE	Pump Stations Superintendent	GARNEY	33	Sarasota, FL					
SCOTT GARMON	Reservoir Review and Budgeting		GARNEY	28	Alpharetta, GA					
ERIC WAGNER	WTP Review and Budgeting		GARNEY	23	Winter Garden, FL	DIRECTOR				PRECONSTRUCTION MANAGER
REFERENCE PROJECT DETAILS										
REFERENCE PROJECT WAS COMPLETED FOR THE AUTHORITY ✓										
REFERENCE PROJECT LOCATION						Leonard, TX	Norwood, NC	Rosser, TX	Jacksonville, FL	Tampa, FL
REFERENCE PROJECT BUDGET AT NTP *($ million not including contingency and allowance)*						$728,996,811	$156,155,804	$107,634,931	$53,955,900	$28,491,000
REFERENCE PROJECT COST AT COMPLETION *($ million including contingency and allowance)*						$728,996,811	$156,155,804	$103,509,665	Ongoing	$27,472,682
CONTRACT EXTENSION *(Actual Final Completion Date minus Scheduled Final Completion Date at NTP)*						0 days	0 days	0 days	Ongoing	-96 days
PROJECT STATUS - *(Complete, Ongoing, Other)*						Complete	Complete	Complete	Ongoing	Complete
REFERENCE PROJECT DELIVERY METHOD - DESIGN BID BUILD *(DBB)*, PROGRESSIVE DESIGN-BUILD *(PDB)*, DESIGN-BUILD *(DB)*, CONSTRUCTION MANAGEMENT AT RISK *(CMAR)*, OTHER *(O)*						CMAR	PDB	CMAR	PDB	DB
REFERENCE PROJECT PREFERENCE COLLABORATIVE DELIVERY ✓						✓	✓	✓	✓	✓
REFERENCE PROJECT PREFERENCE LARGE DIAMETER PRESSURE PIPELINE ≥42" DIAMETER *(Largest Inch Dia.)*						48"-96"	42" & 54"	72"	42"	36"
REFERENCE PROJECT PREFERENCE DEWATERING IN HIGH GROUNDWATER CONDITIONS TYPICAL OF FLORIDA ✓						✓	✓	✓	✓	✓
REFERENCE PROJECT PREFERENCE PUMP STATION >200 HP OR >50 MGD PUMPING CAPACITY (LARGEST MGD/HP)						280 MGD / 2,700 HP	45 MGD / 1,250 HP	240 MGD / 3,500 HP		32.3 MGD / 385 HP

4 KEY PERSONNEL

PR3 PUMPING AND CONVEYANCE FACILITIES

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

RELIABILITY FOR THE FUTURE

SECTION 4

KEY PERSONNEL

ROLES AND RESPONSIBILITIES

The responsibilities of Garney's proposed personnel during phase I preconstruction and phase II construction are included on the following pages.

JASON SEUBERT
PRINCIPAL-IN-CHARGE & PIPELINE CONSTRUCTABILITY REVIEWS/VE

PRECONSTRUCTION

Resource scheduling / management to ensure contract is properly executed

Provide input on constructability, VE, alignment, and procurement

Create necessary plans for construction i.e. site layout, access, and materials handling

CONSTRUCTION

Monitor and oversee execution of the job

Overall accountability to the Authority and the entire project team for successful execution of the preconstruction and construction phases and for each of their respective tasks

Provide input on productivity, excavation equipment needs, material handling, and staging

ROB FULTS
CONSTRUCTION MANAGER

PRECONSTRUCTION

Develop and maintain a project schedule including cash flow projections for both phase I and phase II services

Provide constructability, VE and QC review of 30% design plans for PR3 volume 1-4 and update accordingly

Develop and maintain project action / decision log and project risk register

Prepare phase II GMP price proposal including approved ROM cost modeling, prepare and advertise bid packages, early work packages, ODP packages and bid analysis

Provide third-party review and ROM development for The Authority's water supply projects in the five year CIP / 20-year CAN

CONSTRUCTION

Provide continuous and thorough communication with the Authority and engineering team, including regular project meetings and workshops / assist with public relations activities and meetings

Supervise, coordinate, and execute the work in strict accordance with the CMAR contract requirements

Provide continuous collaboration with the Authority and the design team to help mitigate any potential cost impacts throughout the construction period

Prepare and provide monthly cost projects for GMP contingencies and allowances

KEY PERSONNEL (CONT.)

ROLES AND RESPONSIBILITIES

DAVID BURKHART
CMAR TECHNICAL ADVISOR

PRECONSTRUCTION

Material approval and procurement

Scheduling and tracking performance

CONSTRUCTION

Ensure consistent coordination and communication between CMAR project team members using best practices learned from 13 years of collaborative delivery experience

WILL POCZEKAJ, ENV, SP
PIPELINE ESTIMATOR

PRECONSTRUCTION

Provide timely pricing during the design phase and collaborate with Jason Seubert and Rob Fults to develop and maintain preconstruction and construction estimates

Assist in identifying opportunities for Envision credit

Develop initial cost model for Authority approval and prepare open-book cost estimate deliverables at each design deliverable

Conduct cost estimate reviews and ROM development for volumes I, II, III and IV

Assist in third party review and ROM development for any additional water supply projects

CONSTRUCTION

Complete regular schedule and project budget audits with Rob Fults and the construction team

Final reconciliation of any contingency or allowance usage

DUSTAN PATE, ENV, SP
PIPELINE PROJECT MANAGER

PRECONSTRUCTION

Develop and implement a risk management strategy and identify critical construction risks

Assist in constructability review

Assist in identifying preliminary Envision certification opportunities during construction

CONSTRUCTION

Coordinate with local and state permitting agencies

Enforce CMAR contractual requirements and lead the Garney team to successfully develop and execute a project that meets the Authority's expectations

Provide continuous and thorough communication with the Authority and engineering team, including regular project meetings and workshops / assist with public relations activities

Develop and implement the project's safety and quality plans

Coordinate and document on site Envision certification efforts

KEY PERSONNEL (CONT.)

ROLES AND RESPONSIBILITIES

HUMBERTO DEL CID
PIPELINE SUPERINTENDENT

PRECONSTRUCTION

Attend and contribute to design review meetings

Review plans for constructability, sustainability, and VE ideas

CONSTRUCTION

Provide input on productivity, excavation equipment needs, material handling, and staging

Create necessary plans for construction i.e. site layout, access, and materials handling

Manage subcontractors and maintain public relations with property owner and owner representative

Manage construction and oversee safety and quality

MIKE PARRISH
PUMP STATION ESTIMATOR

PRECONSTRUCTION

Provide timely pricing during the design phase and collaborate with David Gaztambide and Rob Fults to develop and maintain preconstruction and construction estimates

Assist in identifying opportunities for Envision credit

Develop initial cost model for Authority approval and prepare open-book cost estimate deliverables at each design deliverable

Conduct cost estimate reviews and ROM development for volumes II and III

Assist in third party review and ROM development for any additional water supply projects

CONSTRUCTION

Complete regular schedule and project budget audits with Rob Fults and the construction team

Final reconciliation of any contingency or allowance usage

TYLER BOLTON, ENV SP
PUMP STATION PROJECT MANAGER

PRECONSTRUCTION

Coordination with local and state permitting agencies

Develop and implement a risk management strategy

Control the project schedule and budget by working with design and construction managers and the Authority, as well as implement effective correction plans if necessary

CONSTRUCTION

Enforce CMAR contractual requirements and lead the Garney team to successfully develop and execute a project that meets the Authority's expectations

Provide continuous and thorough communication with the Authority and engineering team, including regular project meetings and workshops / assist with public relations activities and meetings

Develop and implement the management administration plan and quality management plan

KEY PERSONNEL (CONT.)

ROLES AND RESPONSIBILITIES

DAVID GAZTAMBIDE
PUMP STATION CONSTRUCTABILITY REVIEWS / VE & SUPERINTENDENT

PRECONSTRUCTION

Develop work plans, coordinate of reviews, and collaborate on innovations and means and methods during design milestone reviews

Contribute to the development and implementation of VE solutions, constructability insight, and feedback

CONSTRUCTION

Manage and oversee field construction activities according to the approved design plans and specifications

Oversee subcontractor packages in the field to ensure they are compliant with quality, schedule, and budget goals

Hold all self-performed and subcontractor work accountable to a stringent site-specific safety program

ERIC WAGNER
WTP REVIEW / BUDGETING

PRECONSTRUCTION

Lead the estimating and GMP process

Coordinate with the Authority and design engineers on VE and constructability

Assist with preparation of work execution plans and schedule development

Conduct cost estimate review and ROM development for the surface and RO WTP preliminary designs

SCOTT GARMON
RESERVOIR REVIEW / BUDGETING

PRECONSTRUCTION

Develop a major task-based bar schedule and a provisional CPM schedule indicating methods and sequencing of construction

Perform constructability and maintainability review of construction documents, detailed cost estimates, and VE

Provide analysis of different construction methods in each major trade group for potential quality, cost, and schedule enhancements

Conduct cost estimate reviews and ROM development of volume I

RELIABILITY IN RESOURCES

ORGANIZATIONAL CHART

Our organizational chart outlining Garney personnel and key support service firms is below. Our team members have been hand selected for their technical expertise, previous experience, and commitment to serve on this project.

PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY

PRINCIPAL-IN-CHARGE
JASON SEUBERT

CONSTRUCTION MANAGER
ROB FULTS

CMAR TECHNICAL ADVISOR
DAVID BURKHART

PRECONSTRUCTION TEAM

PIPELINE

PIPELINE ESTIMATOR
WILL POCZEKAJ, ENV SP

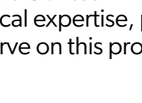
CONSTRUCTABILITY REVIEWS / VE
JASON SEUBERT

PUMP STATIONS

PUMP STATION ESTIMATOR
MIKE PARRISH

CONSTRUCTABILITY REVIEWS / VE
DAVID GAZTAMBIDE

RESERVOIR / WTP



WTP REVIEW / BUDGETING
ERIC WAGNER

RESERVOIR REVIEW / BUDGETING
SCOTT GARMON

CONSTRUCTION TEAM

PROJECT MANAGER
DUSTAN PATE, ENV SP

SUPERINTENDENT
HUMBERTO DEL CID

PROJECT MANAGER
TYLER BOLTON, ENV SP

SUPERINTENDENT
DAVID GAZTAMBIDE

SUPPORT SERVICES

ENVISION	PIPELINES	BUILDINGS	ELECTRICAL	TRENCHLESS
TWO TRAILS	WESTRA CONSTRUCTION	WILLIS-SMITH	COGBURN BROTHERS ELECTRIC	HUXTED TRENCHLESS

APPROACH TO MANAGEMENT OF KEY PERSONNEL

The management structure Garney will use on this project has been proven on previous projects using the CMAR delivery method. Our philosophy includes complete project involvement with each CMAR team member from preconstruction through project completion. The team assembled for this project has abundant CMAR experience, as well as experience working together to develop, manage, and deliver successful projects.

Our proposed organizational structure is focused on the key project components, while providing a single point-of-contact. ***This approach provides the Authority and engineering team with continuity and primary relationships that strengthened throughout the duration of the project.*** It is our experience that this integration provides the best value and project success.

"I believe Garney's success started with strong working relationships that they established with the City and the City's Onsite Representative. These relationships ensured smooth communication and coordination with the project team as well as the subcontractors and neighborhood residents. I appreciated the professionalism that the entire Garney team brought to the job each and every day. ***The success of the project would not have been possible without the exceptional customer service provided by Garney's management team. Their ability to communicate and work together as a team was unsurpassed."***

– CLECE AURELUS, PE, ENGINEERING SUPPORT SERVICES MANAGER, CITY OF HOLLYWOOD, FL

RELIABILITY IN TRUSTED SUPPORT SERVICE FIRMS

We have supplemented our team with support firms that ***bring local specialized experience in key areas of the project to provide certainty to preconstruction services on constructability, schedule, and budget.*** What sets us apart from the competition is our recent, successful, and relevant experience working collaboratively together. ***Firm introductions and qualifications of our key support firms are described below:***

KEY SUPPORT SERVICE FIRM QUALIFICATIONS

TWO TRAILS // ENVISION

WHY TWO TRAILS? Two Trails, Inc. is a world-wide Sustainable Building Consulting firm established in 2001 comprised of skilled building professionals including architects, engineers, general contractors, LEED professionals, and energy raters. They have hundreds of successfully completed sustainable projects as part of the design team. Managing sustainable project administration is their specialty.

WESTRA CONSTRUCTION // PIPELINES

WHY WESTRA CONSTRUCTION? Since 1977, Westra Construction Corp. has been building a reputation for excellence. Westra currently has completed $1.7B in local infrastructure projects. Their staff specializes in large-diameter pipeline and booster station projects using collaborative delivery methods. They have completed over $200M in local collaborative delivery work and will leverage their experience to ensure the Authority's success.

WILLIS-SMITH // BUILDINGS

WHY WILLIS-SMITH? Willis-Smith has been providing quality construction services in Southwest Florida since 1972. Major services include construction management, general contracting, collaborative delivery, sustainability analysis and consulting services for site evaluation and/or selection, budget and constructability analysis, cost consulting, and scheduling. Presently, Willis-Smith is partnered with Garney on the Bee Ridge WRF Expansion & Conversion to Advanced Water Treatment (CMAR) project performing the same role, and Willis-Smith is a subcontractor to Garney on the Venice Gardens Water Reclamation Facility Expansion/Conversion to AWT (CMAR) project.

COGBURN BROTHERS ELECTRIC // ELECTRICAL

WHY COGBURN BROTHERS ELECTRIC? Cogburn will leverage their 44 years of experience becoming the electrical contracting leader on wastewater / water treatment facilities in Florida, performing electrical work ranging in size from $100K to $60M. Garney's partnership with Cogburn began in the year 2000 and includes 20 collaborative delivery projects. They have extensive experience with medium-voltage distribution and systems.

HUXTED TRENCHLESS // TRENCHLESS

WHY HUXTED TRENCHLESS? Huxted Trenchless has over 65 years of microtunneling and HDD experience. Their first microtunnel was completed in Florida in the mid-1990's and they continue to microtunnel in Florida, currently working on three projects. They have access to a total of 18 microtunnel machines of which five are suitable for the anticipated casing sizes for this project. They have an active history of multiple microtunneling projects completed with Garney.

JASON SEUBERT

PRINCIPAL-IN-CHARGE & PIPELINE CONSTRUCTABILITY REVIEWS / VE

QUALIFICATIONS

2,276,708 LF
OF 24"OR GREATER PIPELINE INSTALLED

132
PIPELINE PROJECTS IN THE EAST WITH DIAMETERS UP TO 84"

24
COLLABORATIVE DELIVERY PROJECTS TOTALING $493M+

30
YEARS OF FL PIPELINE EXPERIENCE AND PROJECT OVERSIGHT

INDUSTRY EXPERIENCE: 31 years

EDUCATION: BS – Construction Engineering

CERTIFICATIONS & TRAINING:

- FDOT Intermediate Maintenance of Traffic
- First Aid & CPR
- OSHA 10-Hour
- OSHA Competent Person - Confined Space
- Member of American Water Works Association
- FL Underground Utility & Excavation Contractor License QP CUC1224263

PROJECT EXPERIENCE

● **YADKIN REGIONAL WATER SUPPLY PROJECT - RAW WATER INFRASTRUCTURE** (PROGRESSIVE DESIGN-BUILD)
Union County, NC / $156,155,804

Principal-in-Charge. Construction included a new raw water intake into Lake Tillery with two intake screens, as well as a common wet well including 1,250 hp vertical turbine pumps for a station capacity of 45 MGD. Also included the installation of a 300 LF microtunnel using 54″ steel raw waterline from the intake into the pump station, 29 miles of 42″ and 52″ mortar-lined steel raw water pipeline from the intake and pumping station to the county's new water treatment plant, marine work, 26 road bores, 20 open cut road crossings, and two open cut river crossings.
Responsibilities: Ensure manpower and equipment needs of the project are fulfilled, constructability and VE input and review, monthly cost projection review, met with principals of each primary discipline to discuss any project challenges and / or needs

SOUTHEAST LOWER FLORIDAN AQUIFER (LFA) WELLFIELD PROJECT, PHASE 1 (CMAR) Polk Regional Water Cooperative / $344,613,726

Principal-in-Charge. Consists of three sections including the construction of a wellfield with four 18" wells and raw water transmission main, the Southeast LFA Water Production Facility (SELFAWPF) with RO membranes and other facilities, and the installation of 66 miles of 6" through 42" finished water transmission mains.
Responsibilities: Ensure manpower and equipment needs of the project are fulfilled, cost estimation input and review, monthly cost projection review

● DENOTES REFERENCE PROJECT

BOAT HARBOR TREATMENT PLANT TRANSMISSION FORCE MAIN SECTION 1 - SUBAQUEOUS PORTION (DESIGN-BUILD) Hampton Roads Sanitation District / $144,309,720

Executive. Installation of 24,400 LF of 42″ to 54″ HDPE sewer force main under and across the James River using horizontal directional drilling, subaqueous open-cut, and landfall installation techniques.

Responsibilities: Ensure manpower and equipment needs of the project are fulfilled, cost estimation input and review, monthly cost projection review, met with principals of each primary discipline to discuss any project challenges and / or needs

KINGS BLUFF 48" RAW WATER TRANSMISSION MAIN (PROGRESSIVE DESIGN-BUILD) Lower Cape Fear Water & Sewer Authority / $56,900,000

Principal-in-Charge. Included design and construction services for a new 10-mile line that will parallel an existing 48″ raw water line. The 48″ raw water line began at the 3-million-gallon ground reservoir located near Brunswick County's Northwest Water Treatment Plant and traveled through Brunswick, Pender, and New Hanover Counties to US Highway 421.

Responsibilities: Ensure manpower and equipment needs of the project are fulfilled, constructability and VE input and review, cost estimation input and review, met with principals of each primary discipline to discuss any project challenges and / or needs

WET WEATHER MONITORING & PUMPING SYSTEM City of Largo, FL / $38,912,084

Principal-in-Charge. Pumping improvements to seven City lift stations, included new wet wells, pumps, power supply, telemetry, and bypassing, installation of 77,000 LF of 12″ to 30″ force main, HDD, auger boring to cross FDOT and CSX rights-of-way, and reconstruction of a City roadway.

Responsibilities: Ensure manpower and equipment needs of the project are fulfilled, constructability and VE input and review, cost estimation input and review, met with principals of each primary discipline to discuss any project challenges and / or needs

48-INCH WATER TRANSMISSION MAIN FOR AREA N (DESIGN-BUILD) Miami-Dade County / $37,206,382

Principal-in-Charge. Design-build contract to construct 31,152 LF of 48″ PCCP waterline in a densely populated residential and commercial area which required wet tapping to connect to an existing 36″ and 60″ water main. Installation of 6,840 LF of 16″ and 1,820 LF of 8″ DIP sanitary force main, 712 LF of 72″ micro tunneling crossing the expressway, seventeen 48″ valves, canal crossings, sheet piling, dewatering, and paving.

Responsibilities: Ensure manpower and equipment needs of the project are fulfilled, constructability and VE input and review, cost estimation input and review, monthly cost projection review, met with principals of each primary discipline to discuss any project challenges and / or needs

DOBY CREEK AND LITTLE SUGAR CREEK TRIBUTARY TO FAIRVIEW ROAD SANITARY SEWER IMPROVEMENTS (CMAR) Charlotte Water / $27,709,403

Principal-in-Charge. CMAR preconstruction services and non-performing construction services for the Doby Creek and Little Sugar Creek gravity sewer lines that included the installation of 4,850 LF of 24″ to 36″ DIP, 17,137 LF of 24″ and 30″ PVC, 1,650 LF of 54″ micro tunneling, 250 LF of 48″ jack and bore, and a 30″ aerial crossing for 120 LF. Additional work included bypass pumping, dewatering, manholes, paving, tree canopy restoration, public relations, and rock excavation using blasting and hoe ramming.

Responsibilities: Ensure manpower and equipment needs of the project are fulfilled, constructability and VE input and review, cost estimation input and review, monthly cost projection review, met with principals of each primary discipline to discuss any project challenges and / or needs

ROB FULTS
CONSTRUCTION MANAGER

QUALIFICATIONS

1,618,632 LF
OF 24" OR GREATER PIPELINE INSTALLED

30
PIPELINE PROJECTS MANAGED IN FL INVOLVING MOT AND COORDINATION WITH FDOT

14
COLLABORATIVE DELIVERY PROJECTS TOTALING $326M+

20+
YEARS OF PROJECT MANAGEMENT INCLUDING HIGH-PROFILE PIPELINE PROJECTS

INDUSTRY EXPERIENCE: 24 years

EDUCATION: BS – Construction Engineering Technology

CERTIFICATIONS & TRAINING:

- Qualified Stormwater Management Inspector 220853
- First Aid & CPR
- OSHA 30-Hour
- OSHA Competent Person - Confined Space and Trenching & Excavation
- Member of APWA

PROJECT EXPERIENCE

● **BOIS D'ARC LAKE - WATER TREATMENT PLANT, PUMP STATIONS, AND PIPELINES** (CMAR) North Texas Municipal Water District / $728,996,811

Senior Project Manager. Preconstruction, procurement, and construction services for a water treatment plant with ultimate capacity of 280 MGD, two 70 MGD pump stations, a storage tank, and the installation of 212,000 LF of 90" C200 steel raw water pipe, 132,000 LF 84" C200 steel treated water pipe. Includes dewatering, mass excavation, deep excavations, electrical work, manholes, hand tunnels, machined mined tunnels, river crossings, rock excavation, and paving.
Responsibilities: GMP development, prepared early-out bid packages, route evaluation, constructability review, VE, and land acquisition

● **GREENLAND WRF PIPELINES: WATER, RECLAIMED WATER AND SANITARY SEWER FORCE MAINS** (PROGRESSIVE DESIGN-BUILD) JEA / $53,955,900

Project Manager. Installation of 1,880 LF of 36″ PVC sanitary force main and HDDs of 1,700 LF of 42″ HDPE; 15,246 LF of 24″ DIP and an HDD of 3,923 LF of 30″ HDPE waterline; 32,489 LF of 24″ to 36″ DIP and HDDs of 8,630 LF of 30″ to 42″ HDPE reclaimed waterlines; and 551 LF of 30″ DIP and HDDs of 1,730 LF of 36″ HDPE raw waterlines. Challenges include work within FDOT and railroad right-of-way, traffic control, and dewatering.
Responsibilities: Preconstruction services including route evaluation, constructability review, GMP development, VE, and MOT development

● DENOTES REFERENCE PROJECT

T-BAR RANCH WELL FIELD DEVELOPMENT & DELIVERY PROJECT (DESIGN-BUILD) Midland Co. Fresh Water Supply District No. 1 / $157,692,985

Project Manager. Installation of 205,500 LF of 48″ steel and 105,250 LF of 48″ C303 water transmission main, and 130,000 LF of 6″ to 24″ of PVC well field piping. Included rock excavation, hand tunneling, and several manholes.
Responsibilities: Route evaluation, constructability review, VE, project oversight throughout construction to ensure quality, safety, and budget requirements were met

REGIONAL INTEGRATED LOOP PHASE 3C PIPELINE (PROGRESSIVE DESIGN-BUILD) Peace River Manasota Regional Water Supply Authority / $55,601,700

Design-Build Manager. Installation of 47,500 LF of 42″ steel (mortar-lined) finished water main, a 6 MGD high service pump station consisting of three 250 hp pumps, and a 5 MG aboveground D110 Type III storage tank. Pipeline sections require trenchless installations, dewatering, and DOT permits. The pump station also includes 2,500 LF of 24″ DIP finished water main, metering facilities, chemical storage, generator, electrical building, storm water pond, paving, fencing, and siting for a future ground storage tank.
Responsibilities: Managed the design team during preconstruction, route evaluation, constructability review for open cut, aerial and trenchless installations, VE, permit applications, land acquisition, GMP development, and preparation of early-out bid packages for ODP

PLANT VOGTLE UNITS 3 & 4 RIVER WATER INTAKE STRUCTURE (DESIGN-BUILD) Georgia Power / $50,449,055

Project Manager. Construction of a 120′ x 150′ x 43′ raw water intake structure on the Savannah River, 7,300 SF switchgear and pump house building atop the intake main structure, 675 LF each of dual 36″ HDPE pipelines, 5″ PVC power and communications fiber optic duct bank, 73,000 CY of structural backfill material, and a 3,800 SF MSE wall.
Responsibilities: Project oversight throughout construction to ensure quality and safety

UTILITY CAPITAL IMPROVEMENTS PROJECTS (PROGRESSIVE DESIGN-BUILD) City of Tampa, FL / $30,361,814

Senior Project Manager. Installed 4,635 LF of 48″ ductile iron force main, 45,029 LF of 42” ductile iron water main, 790 LF of 24″ ductile iron force main, 12,800 LF of 12″ ductile iron water main, 11,285 LF of new 6″ to 12″ ductile iron water mains, 1,745 LF of small diameter water main relocations, small diameter connecting water mains, 240 LF of 48″ HOBAS gravity main, a cast-in-place junction chamber, five 60″ steel casings via jack and bore, three 60″ micro-tunnels, more than 25 fire hydrants, and 77 water services; decommissioned and removed existing water mains; relocated 660 LF of sanitary sewer; placed 37,000 SY of asphalt; removed and replaced 1,000 SY of 100-year-old brick roads and 2,000 LF of granite curb.
Responsibilities: Route evaluation, constructability review, MOT development and VE, project oversight throughout construction to ensure quality, safety, and budget requirements were met

WATER RESOURCES INTEGRATION PROGRAM San Antonio Water System / $73,021,964

Project Manager. Installation of 146,800 LF of 60″ mortar lined and polyurethane coated steel pipe, 22 butterfly valves, 29 ARV valves with 84″ diameter vaults, and over 8,500 LF of 72″ and 78″ tunnels including five major highway bores, three railroad bores, and two micro-tunnels underneath the Medio Creek and the Medina River which included the construction of vertical shafts up to 100 LF in depth.
Responsibilities: Project oversight throughout construction to ensure quality and safety

DAVID BURKHART

CMAR TECHNICAL ADVISOR

QUALIFICATIONS

47
PIPELINE PROJECTS MANAGED TOTALING $1.8B+ WITH DIAMETERS UP TO 120"

21
YEARS OF SPECIALIZED PIPELINE EXPERIENCE INCLUDING MULTIPLE HIGH-PROFILE CMARS

8
CMAR PIPELINE AND PUMP STATION PROJECTS OVERSEEN TOTALING $1.3B+

2,263,796 LF
OF 24"OR GREATER PIPELINE INSTALLED

INDUSTRY EXPERIENCE: 21 years

EDUCATION: BS – Civil Engineering

CERTIFICATIONS & TRAINING:

- ACI Certification
- Confined Space Entry & Rescue
- OSHA 30-Hour
- OSHA Competent Person - Confined Space, Silica, and Trenching & Excavation
- Member of American Water Works Association
- Board Participant of Water Design-Build Council

PROJECT EXPERIENCE

● **BOIS D'ARC LAKE - WATER TREATMENT PLAN, PUMP STATIONS, AND PIPELINES** (CMAR) North Texas Municipal Water District / $728,996,811

Principal-in-Charge. Preconstruction, procurement, and construction services for a water treatment plant with ultimate capacity of 280 MGD, two 70 MGD pump stations, a storage tank, and the installation of 212,000 LF of 90" C200 steel raw water pipe, 132,000 LF 84" C200 steel treated water pipe. Includes dewatering, mass excavation, deep excavations, electrical work, manholes, hand tunnels, machined mined tunnels, river crossings, rock excavation, and paving.

Responsibilities: Ensure manpower and equipment needs of the project are fulfilled, constructability and VE input and review, cost estimation input and review, monthly cost projection review, met with principals of each primary discipline to discuss any project challenges and / or needs

● **TRINITY RIVER MAIN STEM PUMP STATION & PIPELINE** (CMAR) North Texas Municipal Water District / $103,509,665

Senior Project Manager. CMAR project that included a 100 MGD intake, pump station with horizontal split case pumps, 87,000 LF of 72" raw water pipeline, upgrades to existing pumping facilities with vertical turbine pumps, micro-tunnel to the Trinity River with T-screen intake, access road, bank stabilization, weir box structure, electrical, SCADA, and communications infrastructure.

Responsibilities: GMP development, prepared early-out bid packages, route evaluation, constructability review, VE, and land acquisition

● DENOTES REFERENCE PROJECT

SABINE RIVER PUMP STATION PROJECT (CMAR) Sabine River Authority of Texas / $63,850,000

CMAR Advisor. New 285 MGD intake, 85 MGD raw water vertical turbine pump station, relocation of Camp House Road which ran through the pump station site, 7.5 miles of 66" waterline, and a connection to the existing Gulf Coast Canal system at the terminus of the pipeline which included energy dissipating structures, check structures, and a sedimentation basin.

Responsibilities: Supported CMAR process including the development of GMP proposal packages for board consideration, development of procurement process, evaluated material and construction options with client to support budget and long-term operational needs

SISTER GROVE REGIONAL WATER RESOURCE RECOVERY FACILITY, PHASE 1 (CMAR) North Texas Municipal Water District / $356,124,320

Director. Construction of a new 16 MGD WWTF, a gravity sewer outfall for the discharge of the treated effluent, a new sewer lift station, and twin, parallel sewer force main pipelines from an existing lift station to the SGRWRRF. The plant will include liquid treatment process facilities, preliminary treatment facilities, secondary treatment, tertiary treatment filtration, UV, solids handling, peak flow handling, and plant operations support facilities.

Responsibilities: Oversight of Garney preconstruction team during preliminary estimates, VE, constructibility and GMP negotiations

LAKE TEXOMA OUTFALL TO WYLIE WTP PIPELINE (CMAR) North Texas Municipal Water District / $281,365,320

Senior Project Manager. CMAR project for the installation of 253,500 LF of 96″ and 84″ steel waterline, 240 MG balancing reservoir with HDPE membrane liner installed, 200 MG blending facility, ground storage tanks, metering, blending, and chemical feed systems.

Responsibilities: Estimate and GMP development, schedule development, constructability review, VE, risk register development, oversaw all construction phase operations and served as single point-of-contact for owner / engineer

KAW LAKE WATER SUPPLY PROGRAM (CMAR) City of Enid, OK / $243,358,908

Principal-in-Charge. Evaluation of the City's program, schedule and budget requirements, procurement of materials and equipment, subcontracting, permitting, risk management plans, and environmental and tribal considerations and is followed by the construction phase including bid package development, construction of the pump stations, pipeline, and treatment plant, followed by testing.

Responsibilities: Ensure manpower and equipment needs of the project are fulfilled, constructability and VE input and review, cost estimation input and review, monthly cost projection review, met with principals of each primary discipline to discuss any project challenges and / or needs

HIGH SERVICE MAINS FOR WTP ON POOL 3 - CONTRACTS A AND B Kentucky American Water / $56,704,259

Assistant Project Manager. Included 157,268 LF of 42″ DIP with polyethylene encasement, 2,075 LF of 60″ casing pipe installed by jack and bore under roadways and railroads, 700 LF of 66″ tunnel under a bluff, 2,195 LF of concrete-encased creek crossings, 9,129 CY of flowable fill, fourteen 42″ flex ring gate valves, 33 air valve assemblies, and more than 136,000 SY of asphalt overlay on Commonwealth of Kentucky roadways.

Responsibilities: Assisted with management of project including Garney crews and subcontractors and served as QC Manager

CROSS COUNTY 30-INCH TRANSMISSION LINE AND HIGH SERVICE PUMP STATION (DESIGN-BUILD) Cross County Water Supply Corporation / $42,515,785

Project Manager. 283,000 LF of 30" C303 pipe, a 1.5 MG pre-stressed ground water storage tank, chemical treatment facilities, cooling tower, associated high service pumping facilities with two 75 hp and two 150 hp vertical turbine pumps, electrical building, electrical, instrumentation, SCADA control, cooling tower, and site work.

Responsibilities: Constructability review, schedule development, permit coordination, MOT, construction team oversight, and cost and schedule control

WILL POCZEKAJ, ENV SP

PIPELINE ESTIMATOR

QUALIFICATIONS

522,595 LF
OF 24"OR GREATER PIPELINE INSTALLED

40
PIPELINE PROJECTS IN FL

17
COLLABORATIVE DELIVERY PROJECTS TOTALING $840M+

13
YEARS OF ESTIMATING AND MANAGING PIPELINE PROJECTS

INDUSTRY EXPERIENCE: 13 years

EDUCATION: BS – Architectural Engineering

CERTIFICATIONS & TRAINING:

- Qualified Stormwater Management Inspector 39507
- American Concrete Institute (ACI) Certification
- Confined Space Entry & Rescue
- FDOT Temporary Traffic Control Advanced Course
- First Aid, CPR & AED
- OSHA 30-Hour
- OSHA Competent Person – Rigging+Signaling / Trenching+Excavation
- Envision Sustainability Professional

PROJECT EXPERIENCE

GREENLAND WRF PIPELINES: WATER, RECLAIMED WATER AND SANITARY SEWER FORCE MAINS (PROGRESSIVE DESIGN-BUILD) JEA / $53,955,900

Senior Project Manager. Installation of 1,880 LF of 36″ PVC sanitary force main and HDDs of 1,700 LF of 42″ HDPE; 15,246 LF of 24″ DIP and an HDD of 3,923 LF of 30″ HDPE waterline; 32,489 LF of 24″ to 36″ DIP and HDDs of 8,630 LF of 30″ to 42″ HDPE reclaimed waterlines; and 551 LF of 30″ DIP and HDDs of 1,730 LF of 36″ HDPE raw waterlines. Challenges include work within FDOT and railroad right-of-way, traffic control, and dewatering.
Responsibilities: Estimating and constructability review, risk register development, construction team oversight, cost and schedule control

RIVER OAKS DIVERSION PROJECT (DESIGN-BUILD) Hillsborough County, FL / $27,472,682

Project Manager. New wastewater pump station consisting of four 385 hp pumps, two 140 hp jockey pumps, and two back-up diesel 475 hp pumps; force mains consisting of 17,840 LF of 30″ to 36″ DIP; relocation of the River Oaks outfall; demolition of the existing River Oaks Advanced Wastewater Treatment Facility; installation of 10,020 LF of 20″ DIP reclaimed waterline through residential areas; and associated site restoration, paving, sheet piling, excavation, trenchless installation, dewatering, and electrical.
Responsibilities: Constructability review, schedule development, permit coordination, maintenance of traffic development, construction phasing development, public and stakeholder engagement, construction team oversight, cost and schedule control, flushing and testing plan development

DENOTES REFERENCE PROJECT

SOUTHEAST LOWER FLORIDAN AQUIFER (LFA) WELLFIELD PROJECT, PHASE 1 (CMAR) Polk Regional Water Cooperative / $344,613,726

Preconstruction Manager. Consists of three sections including the construction of a wellfield with four 18" wells and raw water transmission main, the Southeast LFA Water Production Facility (SELFAWPF) with RO membranes and other facilities, and the installation of 66 miles of 6" through 42" finished water transmission mains.
Responsibilities: Estimate development, schedule development, constructability review, VE, bid package development

LAKE TEXOMA OUTFALL TO WYLIE WTP PIPELINE (CMAR)

North Texas Municipal Water District / $281,365,320
Project Engineer. CMAR project for the installation of 253,500 LF of 96″ and 84″ steel waterline, 240 MG balancing reservoir with HDPE membrane liner installed, 200 MG blending facility, ground storage tanks, metering, blending, and chemical feed systems.
Responsibilities: Constructability review, specification and bid package development, estimating and GMP development, bid package evaluation, oversaw all self-perform pipeline scopes, single point-of-contact coordinating with CMAR pipeline subcontractors

REGIONAL INTEGRATED LOOP PHASE 3C PIPELINE (PROGRESSIVE DESIGN-BUILD) Peace River Manasota Regional Water Supply Authority / $55,601,700

Regional Operations Manager. Installation of 47,500 LF of 42″ steel (mortar-lined) finished water main, a 6 MGD high service pump station consisting of three 250 hp pumps, and a 5 MG aboveground D110 Type III storage tank. Pipeline sections require trenchless installations, dewatering, and DOT permits. The pump station also includes 2,500 LF of 24″ DIP finished water main, metering facilities, chemical storage, generator, electrical building, storm water pond, paving, fencing, and siting for a future ground storage tank.
Responsibilities: Estimate and GMP development, schedule development, constructability review, VE, bid package development, construction phasing plan development and implementation, public engagement, oversaw all construction phase operations and served as single point-of-contact for owner / engineer.

SIPS - GREENLAND 30" WATER MAIN, DAVIS 30" RAW WATER MAIN, & BURNT MILL 24" FORCE MAIN PROJECTS (CMAR) JEA / $35,000,000

Regional Operations Manager. Installation of 41,595 LF of 30″ DIP raw waterline, 13,000 LF of 30″ DIP reclaimed waterline, and 1,100 LF of 30″ PVC sanitary force main. Pipeline sections will require trenchless installations to cross wetlands and major intersections, as well as dewatering, interaction with FDOT, street work, and paving. Additional work includes a new 1.1 MG D110 concrete storage tank, a water quality monitoring station, an intertie station, and a new SCADA system.
Responsibilities: Estimate and GMP development, schedule development, constructability review, VE, risk register development, early material procurement

BARTRAM / US 1 AND CECIL FIELD WATER MAIN PROJECT (CMAR) JEA / $12,783,844

Senior Project Manager. Installation of 200 LF of 16″, 11,050 LF of 24″ DIP, and 17,500 LF of 24″ DIP water transmission mains, four horizontal directional drills totaling 5,800 LF of 30″ HDPE, and two jack and bore crossings of a road and railroad totaling 290 LF of 42″ steel casing. Included dewatering, working within a high voltage electrical transmission corridor, handling of gopher tortoises, and critical tie-ins located.
Responsibilities: Estimate and GMP development, schedule development, constructability review, VE, risk register development, oversaw all construction phase operations and served as single point-of-contact for owner / engineer

DUSTAN PATE, ENV SP

PIPELINE PROJECT MANAGER

QUALIFICATIONS

11
PIPELINE PROJECTS

$76M+
PROJECTS COMPLETED IN FL

121,760 LF
OF PIPELINE INSTALLED IN FL

6
YEARS OF EXPERIENCE IN THE WATER INDUSTRY SPECIALIZING IN PIPELINE INSTALLATIONS

INDUSTRY EXPERIENCE: 6 years

EDUCATION: BS – Civil Engineering

CERTIFICATIONS & TRAINING:

- FDOT Temporary Traffic Control Advanced Course
- OSHA 30-Hour
- Member of American Water Works Association

PROJECT EXPERIENCE

REGIONAL INTEGRATED LOOP PHASE 3C PIPELINE

(PROGRESSIVE DESIGN-BUILD) Peace River Manasota Regional Water Supply Authority / $55,601,700

Project Manager. Installation of 47,500 LF of 42″ steel (mortar-lined) finished water main, a 6 MGD high service pump station consisting of three 250 hp pumps, and a 5 MG aboveground D110 Type III storage tank. Pipeline sections require trenchless installations, dewatering, and DOT permits. The pump station also includes 2,500 LF of 24″ DIP finished water main, metering facilities, chemical storage, generator, electrical building, storm water pond, paving, fencing, and siting for a future ground storage tank.

Responsibilities: Assist Design-Build Manager as needed during design and manage pipeline installation

UF-623B THERMAL UTILITY SYSTEM IMPROVEMENTS

University of Florida / $46,131,042

Assistant Project Manager. Installation of 4,600 LF of 10″ to 36″ HDPE chilled waterline, 8,500 LF of 2″ to 10″ carbon steel steam and condensate return pipelines, 2,000 LF of electrical duct bank, manholes, vaults, and relocation of existing utilities. The work will take place in major campus thoroughfares and will require scheduling, planning, and maintenance of traffic. Also includes 2,400 LF of 36″ HDD and 1,340 of 14″ HDD.

Responsibilities: Assisted with management of project including Garney crews and subcontractors and served as QC Manager

REGIONAL INTEGRATED LOOP SYSTEM PHASE 3B INTERCONNECT PROJECT Peace River Manasota Regional Water Supply Authority / $11,339,428

Project Engineer. Installation of 21,120 LF of 48″ steel and 5,280 LF of 36″ DIP potable waterlines, an interconnection to an existing potable waterline, new valve assembly, future meter station, dewatering throughout the alignment, a 20 LF aerial crossing of the 48″, and tree canopy management.
Responsibilities: Assisted with management of project including Garney crews and subcontractors

MARKS STREET / PASADENA PLACE UTILITY IMPROVEMENTS (CMAR) City of Orlando, FL / $6,469,367

Project Engineer. Design and replacement of 2,130 LF of 6″ to 16″ DIP and PVC gravity sanitary sewer mains, manholes, and conflict boxes; 2,470 LF of 6″ to 20″ DIP potable water main, appurtenances, and services; improvements to the storm water system including replacement of 250 LF of 12″ and 15″ RCP, 20 LF of 12″ x 18″ ERCP, and 30 LF of 19″ x 30″ ERCP; and complete road demolition and reconstruction. Included 533 LF of 16″ close tolerance directional drilling.
Responsibilities: Assisted with management of project including Garney crews and subcontractors

DAVIS ISLANDS PUMP STATION FORCE MAIN RELOCATION EMERGENCY City of Tampa, FL / $2,930,256

Project Engineer. Installation of 3,260 LF of 16″ pressure PVC sanitary force main and four horizontal directional drills totaling 2,400 LF of 16″ fusible PVC sanitary force main. Included tie-ins to an existing 12″ valve and to an existing 48″ PCCP force main, as well as dewatering, paving, and public relations.
Responsibilities: Assisted with management of project including Garney crews and subcontractors

ERNIE CALDWELL RECLAIMED WATER MAIN IMPROVEMENTS PHASE 1 Polk County Utilities / $2,884,774

Project Engineer. Installation of 9,430 LF of 20″ reclaimed waterlines and 8,070 LF of 20″ force main including PVC, HDPE, and DIP, as well as 180 LF of 20″ PVC sanitary force main. Also required an auger bore and four horizontal directional drills.
Responsibilities: Assisted with management of project including Garney crews and subcontractors

MISCELLANEOUS EMERGENCY PROJECTS Toho Water Authority / $2,104,111

Project Engineer. Replacement of one 60″ manhole, 16″ DIP sanitary force main with 18″ DR-11 DIPS HDPE, 24″ DIP gravity sewer with 24″ PVC pipe, 8″ PVC gravity sewer pipe with new PVC, manhole coating, a line stop, MJ gate valves, installation of a pre-fab 16″ DR-11 DIPS HDPE inside drop sewer, and repair of the existing fiberglass manhole liner.
Responsibilities: Assisted with management of project including Garney crews and subcontractors

COLUMBIA AVENUE SANITARY SEWER REPAIRS Toho Water Authority / $1,301,588

Project Engineer. Replacement of 420 LF of 15″ and 40 LF of 8″ PVC gravity sewer pipe, two 48″ sanitary sewer manholes, cleaning / coating three existing sanitary sewer manholes, and two line stops. Required well-point dewatering, sewer bypass systems, road closure / maintenance of traffic setups, and coordination with bus routes, emergency services, and businesses / residents.
Responsibilities: Assisted with management of project including Garney crews and subcontractors

HUMBERTO DEL CID

PIPELINE SUPERINTENDENT

QUALIFICATIONS

764,557 LF
OF 24" OR GREATER PIPELINE INSTALLED

5
COLLABORATIVE DELIVERY PIPELINE PROJECTS IN FL

25
PIPELINE PROJECTS IN THE EAST TOTALING $343M+ WITH DIAMETERS UP TO 66"

24
YEARS OF INDUSTRY EXPERIENCE SPECIALIZING AS PIPELINE SUPERINTENDENT

INDUSTRY EXPERIENCE: 24 years

CERTIFICATIONS & TRAINING:

- GA Utility Foreman QP UF205081
- GA NPDES Level 1A Blue Card
- DOT Certified Flagging Trainer
- First Aid & CPR Trained
- OSHA 10-Hour and OSHA 30
- OSHA Competent Person - Confined Space and Trenching & Excavation
- FDOT TTC Advanced Course Certified

PROJECT EXPERIENCE

GREENLAND WRF PIPELINES: WATER, RECLAIMED WATER AND SANITARY SEWER FORCE MAINS (PROGRESSIVE DESIGN-BUILD) JEA / $53,955,900

Superintendent. Installation of 1,880 LF of 36″ PVC sanitary force main and HDDs of 1,700 LF of 42″ HDPE; 15,246 LF of 24″ DIP and an HDD of 3,923 LF of 30″ HDPE waterline; 32,489 LF of 24″ to 36″ DIP and HDDs of 8,630 LF of 30″ to 42″ HDPE reclaimed waterlines; and 551 LF of 30″ DIP and HDDs of 1,730 LF of 36″ HDPE raw waterlines. Challenges include work within FDOT and railroad right-of-way, traffic control, and dewatering.

Responsibilities: Monitored and implemented traffic control solutions to help foster a safe working environment, Coordinated with railroad operations personnel to ensure safety in an ever-changing environment, led pre-inspection, installation, and post install testing of 24″ DIP waterline to ensure product quality

RIVER OAKS DIVERSION PROJECT (DESIGN-BUILD) Hillsborough County, FL / $27,472,682

Superintendent. New wastewater pump station consisting of four 385 hp pumps, two 140 hp jockey pumps, and two back-up diesel 475 hp pumps; force mains consisting of 17,840 LF of 30″ to 36″ DIP; relocation of the River Oaks outfall; demolition of the existing River Oaks Advanced Wastewater Treatment Facility; installation of 10,020 LF of 20″ DIP reclaimed waterline through residential areas; and associated site restoration, paving, sheet piling, excavation, trenchless installation, dewatering, and electrical.

Responsibilities: Collaborated on pipe delivery and staging along the right-of-way, setup and takedown of MOT, community outreach, management of subcontractors, and fostered a safe and efficient work environment

DENOTES REFERENCE PROJECT

REGIONAL INTEGRATED LOOP PHASE 3C PIPELINE (PROGRESSIVE DESIGN-BUILD) Peace River Manasota Regional Water Supply Authority / $55,601,700
Superintendent. Installation of 47,500 LF of 42″ steel (mortar-lined) finished water main, a 6 MGD high service pump station consisting of three 250 hp pumps, and a 5 MG aboveground D110 Type III storage tank. Pipeline sections require trenchless installations, dewatering, and DOT permits. The pump station also includes 2,500 LF of 24″ DIP finished water main, metering facilities, chemical storage, generator, electrical building, storm water pond, paving, fencing, and siting for a future ground storage tank.
Responsibilities: Managing subcontractors, alignment, site setup, MOT, and receipt, inspection, and installation of pipe. Assisting in management of schedule, community outreach, and restoration work

UF-623B THERMAL UTILITY SYSTEM IMPROVEMENTS University of Florida / $46,131,042
Superintendent. Installation of 4,600 LF of 10″ to 36″ HDPE chilled waterline, 8,500 LF of 2″ to 10″ carbon steel steam and condensate return pipelines, 8″ PVC sanitary gravity and sewer service connection, 2,000 LF of electrical duct bank, manholes, vaults, and relocation of existing utilities. The work will take place in major campus thoroughfares and will require scheduling, planning, and maintenance of traffic. Also includes 800 LF directional drills for the 36″ chilled waterline and dewatering.
Responsibilities: Specialized pipe installation inside a large collegiate environment containing a diverse array of environmental and human factors, with a complex underground environment, as-built surveying utilizing a GPS rover system, MOT and site safety work, open excavation in an active campus, shoring excavations, and assisted in the installation and demolition of slide rail/sheet pile shoring for large condensate and chilled water vaults

WET WEATHER MONITORING & PUMPING SYSTEM City of Largo, FL / $38,912,084
Superintendent. Pumping improvements to seven City lift stations, included new wet wells, pumps, power supply, telemetry, and bypassing, installation of 77,000 LF of 12″ to 30″ force main, HDD, auger boring to cross FDOT and CSX rights-of-way, and reconstruction of a City roadway.
Responsibilities: MOT, managing subcontractors, managing material orders, bypassing existing infrastructure, wellpoint installation, milling and reconstruction of roadways, pipe testing, as-builts, vaults, trenching, shoring, alignment, community outreach

48-INCH WATER TRANSMISSION MAIN FOR AREA N (DESIGN-BUILD) Miami-Dade County / $37,206,382
Superintendent. Design-build contract to construct 31,152 LF of 48″ PCCP waterline in a densely populated residential and commercial area which required wet tapping to connect to an existing 36″ and 60″ water main. Installation of 6,840 LF of 16″ and 1,820 LF of 8″ DIP sanitary force main, 712 LF of 72″ micro tunneling crossing the expressway, seventeen 48″ valves, canal crossings, sheet piling, dewatering, and paving.
Responsibilities: Community outreach, as-built drawings, managed subcontractors, installation of sheet piles, major intersection crossings, canal crossings, underwater pipe installations, and MOT in a large urban environment

WESTERN WAKE WASTEWATER MANAGEMENT FACILITIES EFFLUENT OUTFALL LINE Town of Cary, NC / $22,419,612
Superintendent. Installation of 52,000 LF of 54″ and 8,000 LF of 48″ spiral welded steel pipe sewer force main. Work included 829 LF of 72″ steel casing via jack and bore, 36 air release valve assemblies, 14 butterfly valves, cathodic protection system, well water testing, and extensive restoration efforts for numerous properties and roadways.
Responsibilities: MOT, alignment, deep excavations, grouted inside of steel pipe, built cofferdam for subcontractor intake structure installation, managed subcontractors, and pipe as-builts

MIKE PARRISH
PUMP STATION ESTIMATOR

QUALIFICATIONS

20
COLLABORATIVE DELIVERY PROJECTS TOTALING $1.8B+

12
PUMP STATION PROJECTS IN THE EAST TOTALING $872M+

2
COLLABORATIVE DELIVERY PROJECTS WITH BROWN & CALDWELL PROVIDING VE AND ESTIMATING SERVICES

19
YEARS OF ESTIMATING EXPERIENCE, INCLUDING LARGE-SCALE COLLABORATIVE DELIVERY PROJECTS

INDUSTRY EXPERIENCE: 19 years

EDUCATION: BS – Building Construction

CERTIFICATIONS & TRAINING:

- FL Stormwater, Erosion & Sediment Control Inspector 23047
- AGTEK Certified Training – Sitework 4D
- First Aid & CPR Trained
- OSHA 30-Hour Trained
- OSHA Competent Person - Confined Space, Fall Protection, Scaffolding, and Trenching & Excavation

PROJECT EXPERIENCE

● **YADKIN REGIONAL WATER SUPPLY PROJECT - RAW WATER INFRASTRUCTURE** (PROGRESSIVE DESIGN-BUILD) Union County, NC / $156,155,804

Senior Estimator. Construction included a new raw water intake into Lake Tillery with two intake screens, as well as a common wet well including 1,250 hp vertical turbine pumps for a station capacity of 45 MGD. Also included the installation of a 300 LF microtunnel using 54″ steel raw waterline from the intake into the pump station, 29 miles of 42″ and 52″ mortar-lined steel raw water pipeline from the intake and pumping station to the county's new water treatment plant, marine work, 26 road bores, 20 open cut road crossings, and two open cut river crossings.
Responsibilities: Lead pump station estimating process including soliciting subcontractors for prices, VE analysis, and development of budgets

● **RIVER OAKS DIVERSION PROJECT** (DESIGN-BUILD) Hillsborough County, FL / $27,472,682

Senior Estimator. New wastewater pump station consisting of four 385 hp pumps, two 140 hp jockey pumps, and two back-up diesel 475 hp pumps; force mains consisting of 17,840 LF of 30″ to 36″ DIP; relocation of the River Oaks outfall; demolition of the existing River Oaks Advanced Wastewater Treatment Facility; installation of 10,020 LF of 20″ DIP reclaimed waterline through residential areas; and associated site restoration, paving, sheet piling, excavation, trenchless installation, dewatering, and electrical.
Responsibilities: Lead pump station estimating process including soliciting subcontractors for prices, VE analysis, and development of budgets

● DENOTES REFERENCE PROJECT

SOUTHEAST LOWER FLORIDAN AQUIFER (LFA) WELLFIELD PROJECT, PHASE 1 (CMAR) Polk Regional Water Cooperative / $344,613,726

Senior Estimator. Consists of three sections including the construction of a wellfield with four 18" wells and raw water transmission main, the Southeast LFA Water Production Facility (SELFAWPF) with RO membranes and other facilities, and the installation of 66 miles of 6" through 42" finished water transmission mains.
Responsibilities: Lead estimating process for process equipment, piping, and yard pipe including soliciting subcontractors for prices, VE analysis, and development of budgets

NANSEMOND TREATMENT PLANT ADVANCED NUTRIENT REDUCTION IMPROVEMENTS PHASE II (DESIGN-BUILD) Hampton Roads Sanitation District / $299,233,922

Senior Estimator. Upgrade and expansion of the existing Nansemond Treatment Plant to improve nutrient reduction and increase capacity from 37 MGD to 50 MGD. Includes influent distribution box, rerouting screened raw wastewater pipelines, demolition and replacement of clarifier mechanisms, renovations of sludge loadout systems for screw conveyors, upgrades to chemical feed, and upgraded pumps for the effluent pump station.
Responsibilities: Division estimator for sitework, demolition, and miscellaneous metals including quantity take-off, pricing, and soliciting subcontractors for prices

BEE RIDGE WATER RECLAMATION FACILITY EXPANSION & CONVERSION TO ADVANCED WATER TREATMENT (CMAR) Sarasota County Florida / $253,714,966

Senior Estimator. Expansion of the 12 MGD plant to 18 MGD and treatment process upgrade from advanced secondary for public access reuse to advanced wastewater treatment. Includes headworks and grit removal, flow EQ basins, biological process basins, MBR basins, chemical storage and feed facilities, reclaimed water distribution pumping system and tank, sludge holding tank with blowers, administration building, and electrical / blower building, and bypass pumping.
Responsibilities: Lead estimating process including soliciting subcontractors for prices, VE analysis, and development of budgets

MCALPINE CREEK WASTEWATER MANAGEMENT FACILITY RELIABILITY AND PROCESS IMPROVEMENTS (PROGRESSIVE DESIGN-BUILD) Charlotte Water / $138,781,085

Senior Estimator. This progressive design-build project started with a preconstruction phase followed by construction on the rehabilitation of 16 secondary clarifiers, 26 aeration basins, and replacement of the plant's two blower buildings.
Responsibilities: Division estimator for sitework, demolition, and miscellaneous metals including quantity take-off, pricing, and soliciting subcontractors for prices

GREEN MEADOWS WATER TREATMENT PLANT AND WELLFIELD EXPANSION (CMAR) Lee County Utilities / $74,661,353

Estimator. Rehabilitated 26 existing wells consisting of pipe and electrical upgrades, six new wells with 125 hp vertical line raw water pumps, and two pre-drilled test wells with 100 hp vertical line raw water pumps. New treatment technologies included ion exchange, reverse osmosis, and a direct to degasifier / clearwell system. Other work included new buildings, generator, electrical and instrumentation, fire protection system, stormwater pond, and 14.3 miles of pipeline from 1/4″ to 54″ including HDPE, PVC, and stainless steel.
Responsibilities: Division estimator for sitework, demolition, and miscellaneous metals including quantity take-off, pricing, and soliciting subcontractors for prices

SAN CARLOS PUMPING STATION REHABILITATION (PROGRESSIVE DESIGN-BUILD) City of Tampa, FL / $25,206,350

Senior Estimator. Replacement of all pumps, motors, pump discharge valves, electrical and control components, flow meters, and other equipment needed to restore station reliability and provide improved operation.
Responsibilities: Lead estimating process including soliciting subcontractors for prices, VE analysis, and development of budgets

DAVID GAZTAMBIDE

PUMP STATION CONSTRUCTABILITY REVIEWS / VE & SUPERINTENDENT

QUALIFICATIONS

4
CMAR PROJECTS

$253M
CMAR PROJECT EXPERIENCE IN FL

INDUSTRY EXPERIENCE: 33 years

EDUCATION: BS – Land Surveying & Mapping

CERTIFICATIONS & TRAINING:

> Hazard Communication / MSDS

> OSHA 30-Hour

MILLIONS
IN OWNER'S SAVINGS DUE TO VE THROUGH MATERIAL REPLACEMENT

16
YEARS OF EXPERIENCE FOCUSED ON WATER AND WASTEWATER TREATMENT FACILITIES

PROJECT EXPERIENCE

BEE RIDGE WATER RECLAMATION FACILITY EXPANSION & CONVERSION TO ADVANCED WATER TREATMENT (CMAR)

Sarasota County Florida / $253,714,966

Senior Superintendent. Expansion of the 12 MGD plant to 18 MGD and treatment process upgrade from advanced secondary for public access reuse to advanced wastewater treatment. Includes headworks and grit removal, flow EQ basins, biological process basins, MBR basins, chemical storage and feed facilities, reclaimed water distribution pumping system and tank, sludge holding tank with blowers, administration building, and electrical / blower building, and bypass pumping.

Responsibilities: Manage complete scope of work including self-perform concrete and mechanical installations, multiple subcontractors and owner coordination with existing operations, review design for constructability and proposed changes as needed to complete scope for owner

PREVIOUS EXPERIENCE

TREN URBANO Department of Transportation and Public Works (DTPW) / $340,000,000

Construction Superintendent.

Responsibilities: Accountable for supervising construction on a large subway project under Rio Piedras in Puerto Rico, valued at $340M. Oversaw all underground excavation and concrete construction for station.

SUPER AQUEDUCT PROJECT Longo De Puerto Rico Puerto Rico Aqueduct Authority / $120,000,000

Pipe Foreman.

Responsibilities: MOT maintenance, property acquisitions management, crew management, equipment management, pipeline layout, and as-builts

MISCELLANEOUS PROJECTS FOR FORMATECH CONTRACTORS, INC. Formatech Contractors, Inc.

President / Owner & Operator.

Responsibilities: Directed all operations for including financial management, budgeting, P / L, and business development. Guided projects within commercial and residential environments including estimates, budgets, planning / development, and manpower supervision. Liaison between clients and field personnel to ensure smooth communications and to minimize problems.

MISCELLANEOUS PROJECTS FOR WHARTON-SMITH, INC. Wharton-Smith, Inc. / $100,000,000

Project Superintendent.

Responsibilities: Guided site operations for WTP / WWTP projects throughout Florida including pipe installations, mechanical equipment Installation, pump station construction and commissioning, self-perform concrete work, manpower management including subcontractors, and long and short-term scheduling. Monitored and managed construction equipment and ensured quality of work, safety program management including safe project environments. Specialized in self-performed concrete work, mechanical and equipment installation, I&C and electrical subcontractor management, and commissioning WTP and WWTP.

MISCELLANEOUS PROJECTS FOR PEPPER LAWSON WATERWORKS Pepper Lawson Waterworks / $50,000,000

Senior Project Superintendent.

Responsibilities: Created new policies and enforced existing company policies for project safety, cost, scheduling, planning, and subcontractors. Responsible for monitoring and managing all manpower, equipment, material deliveries, inspections, QC, cost control, project staff, and field supervision on several projects concurrently. Build clarifiers, pump stations, aeration basins, chemical storage facilities, large diameter 72" pipe installation, rehabilitation of existing structures, and odor control systems.

MISCELLANEOUS PROJECTS FOR CDM CONSTRUCTORS, INC. CDM Constructors, Inc.

General Superintendent.

Responsibilities: Guided site operations for WTP / WWTP plant rehabilitation projects in the Central US region. Responsible for self-performing work operations in ongoing projects, constructability and feasibility analysis for future projects, and as-needed estimating for additional scopes. Monitored and managed manpower, equipment, schedule, subcontractors, material deliveries, inspections, QC, cost control, project staff, and field supervision on the jobsite. Built several concrete structures including aeration basins, sludge tanks, prefabricated steel tanks, centrifuge dewatering building, UV structure and equipment, ozone system installation and commissioning, electrical and I&C management, and CMAR management.

MISCELLANEOUS PROJECTS FOR FLORIDA DESIGN CONTRACTORS Florida Design Contractors

Vice President of Construction.

Responsibilities: Directed site operations for WTP / WWTP plant projects in the Central and South Florida region. Created and implemented new policies to improve performance and profits through mentoring, technology, training and development of existing and new assets. Responsible for self-performing work operations on projects as well as constructability and feasibility analysis for future projects. Estimated additional work scopes on existing projects and conducted feasibility and constructability reviews for future projects to assess manpower and equipment projections needs. Duties also included business development, recruitment, and equipment management.

TYLER BOLTON, ENV SP

PUMP STATION PROJECT MANAGER

QUALIFICATIONS

10
WATER / WASTEWATER PROJECTS MANAGED INCLUDING MULTIPLE PUMP STATIONS

17
YEARS OF INDUSTRY EXPERIENCE

10
CMAR PROJECTS INCLUDING EXTENSIVE PERMITTING

ENV SP
CERTIFICATION

INDUSTRY EXPERIENCE: 17 years

EDUCATION: BS – Construction Management

CERTIFICATIONS & TRAINING:

- Envision Sustainability Professional
- First Aid & CPR
- OSHA 30-Hour
- OSHA Competent Person - Fall Protection
- Member of American Water Works Association

PROJECT EXPERIENCE

WTRF NITRIFICATION PROJECT PHASE II (CMAR) City of Greeley, CO / $30,348,334

Project Manager. Construction of a new 1.1 MG aeration basin; modification of four existing aeration basins to convert operation from in-series to in-parallel and includes isolation gate replacement, diffused aeration system modifications, baffle walls, and demolition of existing anoxic mixers and pumps; unaerated zones in an A2O process arrangement; MLR pump station; and modifications to existing RAS pump station. Additional work includes earthwork, internal traffic routing modifications, electrical, instrumentation, and SCADA upgrades to support improvements.

Responsibilities: Day-to-day operations and communications with project team; responsible for submittals / procurement / deliveries for all CSI divisions; CPM schedule; RFIs; Pay Apps; MOP's; labor reports; permits; coordination and installation of 66″, 48″, and 42″ pipelines; and conducted jobsite safety meetings and weekly jobsite safety audits

GREELEY WPCF EMERGENCY PROJECTS (CMAR) City of Greeley, CO / $68,515

Project Manager. Repair of a small leak in the influent channel for two square feet and the repair of the slide gate separating aeration basin 1 from aeration basin 2.

Responsibilities: Collaborative communication with owner & engineer to fix the damaged basin

PREVIOUS EXPERIENCE

WATER TREATMENT PLANT IMPROVEMENTS (CMAR) City of Fort Collins, CO / $15,000,000

Assistant Project Manager. Scope included construction of a 2.5 MG concrete chlorine contact basin, carbon dioxide tank and evaporator, as well as installation of an electrical motor control center, variable frequency drive, and automatic transfer switch replacements.

Responsibilities: Led concrete construction of 2.5 MG tank, oversaw installation of 72″ and 54″ transmission lines, MOP's for all critical shutdowns, and performed safety meetings

BOYD LAKE LOX STORAGE TANK (CMAR) City of Greeley, CO / $10,000,000

Project Manager. Installation of a Liquid Oxygen Storage tank at their filter plant for the City of Greeley. Project included 15,840 LF of HDPE piping from the LOX storage tank to Boyd lake for lake aeration.
Responsibilities: Coordinated tank Manufacturing, boring sub, and electricians

HORSETOOTH ALTERNATIVE WATER SUPPLY PROJECT (CMAR) City of Fort Collins, CO / $5,000,000

Assistant Project Manager. Installation of an alternate water source for the City of Fort Collins and Soldier Canyon Water Treatment plants during the Soldier Canyon Dam shutdown. This project included tying into an existing line, installing 6 large pumps, and piping to pump water from the Hansen Canal so the two water plants could continue to operate.
Responsibilities: Drove negotiations with owner and local land owners throughout project

ANHEUSER BUSCH PIPELINE CATHODIC PROTECTION (CMAR) City of Fort Collins, CO / $1,250,000

Project Manager. Installation of five rectifiers and deep ground anode beds for cathodic protection on the Fort Collins Anheuser Busch pipeline.
Responsibilities: Designed and executed project from preconstruction to Completion

FORT COLLINS WATER TREATMENT LAB UPGRADES (CMAR) City of Fort Collins, CO / $750,000

Project Manager. Demolition and remodeling of the laboratory at the Fort Collins Water Treatment Plant. Project consisted of the installation of plumbing, casework, and fume hood.
Responsibilities: Liaise project team and lab techs to deliver lab upgrades

FILTERS 12-17 & 18-23 (CMAR) City of Fort Collins, CO / $700,000

Project Manager. Project included media filter construction and filter reconstruction.
Responsibilities: Worked closely with plant operators, owner, and engineer in complete rehab of 12 filters onsite

MICRO HYDRO TURBINE GENERATOR (CMAR) City of Fort Collins, CO / $300,000

Project Manager. Installation of a new micro hydro turbine generator unit at the City of Fort Collins Water.
Responsibilities: Spearheaded project assisting owner / operators / engineers

HARMONY RIDGE PUMP STATION #2 (CMAR) Boxelder Sanitation District / $250,000

Project Manager. Installation of a new pump station and prefabricated building for Harmony Ridge Subdivision.
Responsibilities: Oversaw entire project both field operations and administration

ERIC WAGNER

WTP REVIEW / BUDGETING

QUALIFICATIONS

38
CMAR AND DESIGN-BUILD PROJECTS IN THE EAST LEADING GMP & COST ESTIMATES

114
PROJECTS MANAGED TOTALING $3.6B+

40
COLLABORATIVE DELIVERY PROJECTS TOTALING $3.3B+

24
YEARS OF DIVERSIFIED PROJECT MANAGEMENT EXPERIENCE IN THE WATER INDUSTRY

INDUSTRY EXPERIENCE: 24 years

EDUCATION: BS – Civil Engineering

CERTIFICATIONS & TRAINING:

> OSHA Competent Person - Confined Space, Crane Safety, Fire Protection, Lockout / Tagout, Man Lift Safety, and Rigging Safety

PROJECT EXPERIENCE

● **BOIS D'ARC LAKE - WATER TREATMENT PLAN, PUMP STATIONS, AND PIPELINES** (CMAR) North Texas Municipal Water District / $728,996,811

Director. Preconstruction, procurement, and construction services for a water treatment plant with ultimate capacity of 280 MGD, two 70 MGD pump stations, a storage tank, and the installation of 212,000 LF of 90" C200 steel raw water pipe, 132,000 LF 84" C200 steel treated water pipe. Includes dewatering, mass excavation, deep excavations, electrical work, manholes, hand tunnels, machined mined tunnels, river crossings, rock excavation, and paving.

Responsibilities: Oversight of Garney preconstruction team during preliminary estimates, VE, constructibility and GMP negotiations

● **RIVER OAKS DIVERSION PROJECT** (DESIGN-BUILD) Hillsborough County, FL / $27,472,682

Preconstruction Manager. New wastewater pump station consisting of four 385 hp pumps, two 140 hp jockey pumps, and two back-up diesel 475 hp pumps; force mains consisting of 17,840 LF of 30″ to 36″ DIP; relocation of the River Oaks outfall; demolition of the existing River Oaks Advanced Wastewater Treatment Facility; installation of 10,020 LF of 20″ DIP reclaimed waterline through residential areas; and associated site restoration, paving, sheet piling, excavation, trenchless installation, dewatering, and electrical.

Responsibilities: Led Garney's preconstruction team with direct responsibility for estimates, VE, design coordination, and constructability leading to a final design and price

● DENOTES REFERENCE PROJECT

SOUTHEAST LOWER FLORIDAN AQUIFER (LFA) WELLFIELD PROJECT, PHASE 1 (CMAR) Polk Regional Water Cooperative / $344,613,726

Director. Three sections including the construction of a wellfield with four 18" wells and raw water transmission main, the Southeast LFA Water Production Facility (SELFAWPF) with RO membranes and other facilities, and the installation of 66 miles of 6" through 42" finished water transmission mains.
Responsibilities: Executive oversight for CMAR team including estimating and negotiations

BEE RIDGE WATER RECLAMATION FACILITY EXPANSION & CONVERSION TO ADVANCED WATER TREATMENT (CMAR) Sarasota County Florida / $253,714,966

Preconstruction Manager. Expansion of the 12 MGD plant to 18 MGD and treatment process upgrade from advanced secondary for public access reuse to advanced wastewater treatment. Includes headworks and grit removal, flow EQ basins, biological process basins, MBR basins, chemical storage and feed facilities, reclaimed water distribution pumping system and tank, sludge holding tank with blowers, administration building, and electrical / blower building, and bypass pumping.
Responsibilities: Management of CMAR process including initial estimating, VE, constructability, bidding, and final negotiations

GREEN MEADOWS WATER TREATMENT PLANT AND WELLFIELD EXPANSION (CMAR) Lee County Utilities / $74,661,353

Preconstruction Manager. Rehabilitated 26 existing wells consisting of pipe and electrical upgrades, six new wells with 125 hp vertical line raw water pumps, and two pre-drilled test wells with 100 hp vertical line raw water pumps. New treatment technologies included ion exchange, reverse osmosis, and a direct to degasifier / clearwell system. Work included new buildings, generator, electrical and instrumentation, fire protection system, stormwater pond, and 14.3 miles of pipeline from 1/4″ to 54″ including HDPE, PVC, and stainless steel.
Responsibilities: Management of CMAR process including initial estimating, VE, constructability, bidding and final negotiation

NORTHWEST REGIONAL WATER RECLAMATION FACILITY EXPANSION (DESIGN-BUILD) Hillsborough County, FL / $186,859,473

Preconstruction Manager. Expansion of existing 10 MGD WRF to 30 MGD, construction of headworks screening with grit removal hydrocones, 3.4 MG equalization structure, BNR trains within a cast-in-place oxidation basin, secondary clarifiers, sodium hypochlorite and sodium bisulfite chemical feed facilities, conventional deep bed media filtration cells, chlorine contact chambers, four aboveground 5 MG water storage tanks, odor control systems, RAS, WAS, and effluent and reclaim pumping stations. Included full electrical and SCADA implementation, yard piping, sanitary collection structures, dewatering systems, and multiple pumped bypasses for tie-ins. This project was a joint venture with partner Wharton-Smith Inc.
Responsibilities: Led the original fixed-price estimating effort and the subsequent VE phase for re-rating of the facility and owner-driven design changes that led to the final contract negotiation

WEST VILLAGES SOUTHWEST WTP (CMAR) City of North Port, FL / $20,000,000

Director. Four offsite well pumps, sand strainers, RO feed pumps, cartridge filters, two 1 MGD RO skids, RO clean-in-place system, chemical feed system, CO2 system, degasifier, odor scrubber, clearwell, transfer pump station, two 1 MG concrete water storage tanks, 7 MGD high service pump station, concentrate tank, concentrate pump station, administration and electrical buildings, and generator. Includes SCADA I&C, paving, ponds, water and sewer service connections, manholes, and landscaping.
Responsibilities: Management of CMAR process including initial estimating, VE, constructability, bidding and final negotiation

SCOTT GARMON

RESERVOIR REVIEW / BUDGETING

QUALIFICATIONS

20
PROJECTS IN THE EASTERN REGION

200
WATER / WASTEWATER PROJECTS COMPLETED

100 MM+
CUBIC YARDS OF EXCAVATION WORK ACROSS FIVE STATES

28
YEARS OF EXPERIENCE IN THE WATER INDUSTRY

INDUSTRY EXPERIENCE: 28 years

EDUCATION: BA – Management, MBA – Business Administration

CERTIFICATIONS & TRAINING:

- GA Utility Foreman UF205450
- First Aid & CPR
- OSHA 30-Hour

PROJECT EXPERIENCE

TIRED CREEK DAM Grady County, GA / $9,200,000

Preconstruction Lead / Operations Manager. This project included clearing and grubbing of 80 acres, on site cut to fill excavation of 60,000 cy, 450,000 cy of total embankment. The dam consisted of an internal drain system of solid and perforated pipes, sand, and aggregates, extensive rip rap armoring of dam face, 60,000 sf slurry wall. The project also includes 200 feet wide concrete spillway and 14' high labyrinth weir wall, completed with a 200' long contech manufactured bridge. **Responsibilities:** Led preconstruction activities of a six person team as Chief Estimator. Activities included preparation of qualification documents, constructability and planning reviews, risk analysis, subcontractor and material prequalification, community outreach, inspection reviews, leading bi-weekly project meetings, and scheduling.

LAKE MCINTOSH DAM AND RESERVOIR Fayette County, GA / $8,200,000

Project Executive. Construction of a Category One Earthen Dam. Involved an approximately 650 acre water storage reservoir. The project included clearing and grubbing of the entire 650 acre dam and reservoir site and a total excavation of 220,000 cubic yards with a surcharge of the dam site of up to six months. The project furnished and installed an internal drain system consisting of solid and perforated pipe. The principle and emergency spillway functions were provided by a 200 foot wide concrete spillway and 14 foot high labyrinth weir wall complete with a 200 LF Contech bridge. The project included extensive riprap armoring of the dam face. This project was completed prior to Scott's career at Garney. **Responsibilities:** Management of field and project resources, submittal review, VE, Inspection reviews, bi-weekly safety and quality audits, scheduling, monthly financial projections.

FORT BENNING 3RD ID TANK MAINTENANCE FACILITY REPAIR USACE Fort Benning, GA / $6,200,000

Vice President / Senior Project Manager. The project included clearing and grubbing of 90 acres, unclassified excavation of 1,100,000 cy of total embankment, tank trail excavation, clearing, extensive erosion control, storm drainage, sanitary sewer, and water services.
Responsibilities: Led preconstruction efforts including final contract negotiations, managed office and field resources through final completion, oversaw overall project success

REDSTONE GATEWAY PHASE 1 City of Huntsville, AL / $4,200,000

Vice President / Senior Project Manager. 160-acre site including a grading and drainage package, 650,000 cy of excavation, site demo, box culverts, and storm drainage.
Responsibilities: Led all estimating efforts including final contract negotiations, managed office and field resources through final completion, oversaw overall project success

SARDIS FALLS Century Communities / $2,634,842

Project Manager. Included 31 acres of clearing, 136,000 CY of excavation, two 72″ discharge structures, a 0.5-acre pond, 4,968 LF of 18″ to 36″ CMP and RCP storm drain, 8,265 LF of 6″ and 8″ PVC sanitary gravity sewer, 3,990 LF of 8″ DIP waterline, 83 EA 48″ manholes, erosion control, and water service connections.
Responsibilities: Led all estimating efforts, maintained client relationships, earthwork analysis, VE, financial reporting, and overall project execution

HOLLY SPRINGS PARKWAY TRACT Oak Hall Companies, LLC / $2,075,820

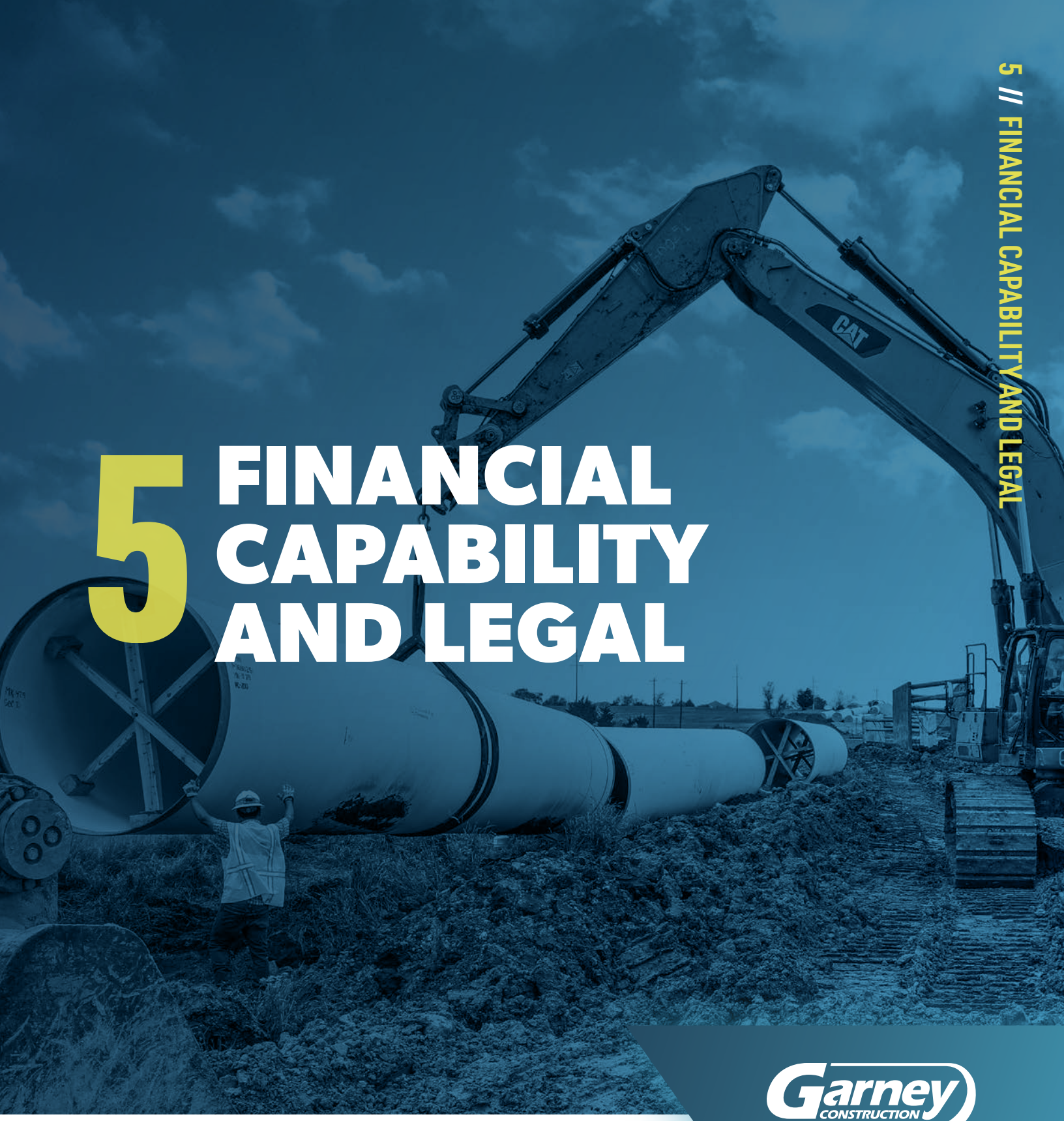
Project Manager. Clearing a 13-acre site for 94 townhome lots, construction of a temporary pond, two-level spreader discharge system of pipes, 95,000 CY of site excavation, rock blasting and crushing, final grading of the access roads, and water, sewer, and storm drain utilities. Utility construction included 94 water and sewer service connections, 3,320 LF of 8″ CL350 DIP waterline, 6,244 LF of 6″ and 8″ PVC gravity sewer pipe, seventeen manholes, 2,304 LF of RCP and 1,656 LF of HDPE storm drain ranging from 8″ to 36″, and 57 storm drainage structures.
Responsibilities: Led all estimating efforts, analyzed and delivered creative sub-surface condition solutions to maintain schedule and budget, financial reporting, and overall project execution

LENHAVEN AT RIDGEWALK (ROPE MILL ROAD SUBDIVISION) Oak Hall Companies, LLC / $1,980,411

Project Manager. Site clearing and grubbing, 300,000 CY of site excavation with the deepest excavation at 30 VF, sixty-two manholes, and a stormwater system installation. The stormwater pipeline included the installation of 4,254 LF of 18″ to 30″ RCP and 820 LF of 18″ to 30″ HDPE lines. The stormwater system discharged water using 14 level spreaders consisting of 620 LF of 36″ perforated HDPE pipe. Due to the new subdivision neighboring an existing subdivision, the project required public relations with existing residents.
Responsibilities: Led all estimating efforts, extensive VE and re-design efforts to maintain budget, field and project management, financial reporting, and overall project execution

ATTACHMENT A – KEY PERSONNEL AND REFERENCE PROJECT TABLE

KEY PERSONNEL	KEY PERSONNEL ROLE ON PHASE I PRECONSTRUCTION SERVICES FOR PROJECT	KEY PERSONNEL ROLE ON PHASE II CONSTRUCTION SERVICES FOR PROJECT	CURRENT EMPLOYER	YEARS OF EXP.	ASSIGNED OFFICE CITY/STATE	BOIS D'ARC LAKE - WATER TREATMENT PLANT, PUMP STATIONS, AND PIPELINES (CMAR)	YADKIN REGIONAL WATER SUPPLY PROJECT - RAW WATER INFRASTRUCTURE (PDB)	TRINITY RIVER MAIN STEM PUMP STATION & PIPELINE (CMAR)	GREENLAND WRF PIPELINES: WATER RECLAIMED WATER AND SANITARY SEWER FORCE MAINS (PDB)	RIVER OAKS DIVERSION PROJECT (DB)
JASON SEUBERT	Principal-in-Charge Pipelines Constructability Reviews/VE	Principal-in-Charge	GARNEY	31	Sarasota, FL		PRINCIPAL-IN-CHARGE		PRINCIPAL-IN-CHARGE	PRINCIPAL-IN-CHARGE
ROB FULTS	Construction Manager	Construction Manager	GARNEY	24	Sarasota, FL	SENIOR PROJECT MANAGER			PROJECT MANAGER	
DAVID BURKHART	CMAR Technical Advisor	CMAR Technical Advisor	GARNEY	21	North Kansas City, MO	PRINCIPAL-IN-CHARGE		SENIOR PROJECT MANAGER		
WILL POCZEKAJ, ENV SP	Pipeline Estimator		GARNEY	13	Winter Garden, FL				SENIOR PROJECT MANAGER	PROJECT MANAGER
DUSTAN PATE, ENV SP		Pipelines Project Manager	GARNEY	6	Sarasota, FL					
HUMBERTO DEL CID		Pipelines Superintendent	GARNEY	24	Sarasota, FL				SUPERINTENDENT	SUPERINTENDENT
MIKE PARRISH	Pump Station Estimator		GARNEY	19	Winter Garden, FL		SENIOR ESTIMATOR			SENIOR ESTIMATOR
TYLER BOLTON, ENV SP		Pump Stations Project Manager	GARNEY	17	Sarasota, FL					
DAVID GAZTAMBIDE	Pump Stations Constructability Review/VE	Pump Stations Superintendent	GARNEY	33	Sarasota, FL					
SCOTT GARMON	Reservoir Review and Budgeting		GARNEY	28	Alpharetta, GA					
ERIC WAGNER	WTP Review and Budgeting		GARNEY	23	Winter Garden, FL	DIRECTOR				PRECONSTRUCTION MANAGER
REFERENCE PROJECT DETAILS										
REFERENCE PROJECT WAS COMPLETED FOR THE AUTHORITY ✓										
REFERENCE PROJECT LOCATION						Leonard, TX	Norwood, NC	Rosser, TX	Jacksonville, FL	Tampa, FL
REFERENCE PROJECT BUDGET AT NTP *($ million not including contingency and allowance)*						$728,996,811	$156,155,804	$107,634,931	$53,955,900	$28,491,000
REFERENCE PROJECT COST AT COMPLETION *($ million including contingency and allowance)*						$728,996,811	$156,155,804	$103,509,665	Ongoing	$27,472,682
CONTRACT EXTENSION *(Actual Final Completion Date minus Scheduled Final Completion Date at NTP)*						0 days	0 days	0 days	Ongoing	-96 days
PROJECT STATUS - *(Complete, Ongoing, Other)*						Complete	Complete	Complete	Ongoing	Complete
REFERENCE PROJECT DELIVERY METHOD - DESIGN BID BUILD *(DBB)*, PROGRESSIVE DESIGN-BUILD *(PDB)*, DESIGN-BUILD *(DB)*, CONSTRUCTION MANAGEMENT AT RISK *(CMAR)*, OTHER *(O)*						CMAR	PDB	CMAR	PDB	DB
REFERENCE PROJECT PREFERENCE COLLABORATIVE DELIVERY ✓						✓	✓	✓	✓	✓
REFERENCE PROJECT PREFERENCE LARGE DIAMETER PRESSURE PIPELINE ≥42" DIAMETER *(Largest Inch Dia.)*						48"-96"	42" & 54"	72"	42"	36"
REFERENCE PROJECT PREFERENCE DEWATERING IN HIGH GROUNDWATER CONDITIONS TYPICAL OF FLORIDA ✓						✓	✓	✓	✓	✓
REFERENCE PROJECT PREFERENCE PUMP STATION >200 HP OR >50 MGD PUMPING CAPACITY (LARGEST MGD/HP)						280 MGD / 2,700 HP	45 MGD / 1,250 HP	240 MGD / 3,500 HP		32.3 MGD / 385 HP



5 FINANCIAL CAPABILITY AND LEGAL

Garney CONSTRUCTION

PR3 PUMPING AND CONVEYANCE FACILITIES

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

RELIABILITY FOR THE FUTURE

ATTACHMENT B

CLAIMS, LIENS, LITIGATION HISTORY

1. Within the past 5 years, has your organization filed suit or a formal claim against a project owner (as a prime or subcontractor) or been sued by or had a formal claim filed by an owner, subcontractor or supplier resulting from a construction dispute? Yes __X__ No ____
   If yes, please attach additional sheet(s) to include:
   Description of every action Captions of the Litigation or Arbitration
   Amount at issue: **$4,923,610.36** Name (s) of the attorneys representing all parties:
   Joe Lawrence & Mike Strong - Garney // Sarah Davis - Miami Dade County
   Amount actually recovered, if any: **$2,000,000**
   Name(s) of the project owner(s)/manager(s) to include address and phone number:
   Alexis Valdes, Construction Manager – 3071 SW 38th Ave, Miami, FL 33146 - 786-552-4364
2. List all pending litigation and or arbitration.
3. List and explain all litigation and arbitration within the past five (5) years - pending, resolved, dismissed, etc.
4. Within the past 5 years, please list all Liens, including Federal, State and Local, which have been filed against your Company. List in detail the type of Lien, date, amount and current status of each Lien.
   As of 6/10/2020 there have been no liens.
5. Have you ever abandoned a job, been terminated or had a performance/surety bond called to complete a job? Yes_____ No __X__ If yes, please explain in detail:
6. For all claims filed against your company within the past five-(5) years, have all been resolved satisfactorily with final judgment in favor of your company within 90 days of the date the judgment became final? Yes_____ No _____ If no, please explain why?
   N/A
7. List the status of all pending claims currently filed against your company:
   There are no pending claims currently filed against Garney.

Liquidated Damages

1. Has a project owner ever withheld retainage, issued liquidated damages or made a claim against any Performance and Payment Bonds? Yes_____ No __X__ If yes, please explain in detail:

(Use additional or supplemental pages as needed)

ATTACHMENT B – CLAIMS, LIENS, AND LITIGATION HISTORY, CONT'D

Within the normal course of business, Garney Companies, Inc. (Garney) is periodically subject as a party to a lawsuit or participates in dispute resolution. Most actions are not brought forth by Garney and are amicably settled before reaching a level of legal action. While Garney is occasionally engaged in claims and disputes involving subcontractors, suppliers, and the engineering and construction professions, it rarely results in litigation. At present, only one of these cases is against an owner (see additional information regarding this case as follows). Most actions are dismissed without contribution from Garney or result in no finding of liability of our company. No actions are currently pending that will materially impact our financial standing or our ability to perform on a project of any size. At no time has Garney ever been assessed liquidated damages or been debarred from bidding.

In 2021, Garney filed a complaint against Miami Dade County, Florida, on the 48" Diameter Water Transmission Main for "Area N" seeking >$30,000 resulting from the County breaching the contract by, without limitation, actively interfering in providing direction and contract interpretations that were improper and not in accordance with the contract. This case was settled in February of 2022 by mediation.

ATTACHMENT C

AFFIDAVIT OF SOLVENCY

PERTAINING TO THE SOLVENCY OF Garney Companies, Inc. (Respondent), being of lawful age and being duly sworn I, Jason A. Seubert (Affiant), as

Vice President/COO - Eastern Pipe (Title) *(ex: CEO, officer, president, duly authorized representative, etc.)* hereby certify under penalty of perjury that:

1. I have reviewed and am familiar with the financial status of above stated entity.
2. The above stated entity possesses adequate capital in relation to its business operations or any contemplated or undertaken transaction to timely pay its debts and liabilities (including, but not limited to, unliquidated liabilities, unmatured liabilities and contingent liabilities) as they become absolute and due.
3. The above stated entity has not, nor intends to, incur any debts and/or liabilities beyond its ability to timely pay such debts and/or liabilities as they become due.
4. I fully understand failure to make truthful disclosure of any fact or item of information contained herein may result in denial of the application, revocation of the Certificate of Public Necessity if granted and/or other action authorized by law.

The undersigned has executed this Affidavit of Solvency, in his/her capacity as a duly authorized representative of the above stated entity, and not individually, as of this 17 day of August, 20 23.

Signature of Affiant Jason A. Seubert
Vice President/COO - Eastern Pipe

STATE OF Missouri
COUNTY OF Clay

Sworn to (or affirmed) and subscribed before me by means of ☐ physical presence or ☒ online notarization, this 17 day of August, 20 23, by Affiant. who is personally known to me or has produced _____ as identification.

HEATHER MANNING
Notary Public - Notary Seal
Clay County - State of Missouri
Commission Number 14608106
My Commission Expires Apr 23, 2026

Notary Public
HEATHER MANNING
Name typed, printed or stamped

My Commission Expires: 04/23/26

SECTION 5

FINANCIAL CAPABILITY AND LEGAL

RELIABILITY IN FINANCIAL STRENGTH

FINANCIAL STRENGTH AND STABILITY TO SUCCESSFULLY EXECUTE THIS PROJECT

The Authority needs a CMAR that is financially secure. Having been in business since 1961, Garney has built a solid financial foundation that is rare in the industry. Our banking and bonding relationships are strong and they allow Garney to be a single source contractor for our client on water and wastewater projects of any size. ***Garney's financial strength and proven success has led to one of the lowest bonding rates in the industry.*** Our low bond costs save our clients money and provide assurance that Garney has the financial backing to complete projects of large size and complexity.

AUDITED, STAMPED, AND EMBOSSED COMPANY BALANCE SHEET

In compliance with Florida Statute, all of the information provided in this proposal is public record. ***Please see Garney's financial statement (including balance sheets) in the separate attachment labeled "CONFIDENTIAL." Garney deems financial statements confidential.*** There is no proprietary information within this proposal; therefore, no redacted copy is provided. Please destroy the financial statement following review of this proposal.

SOLID FINANCIAL FOUNDATION

1961
62 YEARS IN BUSINESS

$700M
INDIVIDUAL PROJECT LIMIT

$6B
BONDING CAPACITY

100%
CAPABLE OF MEETING THE AUTHORITY'S BONDING REQUIREMENTS

CNA SURETY

Liberty Mutual.

July 19, 2023

Peace River Manasota Regional Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch, Florida 34202

Re: Garney Companies, Inc.
SOQ – Construction Management At-Risk Services for the PR3 Pumping and Conveyance Facilities

To Whom It May Concern:

In connection with the requirements of your request for proposal concerning Garney Companies, Inc.'s bond program, we are pleased to respond in that regard.

Bonds have been written on a co-surety basis by The Continental Insurance Company, a member of the CNA Group of Insurance Companies, and Liberty Mutual Insurance Company, a member of the Liberty Mutual Insurance Companies, since 2006. A.M. Best currently rates The Continental Insurance Company "A", Class Size XV, and Liberty Mutual Insurance Company "A", Class Size XV. The Continental Insurance Company and Liberty Mutual Insurance Company are approved for federal projects as provided for in the current online edition of the Department of the Treasury – Circular 570 with underwriting limitations of $1,065,455,000 and $1,762,981,000 respectively. Both The Continental Insurance Company and Liberty Mutual Insurance Company are licensed to write bonds in all 50 states.

The largest project bonded by the sureties on behalf of Garney Companies, Inc., totaled $700,000,000. The sureties have committed a $6,000,000,000 aggregate cost to complete program. At present, approximately $4,000,000,000 of this facility remains available for use for construction work during the next 24 months.

Garney Companies, Inc. enjoys a national reputation as one of the premier contractors performing sewer and water line work, with particular expertise in large diameter installations, and constructing water and wastewater treatment facilities. The company's experience includes a broad range of alternative procurement methodologies. At no time during our history with the account have they been refused a bond nor have there been any bond claims. Garney Companies, Inc. remains an account in good standing.

Should Garney Companies, Inc., be awarded this contract and requests that we provide the necessary Performance and/or Payment, we will be prepared to execute the bonds subject to our acceptable review of the contract terms and conditions, bond forms, appropriate contract funding and any other underwriting considerations at the time of the request.

Our consideration of issuance of bonds is a matter solely between Garney Companies, Inc., and ourselves, and we assume no liability to third parties or to you by the issuance of this letter.

We trust that this information meets with your satisfaction. If there are further questions, please feel free to contact Brian Cooper, Managing Director, of Arthur J. Gallagher Risk Management Services LLC, located at 595 Market Street, Suite 2100, San Francisco, CA 94105 - Telephone (415) 288-1620

The Continental Insurance Company
151 N. Franklin Street
Chicago, IL 60606
(312) 822-5000

By: _____
K. Zerounian, Attorney-in-Fact

Liberty Mutual Insurance Company
175 Berkeley Street
Boston, MA 02116
(617) 357-9500

By: _____
K. Zerounian, Attorney-in-Fact

DISCLOSURE OF PREVIOUS OR CURRENT REPRESENTATIONS

The following are disclosures of Garney's current and previous representation, in any way, for Charlotte, Desoto, Manatee, and Sarasota Counties and the City of North Port.

PREVIOUS:

Manatee County: Manatee County **North to Southeast Regional Water Treatment Plant Pipeline** (*General Contractor*); Manatee County **Lake Manatee Water Treatment Plant - Sludge Dewatering Improvements** (*General Contractor*); Manatee County **State Road 64 Water Main - Morgan Johnson** (*General Contractor*); Manatee County **Master Lift Station #39A** (*General Contractor*); and Manatee **County 30" Butterfly Valve Replacement** (*General Contractor*)

Sarasota County: Sarasota County **South Gate Master Pump Station** (*General Contractor*); and Sarasota County **Bee Ridge Water Reclamation Facility Expansion** (*General Contractor*)

North Port: North Port **Southwest Water Reclamation Facility CMAR Project** (*Construction Manager at Risk*); North Port **Wastewater Treatment Plant Upgrades & Expansion Project** (*General Contractor*); and North Port **Myakkahatchee Creek WTP Transfer Pumps Upgrade** (*General Contractor*)

CURRENTLY ACTIVE:

North Port: West Villages **Southwest WTP CMAR Project** (*Construction Manager at Risk*)

Sarasota County: Sarasota County **Bee Ridge Water Reclamation Facility Expansion & Conversion to Advanced Water Treatment CMAR Project** (*Construction Manager at Risk*); Sarasota County **Venice Gardens Water Reclamation Facility Expansion / Conversion to AWT CMAR Project** (*Construction Manager at Risk*); Sarasota County **Central County Solid Waste Disposal Complex Leachate System CMAR Project** (*Construction Manager at Risk*)

DISCLOSURE OF ANY CURRENT LITIGATION

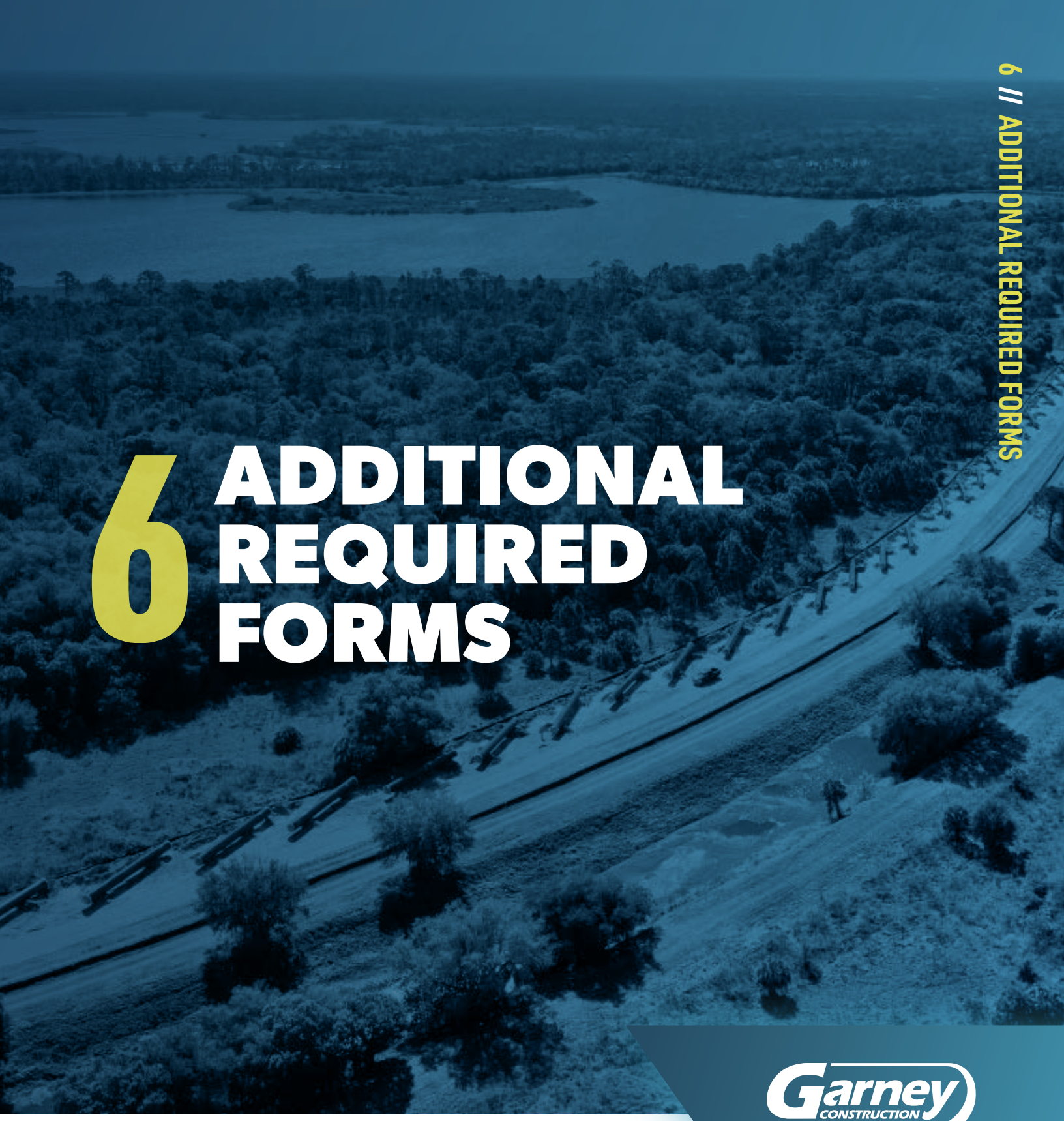
Garney is not a party to or directly or indirectly involved in any current litigation against the Authority or any of the Customers.

SUMMARY AND DISPOSITION OF ANY INDIVIDUAL CASES OF LITIGATION, JUDGMENTS, AND / OR LEGAL ACTIONS

Within the last five (5) years, there have been no cases of litigation, judgments and / or legal actions entered against Garney or sub-contractors for breach of contract for work performed for any local, state, federal, public or private entity, by any state or federal court.

DISCLOSE IF THE CONSULTANT IS INVOLVED IN AN ONGOING BANKRUPTCY

Garney is not involved in an ongoing bankruptcy as a debtor, or in a reorganization, liquidation, or dissolution proceeding. No trustee or receiver has been appointed over all or a substantial portion of the property of Garney under federal bankruptcy law or any state insolvency law.



6 ADDITIONAL REQUIRED FORMS

Garney CONSTRUCTION

PR3 PUMPING AND CONVEYANCE FACILITIES

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

RELIABILITY FOR THE FUTURE

SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1) This sworn statement is submitted to PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY by **Jason A. Seubert, Vice President/COO - Eastern Pipe**
(Print individual's name and title)

for **Garney Companies, Inc.**
(Print name of entity submitting sworn statement)

whose business address is **1700 Swift Street, Suite 200, North Kansas City, Missouri 64116**

and (if applicable) its Federal Employer Identification Number (FEIN) is **44-0658613**
(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: **N/A**).

2) I understand that a "public entity crime" as defined in Section 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid, statement of qualifications, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Section 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an "affiliate" as defined in Section 287.133(1)(a), Florida Statutes, means:

a) A predecessor or successor of a person convicted of a public entity crime; OR

b) An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Section 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. **(Indicate which statement applies.)**

X Neither the entity submitting this sworn statement, nor any of its officers, directors, executives,

partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. **(Attach a copy of the Final Order.)**

I UNDERSTAND THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES, FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

(Signature) August 17, 2023 (Date)

Jason A. Seubert
Vice President/COO - Eastern Pipe

STATE OF Missouri
COUNTY OF Clay

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☒ online notarization, this 17 day of August, 20 23 by Jason A. Seubert as Vice President/COO - Eastern Pipe of Garney Companies, Inc., a Corporation company organized under the laws of the State of Missouri, on behalf of the company, who is (personally known) to me or has produced _____ as identification.

Notary Public

HEATHER MANNING
Name typed, printed or stamped

My Commission Expires: 04/23/26

HEATHER MANNING
Notary Public - Notary Seal
Clay County - State of Missouri
Commission Number 14608106
My Commission Expires Apr 23, 2026

Contract Holder E-Verify Registration and Affidavit

As provided in Section 33 of the Agreement, pursuant to Section 448.095, Florida Statutes, beginning January 1, 2021, Contract Holder shall register with and use the U.S. Department of Homeland Security's E-Verify system, (https://e-verify.uscis.gov/emp) to verify the work authorization status of all Contract Holder employees hired on and after January 1, 2021. Additionally, Contract Holder shall require all sub-Contract Holders performing work under this Agreement to use the E-Verify system for any employees hired on and after January 1, 2021. Contract Holder must provide evidence to the Authority of compliance with Section 448.095, Florida Statutes, prior to entering the Agreement.

Affidavit

I hereby certify that Garney Companies, Inc. (Contract Holder) does not employ, contract with, or subcontract with any unauthorized aliens, and is otherwise in full compliance with Section 448.095, Florida Statutes.

All employees hired on or ager January 1, 2021, have had their work authorization status verified through the E-Verify system.

A true and correct copy of Garney Companies, Inc. (Contract Holder) proof of registration in the E-Verify system is attached to this Affidavit.

Signature August 17, 2023
Date

Jason A. Seubert, Vice President/COO - Eastern Pipe
Print Name

STATE OF MISSOURI
COUNTY OF CLAY

The foregoing instrument was acknowledged before me by means of □ physical presence or ☒ online notarization, this 17 day of August, 20 23 by Jason A. Seubert, Vice President/COO - Eastern Pipe (name of officer or agent, title of officer or agent) of Garney Companies, Inc. (name of Contract Holder company acknowledging), a Missouri (state or place of incorporation) corporation, on behalf of the corporation. He/she is personally known to me or has produced _____ (type of identification) as identification.

Notary Public

HEATHER MANNING
Name typed, printed or stamped

HEATHER MANNING
Notary Public - Notary Seal
Clay County - State of Missouri
Commission Number 14608106
My Commission Expires Apr 23, 2026

My Commission Expires: 04/23/26


Garney
CONSTRUCTION

TAB D
Notice of Intended Decision & Committee Ranking Sheet

NOTICE OF INTENDED DECISION FOR AWARD OF CONTRACT –
PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
PROFESSIONAL CMAR SERVICES

for the

PR3 PUMPING AND CONVEYANCE FACILITIES

Recommended Action - **Motion** to approve Professional Services Evaluation Committee recommendation and authorize the Executive Director to negotiate a contract, scope, and fee with Archer Western for Professional CMAR Services for the 'PR3 Pumping and Conveyance Facilities' Project.

In accordance with the Authority's Procurement Policy, Statements of Qualifications (SOQ) were requested from respondents interested in providing professional CMAR services for the 'PR3 Pumping and Conveyance Facilities' Project. Four (4) SOQs were timely received by the August 17, 2023 submittal deadline and all four (4) SOQs were deemed responsive and were evaluated in accordance with the Authority Procurement Policy.

On August 29, 2023, the Authority's Professional Services Evaluation Committee (PSEC) held a Public Meeting and reviewed the SOQs based upon the 1st Stage Evaluation Criteria. At the conclusion of this meeting, the PSEC elected to invite all respondents to move on to the 2nd Stage -Technical Presentations held on September 12, 2023. Following the 2nd Stage – Technical Presentations, the PSEC ranked Respondents with the results shown in the table below.

Staff recommends that the Authority Board of Directors approve the PSEC ranking below, and authorize the Executive Director to negotiate a contract, scope, and fee with for Professional CMAR Services for the 'PR3 Pumping and Conveyance Facilities Project' with Archer Western Construction, LLC for consideration at a future Board meeting.

Rank	Firm	Location
1	Archer Western Construction, LLC	Tampa
2	PCL Construction, Inc.	Tampa
3	Garney Companies, Inc	Sarasota
4	Kiewit Infrastructure South Co.	Tampa

Failure to file a protest within the time prescribed in section 120.57(3), Florida Statues, or failure to post the bond or other security requirement by law within the time allowed for filing a bond shall constitute a waiver of proceeding under chapter 120, Florida Statutes.

Posted: September 21, 2023

Peace River Manasota Regional Water Supply Authority
CMAR Services for PR3 Pumping and Conveyance
PSEC Meeting: Septmeber 12, 2022 @ 9:00 AM
8998 SW CR 769 Arcadia, FL 34269

Respondent	Final Ranking
Archer Western	1
Garney Construction	3
Kiewit	4
PCL Construction	2

Technical Presentation Criteria:

1. CMAR Schedule
2. CMAR Technical Approach
3. CMAR Innovative Ideas

Member Signatures:

Mike Knowles, Engineering Senior Manager, PRMRWSA

Terri Holcomb, Director of Engineering, PRMRWSA

Richard Anderson, Director of Operations, PRMRWSA

Scott Cunningham, Construction Manager, PRMRWSA

Johnny Chamberlain, Project Manager, Charlotte County

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

REGULAR AGENDA
ITEM 4

Peace River Water Treatment Plant Expansion Pilot Testing Results and Recommendations

---

Presenters -	Mike Knowles, Engineering & Projects Sr. Manager, Authority Mike Condran, Director of Client Services, Brown and Caldwell
Recommended Action -	**Status Report**. This item is presented for the Board's information and no action is required.

In December 2022, the Board approved a work order with Brown and Caldwell to conduct pilot testing of various treatment technologies for possible use in the expansion of the Peace River Water Treatment Facilities. Brown and Caldwell was tasked with developing a Design Criteria Package (DCP) for the treatment plant expansion incorporating the findings from the pilot testing, which included design development for the inclined plate settler and membrane filtration technologies documented in the DCP. Authority and Brown and Caldwell Staff will provide pilot test results and DCP recommendations. This item is for Board information only.

Budget Action: No action needed.

Attachments:
Tab A Presentation Materials
Tab B Design Criteria Package

TAB A
Presentation Materials

Peace River Manasota
Regional Water Supply Authority

Brown AND Caldwell

Regional Water Treatment Plant Expansion Project Update

Regular Agenda Item 4

October 4, 2023

1

Agenda

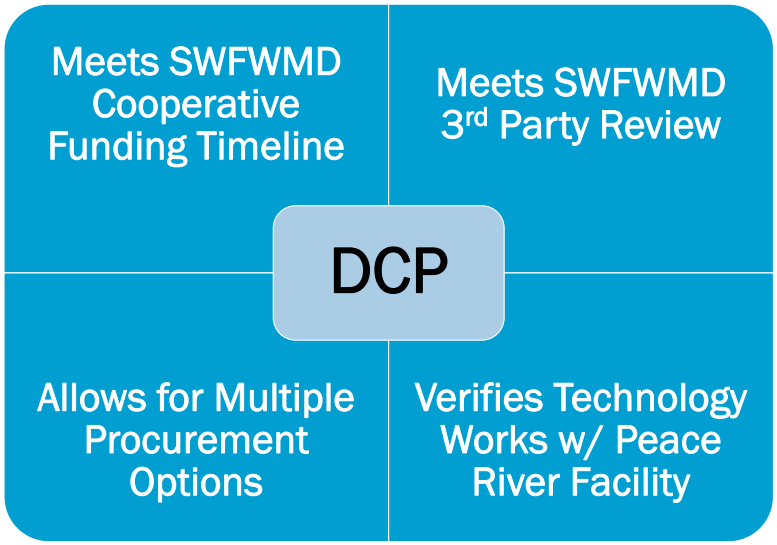
- DCP & Timeline
- Pilot Background
- Pilot Overview
- Pilot Scenarios & Schedule
- Conclusions

2

2

Design Criteria Package

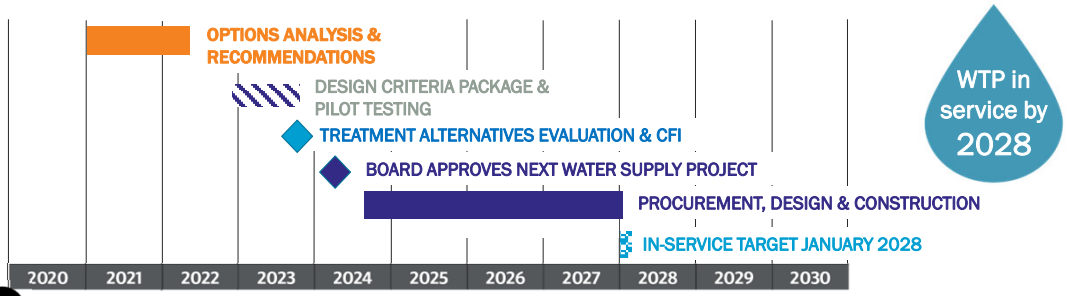
- ✓ Codes and standards
- ✓ Performance requirements
- ✓ Minimum technical design criteria
- ✓ Site and construction constraints
- ✓ Startup, Commissioning, and Acceptance Test requirements
- ✓ O&M and Training Requirements
- ✓ Preliminary list of required Permits and Approvals



3

3

Timeline



- ✓ WTP Capacity Optimization Study – Alternatives Evaluated (Info. Only) – April 2022
- ✓ WTP Capacity Optimization Study – Alternatives Ranked (Info. Only) – June 2022
- ✓ Board Approval of PR3 & WTP Expansion – August 2022
- ✓ Design Criteria Package & Pilot Testing Approach (Info. Only) – October 2022
- ✓ Design Criteria Package & Pilot Testing Work Order for Board Approval – December 2022
- Treatment Alternative Evaluation & CFI Application (Info. Only) – October 2023
- Board Approval of Alternative Delivery Contract – December 2024
- Substantial Construction Completion – January 2028

4

Pilot Study Background

PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
Brown AND Caldwell

5

2022 Facility Capacity Optimization Study

	Evaluation Criteria	Weight
Cost	Comparative Costs	25%
Non-Cost	Operational Flexibility	25%
	Additional Capacity Gained	20%
	Impacts on Water Quality	10%
	Regulatory Impacts and/or Benefits	10%
	Maintenance Requirements	5%
	Ease of Implementation/Constructability	3%
	Site Impacts & Expandability	2%
	Total	**100%**

6

2020 Optimization Study Ranking

Rank	Alternative	Description	Score	Additional Capacity
1	10	New treatment train w/plate settlers and membrane filters	83.2	24+ MGD
2	9	New treatment train w/plate settlers and dual-media filters	76.0	24+ MGD
3	4A	Add plate settlers and membrane filtration to Plant 2	69.2	16 MGD
4	1*	Add 3rd upflow clarifier to Plant 1	62.4	4.6 MGD
5	2A	Add plate settlers and more dual-media filtration to Plant 2	61.4	16 MGD
6	7*	Re-rate plants 3 and 4 from 12 to 14 MGD	61.1	4 MGD
7	8	New treatment train identical to Plants 3 and 4	59.8	24/28 MGD

* Stand Alone Project

7

Benefits of Top Ranked Alternative

- ✓Can be constructed in phases – capacity when needed
- ✓Can be designed with a high turn-down ratio – operational flexibility
- ✓Smaller footprint than Plants 3 and 4 – saves construction costs
- ✓Considers potential future regulatory requirements
- ✓"Green field" construction – minimizes existing PRF operation impacts

8

2023 Pilot Study Objectives

✓Validates technology performance and final selection

✓Verifies water quality meets Authority and regulatory goals

✓Optimizes process design and develop design criteria

9

9

2023 Pilot Study – Four Alternatives

- Alternative 1 – PAC / Plate Settlers / Membrane Filtration
- Alternative 2 – PAC / Plate Settlers / Granular Media Filtration
- Alternative 3 – Plate Settlers / Membrane Filtration / GAC
- Alternative 4 – PAC / Solids Contact Clarifiers/ Granular Media Filtration

10

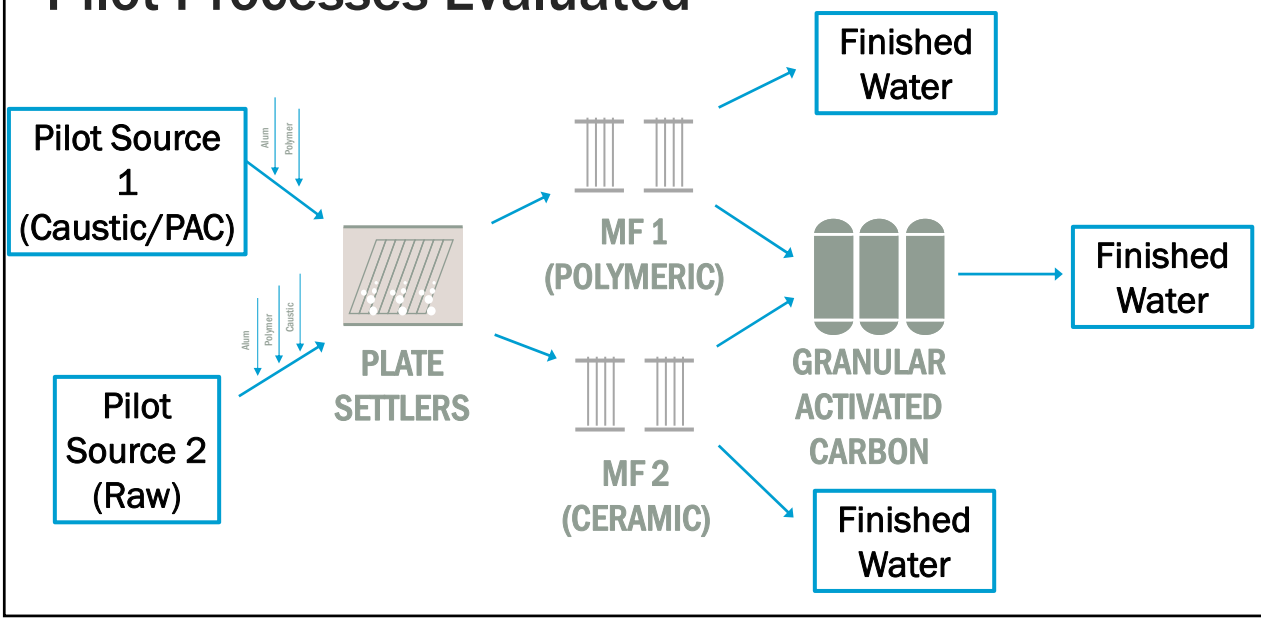
10

Pilot Operations Overview

PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
Brown AND Caldwell

11

Pilot Processes Evaluated



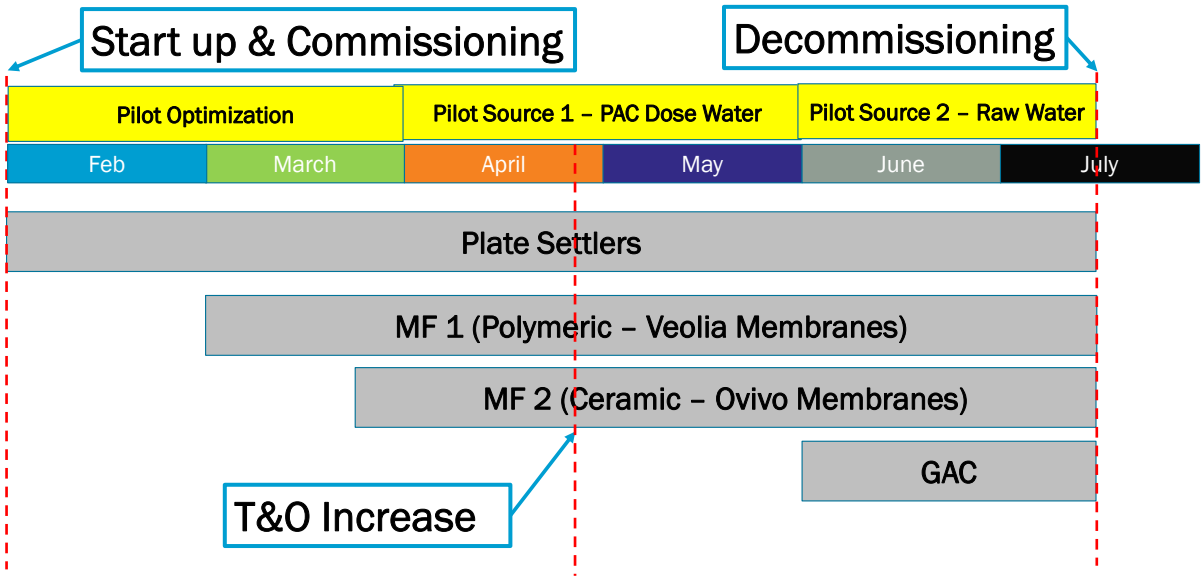
12

Pilot Scenarios and Schedule

PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
Brown AND Caldwell

13

Pilot Scenarios and Schedule



14

Results and Key Takeaways

THE GOOD NEWS!

PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY

Brown AND Caldwell

15

Results

- ✓ All technologies tested met the target treatment levels
- ✓ Inclined plate settlers have similar performance to PRF with a smaller footprint – saves construction costs

16

Results – continued

- ✓ Membranes do not offer a significant benefit over the PRF filters
- ✓ Granular activated carbon would be too costly to replace the existing powdered activated carbon system

	Alternative 1 (IPS/Membranes)	Alternative 2 (PAC/IPS/PRF Filters)	Alternative 3 (IPS/membranes/GAC)	Alternative 4 (PAC/PRF SCUs and Filters)
Estimated Cost	$161 million	$154 million	$206 million	$174 million

17

17

Key Takeaways

- ✓ Saved time on next PRF expansion
- ✓ Eliminated a costlier technology
- ✓ Met SWFMWD's aggressive CFI application schedule
- ✓ Verified effective technology for potential future regulations

https://www.youtube.com/watch?v=Qr3AkNvm1TA&t=19s

18

Questions

PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY

Brown AND Caldwell

19

TAB B
Design Criteria Package

DRAFT

Peace River Facility (PRF)
24 Million Gallon Per Day (MGD) Expansion
Design Criteria Report (DCR)

Prepared for
Peace River Manasota Regional Water Supply Authority
Arcadia, Florida
September 2023

Robert Gaylord, PE
Registration No. 80981

Brown AND Caldwell
6151 Lake Osprey Drive
Sarasota, Florida 34240

Table of Contents

List of Figures

List of Tables

List of Abbreviations

AACE	Association for the Advancement of Cost Engineering International
AAD	Average Annual Demand
ADD	Average Day Demand
ANSI	American National Standards Institute
ASR	Aquifer Storage and Recovery
Authority	Peace River Manasota Regional Water Supply Authority
BC	Brown and Caldwell
BFP	Belt Filter Press
CAPEX	Capital Expenditure
CIP	Capital Improvement Plan
CFD	Computational Fluid Dynamic
CGP	Construction General Permit
CFI	Cooperative Funding Initiative
CMU	Concrete Masonry Unit
CNA	Capital Needs Assessment
CT	Contact time
DCP	Design Criteria Package
DCR	Design Criteria Report
DB	Design Build
DBP	Disinfection By-Products
DOC	Dissolved Organic Carbon
EGD	Ethernet Global Data
EPA	Environmental Protection Agency
ERP	Environmental Resource Permit
FAC	Florida Administrative Code
FBC	Florida Building Code
FDEP	Florida Department of Environmental Protection
FOPP	Fiber optic patch panels
FPL	Florida Power and Light
FWC	Florida Fish and Wildlife Conservation Commission
FY	Fiscal Year
GAC	Granular Activated Carbon
GMP	Guaranteed Maximum Price
GPH	Gallons Per Hour
GPM	Gallons Per Minute
HAA5	Haloacetic Acids
HI	Hydraulic Institute
HOA	Hand–Off-Auto
I&C	Instrumentation and Control
IEEE	Institute of Electrical And Electronics Engineers
I/O	Input-Output
IR	Inactivation Ratio
ISA	International Society of Automation
LCP	Local control panel
LT2SWTR	Long Term 2 Enhanced SWTR
MCA	Mechanical Contractors Association
MCC	Motor Control Centers
MCL	Maximum Contaminant Level
MD	Maximum Day
MDD	Maximum Day Demand
MDRL	Maximum Residual Disinfectant Levels
MGD	Million Gallons Per Day
MG	Million Gallon
MG/L	Milligrams per Liter
MIB	2-Methyl-Isoborneol
MOR	Monthly Operating Reports
MRI	Meurer Research Incorporated
MTM	Main-Tie-Main
NECA	National Electrical Contractors Association
NFPA	National Fire Protection Association
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NPDES	National Pollutant Discharge Elimination System
NOA	Notice of Acceptances
NRHSPS	North Regional High Service Pump Station
O&M	Operations and Maintenance
OIS	Operator Interface Screen
OIT	Operator Interface Terminal
OPCC	Opinion of Probable Construction Cost
OSC	OPEN-STOP-CLOSE
PAC	Powder Activated Carbon
PC	Progressive Cavity
PCF	Per Cubic Foot
PDB	Progressive Design-Build
PM	Power Monitors
POR	Preferred Operating Region

PRF	Peace River Facility
PRV	Pressure Relief Valve
PSH	Pressure Switch High
PSL	Pressure Switch Low
PVC	Polyvinyl Chloride
SDS	Simulated Distribution System
SCU	Solids Contact Units
SI	System Integrator
SPD	Surge Protective Device
SRHSPS	South Regional High Service Pump Station
SS	Start-Stop
SWD	Side Water Depth
SWFWMD	Southwest Florida Water Management District
SWTR	Surface Water Treatment Rule
TDH	Total Dynamic Head
TOC	Total Organic Carbon
T&O	Taste and Odor
TPR	Third-Party Review
TSS	Total Suspended Solids
TTHM	Total Trihalomethane
UL	Underwriters Laboratory, Inc
VCP	Vendor Control Panels
VFD	Variable Frequency Drives
WTP	Water Treatment Plant
WUP	Water Use Permit

Section 1

Introduction

1.1 General Information

The Peace River Manasota Regional Water Supply Authority (Authority) owns and operates the Peace River Facility (PRF) surface water treatment plant in southwest DeSoto County (located at 8998 SW County Rd 769 in Arcadia, FL). **Figure 1-1** shows the PRF facility location.

Figure 1-1. Facility Vicinity Map

The PRF has a currently permitted finished water treatment capacity of 51 million gallons per day (MGD). Based on an analysis of projected future water demands, the Authority identified that a 24 MGD maximum day demand (MDD) expansion of the PRF would be required to meet its finished water contractual delivery obligations to its four members, consisting of Charlotte, DeSoto, Manatee and Sarasota counties, and single customer, the City of North Port, over the current planning horizon. The current planning horizon includes a 5-year Capital Improvement Program (CIP) cycle, 20-year Capital Needs Assessment (CNA), and an overall master planning cycle that provides and evaluation over a longer planning horizon than the CNA. The Authority retained Brown and Caldwell (BC) to prepare the Design Criteria Package (DCP) to outline critical considerations and design elements for the 24 MGD MDD expansion. The following activities were conducted in preparation of the DCP:

- A treatment technology feasibility analysis,

- A treatment technology pilot study,
- Prepare a Funding Bridging Document report,
- Prepare a Design Criteria Report (DCR).

The DCP includes this Design Criteria Report (DCR), selected engineering drawings, an Opinion of Probable Construction Cost (OPCC) and related appendices. These documents were prepared to address requirements of the Cooperative Funding Initiative (CFI) grant process as prescribed by the Southwest Florida Water Management District (SWFWMD). To meet the CFI requirements, the following information packages have been prepared:

Funding Bridging Documents – This document includes a high-level review of alternatives, including life-cycle cost analysis, and provides information necessary to meet CFI application requirements. The referenced document is included in **Appendix A**.

Pilot Testing Program Summary – The summary document provides a description of technology pilot testing activities and data collected from startup and commissioning in February 2023 and testing completion in July 2023. Piloting validated technology feasibility and provided essential design basis information for the facility expansion. The referenced document is included in **Appendix B**.

Design Criteria Package – This DCR includes the narrative description here, engineering drawings and an updated OPCC and fulfills SWFWMD CFI application requirements.

Each of the document packages served separate purposes. The packages were developed to help streamline the project delivery due to the critical nature of the overall schedule.

1.2 Funding Bridging Document Summary

Due to a compressed schedule to meet the CFI application deadline, the funding bridging document identifies critical CFI Application requirements that were subject to a preliminary Third-Party Review (TPR) in advance of the TPR for the engineering drawings and DCR. The Funding Bridging Document summarized the following:

- Provide the information required for the TPR (SWFWMD CFI requirement),
- Review raw and treated water quality,
- Perform high-level alternative evaluation,
- Estimate relative cost magnitudes,
- Evaluate and select alternatives,
- Discuss permitting requirements,
- Conduct environmental and threatened and endangered species reviews,
- Identify project procurement strategies,
- Develop a project schedule,

- Make recommendations for the basis of the design.

Table 1-1 identifies the technological alternatives developed and evaluated in the Funding Bridging Document, the equipment manufacturers that were piloted, and the existing treatment technology that the piloted equipment would replace.

Table 1-1. Pilot Testing Operations Schedule

Alternative 1	Alternative 2	Alternative 3	Alternative 4
PAC (Existing) Inclined Plate Settlers (MRI) Polymeric Membranes (Veolia) Ceramic Membranes (Ovivo)	PAC (Existing) Inclined Plate Settlers (MRI) Granular Media Filters (Existing)	Inclined Plate Settlers (MRI) Polymeric Membranes (Veolia) Ceramic Membranes (Ovivo) GAC (Puragen/Media - Hungerford and Terry/Column)	PAC (Existing) SCUs (Existing) Granular Media Filters (Existing)
Treatment Technology Replacements			
Inclined Plate Settlers replace SCUs Membrane Filtration replaces Granular Media Filters	Inclined Plate Settlers replace SCUs	GAC replaces PAC Inclined Plate Settlers replace SCUs Membrane Filtration replaces Granular Media Filters	No replacement technologies

Alternative 2 was recommended in the Funding Bridging Documents for the following reasons:

- Lowest life cycle costs for each cost category (considering initial capital investment, annual operational costs, and future CAPEX).
- Familiarity with the treatment technologies associated with the expansion's recommended alternative except for plate settlers. The membrane filtration alternatives were considered more complex to operate, requiring additional and specialized training.
- An established service channel for the equipment, meaning that the Authority knows how to maintain the equipment, store existing parts, and has local service support to service the equipment. If a membrane technology or granular activated carbon (GAC) technology were chosen, these networks would require new service pathways and a learning curve for maintenance, adding more complexity to current maintenance practices and procedures that the facility currently has in place.
- Meeting regulatory requirements and finished water quality criteria.
- Ability to address outstanding issues with the existing PRF media filters related to filter backwash operations, which uses a supplemental backwash line to provide concurrent backwashing capabilities at both the new and at existing PRF filters.
- Greater flexibility to adjust finished water production to demand or operational requirements due to modular treatment units, pumped backwash and settled solids control independent of water production rate.

1.3 Pilot Testing Program Summary

Piloting was conducted to confirm and validate treatment technology viability by evaluating critical performance parameters, including turbidity, color, taste and odor (T&O), and total organic carbon (TOC) removal effectiveness. Various operating conditions such as influent flow rates, loading rates, chemical dosage rates, backwash and cleaning frequencies for the different technologies were also validated during piloting. The pilot compared ceramic and polymeric membrane filtration, in terms of filtered water quality and the respective membrane's resistance to fouling and abrasion due to the upstream PAC and flocculation aid polymer addition. Both membranes showed an increase in permeability and ability to run at higher flux rates when PAC was absent while polymer addition did not appear to have long lasting adverse impacts on either type of membrane.

Table 1-2 summarizes the piloting schedule. Note that the Florida Department of Environmental Protection (FDEP) does not require piloting of these particular technologies since they are all in common use and known to be viable and proven in similar applications. Nevertheless, the Authority wanted validation that these technologies could effectively meet necessary treatment goals for turbidity, taste and odor, and TOC concentrations, as well as to evaluate ease of operation by PRF staff. The compressed six (6) month schedule driver was to support meeting the CFI application deadline on October 6, 2023.

Table 1-2. Pilot Testing Operations Schedule

Task Name	Duration	Start	Finish
Start up and Commissioning	10 days	Mon 1/30/2023	Fri 2/10/2023
Stabilize Settled Water Quality	14 days	Mon 2/13/2023	Fri 3/2/2023
Veolia Membrane Operations w/ Plant SCU settled Water	18 days	Thu 3/2/2023	Mon 3/27/2023
Isolate Plate Settler Operations	18 days	Thu 3/2/2023	Mon 3/27/2023
Jar Testing	5 days	Mon 3/13/2023	Fri 3/17/2023
Ovivo Membrane Commissioning	5 days	Mon 3/27/2023	Fri 3/31/2023
Alternative 1 Operations	15 days	Mon 4/3/2023	Fri 4/21/2023
Plate Settler Loading Rate Testing	10 days	Mon 4/24/2023	Fri 5/5/2023
Perform CIP on Membranes	1 day	Mon 5/8/2023	Mon 5/8/2023
Alternative 1 Operations (Higher Loading Rate)	14 days	Tues 5/9/2023	Fri 5/26/2023
Perform CIP on Membranes	2 days	Mon 5/29/2023	Tue 5/30/2023
Switch to Raw Water Source	2 days	Wed 5/31/2023	Thu 6/1/2023
Alternative 3 Continuous Operations	21 days	Fri 6/2/2023	Fri 6/30/2023
Plate Settler Challenge Testing	10 days	Mon 7/3/2023	Fri 7/14/2023
Pilot Decommissioning	5 days	Mon 7/17/2023	Fri 7/21/2023

Pilot operations began in February 2023, with the plate settler and polymeric membrane pilot units operational. The plate settler unit required troubleshooting to achieve acceptable performance for turbidity removal. Challenges occurred with issues attributed to ineffective sludge collector operation, control valve wiring, and an inconsistent influent mag meter operation. The plate settler manufacturer addressed these issues by mid-March 2023, which significantly improved treatment performance. During the plate settler optimization period, a temporary line was connected from the PRF Plant 1 solids contact unit (SCU) to feed the polymeric membrane unit. On March 27, the plate settler was returned to service and its treated water then replaced the PRF Plant 1 SCU water for membrane filtration testing. The ceramic membrane unit arrived onsite on March 23, 2023. The GAC column pilot unit arrived in February 2023 however was not operationally tested until June 2023 following the switch from raw water dosed with PAC to a raw water source without chemical addition.

Table 1-3 shows the sampling analyte, location, frequency, and number of tests taken during piloting. Most samples were grab samples except for temperature and pH measurements, where a probe was used. Sample locations included:

- Pilot Raw Water
- Pilot Settled Water
- Polymeric Membrane Pilot (MF1) Permeate
- Ceramic Membrane Pilot (MF2) Permeate
- Plant 1 SCU Settled Water
- Plant 1 Filtered Water
- GAC Column Pilot Treated Water

Selected grab samples were taken from the outlet of the existing filters for PRF Plant 1 and compared to the membrane permeate from both the polymeric and ceramic pilot units for confirmation that the membrane filtration technology was comparable to the existing granular media filter water quality. Additionally, samples were collected from the outlet of the existing PRF SCU for Plant 1 and compared to the settled water from the plate settler pilot for comparison with PRF settled water quality. Pilot protocols and treatment scenarios evaluated are summarized in the Pilot Testing Program Summary Report (Appendix B).

Table 1-3. Pilot Testing Sample Grab Summary

Parameter	Sample Location	Frequency	Total Number of Samples
Alkalinity	Settled Water, MF1 Permeate, MF2 Permeate, GAC Treated Water	Weekly	40
Aluminum, total	Raw Water, Settled Water, Plant 1 SCU Settled Water, Plant 1 Filtered Water, MF1 Permeate, MF2 Permeate, GAC Treated Water	Weekly	77
Aluminum, dissolved	Raw Water, Settled Water, Plant 1 Settled Water, Plant 1 Filtered Water, MF1 Permeate, MF2 Permeate, GAC Treated Water	Weekly	97
Color	Settled Water, MF1 Permeate, MF2 Permeate, GAC Treated Water	Daily	1,238

Table 1-3. Pilot Testing Sample Grab Summary			
Parameter	Sample Location	Frequency	Total Number of Samples
Dissolved Organic Carbon (DOC)	Raw Water, Settled Water, Plant 1 Settled Water, Plant 1 Filtered Water, MF1 Permeate, MF2 Permeate, GAC Treated Water	Weekly	99
Geosmin	Raw Water, Settled Water, GAC Treated Water	Weekly (Alternative 3 Only)	51
Hardness, total	Settled Water, MF1 Permeate, MF2 Permeate, GAC Treated Water	Weekly	40
Hardness, Calcium	Settled Water, MF1 Permeate, MF2 Permeate, GAC Treated Water	Weekly	35
Iron, total	Raw Water, Settled Water, Plant 1 Settled Water, Plant 1 Filtered Water, MF1 Permeate, MF2 Permeate, GAC Treated Water	Weekly	77
Iron, dissolved	Raw Water, Settled Water, Plant 1 Settled Water, Plant 1 Filtered Water, MF1 Permeate, MF2 Permeate, GAC Treated Water	Weekly	88
Manganese, total	Raw Water, Settled Water, Plant 1 Settled Water, Plant 1 Filtered Water, MF1 Permeate, MF2 Permeate, GAC Treated Water	Weekly	77
Manganese, dissolved	Raw Water, Settled Water, Plant 1 Settled Water, Plant 1 Filtered Water, MF1 Permeate, MF2 Permeate, GAC Treated Water	Weekly	88
MIB	Raw Water, Settled Water, GAC Treated Water	Weekly (Alternative 3 Only)	24
pH[1]	Raw Water, Settled Water, MF1 Permeate, MF2 Permeate, GAC Treated Water	Daily	342
Temperature[1]	Raw Water, Settled Water, MF1 Permeate, MF2 Permeate, GAC Treated Water	Daily	207
Total Suspended Solids (TSS)	Raw Water, Settled Water	Daily	108
Total Organic Carbon (TOC)	Raw Water, Settled Water, Plant 1 Settled Water, Plant 1 Filtered Water, MF1 Permeate, MF2 Permeate, GAC Treated Water	Weekly	99
Turbidity	Raw Water, Settled Water, MF1 Permeate, MF2 Permeate, GAC Treated Water	Daily	1,237
UV254	Raw Water, Settled Water, Plant 1 Settled Water, Plant 1 Filtered Water, MF1 Permeate, MF2 Permeate, GAC Treated Water	Weekly	99

Notes:
1. Temperature and pH measurement was taken with a probe whereas the remainder of the samples were taken as grab samples based on the sample locations specified in the table.

The conclusions of the pilot study indicated the following:

- Algae was an issue for the duration of the pilot study. Plywood covers were placed over the plates to simulate a typical cover that a plate settler manufacturer could supply. The plywood cover significantly reduced attached algae growth on the plates.
- The plate settler met the settled water goals for turbidity (< 1.0 NTU); however, the turbidity removal performance was not as effective compared to the existing PRF SCUs. This was due, in part, to the pilot's limitation on flow control and chemical dosing adjustment and is less likely a concern for full-scale operations. The plate settler pilot also showed the ability to effectively turn down to 25 percent of the rated capacity.

- Granular media filters were not piloted as the filtered water from the existing filters was compared to the permeate of the membrane pilot units.
- During piloting, plate settler settled water quality for turbidity typically ranged from 0.6 – 0.9 NTU was generally greater than PRF SCU settled water turbidity of 0.3 – 0.6 NTU.
- Plate settler settled water quality typically ranged from 4.0 – 9.8 color units and was typically greater than PRF SCU settled color values which ranged from 3.0 – 5.0 color units.
- The PRF granular media filters met the permitted finished water requirements during these similar water quality events. Therefore, the granular media filters were determined to be a comparable with both membrane technology options tested.
- The polymeric and ceramic membranes produced consistently low-turbidity water. The PAC did not appear to cause excessive fouling to the membranes, which had initially been a concern. Neither membrane system was effective for color removal.
- Low polymer doses of < 1 mg/L did not appear to have long-lasting impacts to the polymeric or ceramic membrane performance.
- T&O compounds (i.e. MIB and geosmin) were successfully removed with GAC to below the current plant threshold of 9.0 ng/L MIB and 5.0 ng/L geosmin, respectively. MIB and geosmin removal was more effective with GAC than the existing PRF treatment process utilizing PAC.
- Life-cycle costs showed that GAC cost outweighed its performance benefit.
- Plate settler pilot data showed the potential to reduce alum dosing by approximately 13 percent compared to current PRF operations.

1.4 Design Criteria Package

As previously discussed, the DCP includes this DCR, engineering drawings, and an OPCC. The DCR presents treatment strategies, equipment and process preferences, and specific design criteria.

A progressive design-build project delivery allows the design-build team to offer design creativity, innovation, and collaboration with the Authority through the design and construction process. The DCR is not intended as a prescriptive description or to take away from the progressive design-build process and is intended to form the base project definition, identify project requirements where they exist, provide preliminary technical evaluations, and document Authority preferences. The DCR provides sufficient detail while offering opportunities for the design-build team to present innovative ideas from the base project definition.

The scope of work within this DCR includes:

- Finalize firm capacity/number of units/redundancy requirements,
- Identify estimated process tank sizes,
- Develop process flow diagrams,
- Identify potential auxiliary systems (e.g., chemical),
- Identify layout requirements,

- Evaluate preliminary code requirements,
- Present geotechnical findings,
- Establish general construction material requirements,
- Identify potential power requirements,
- Identify significant equipment processes.

The drawings that supplement this DCR include:

- General Sheets (i.e., cover, legends, process flow diagrams)
- Civil Sheets (survey, geotechnical boring locations, and general site plan)
- Structural Sheet (general building code references)
- Electrical Sheets (power distribution and single line requirements of identified equipment)
- Instrumentation Sheets (process and instrument diagrams [P&IDs])

SWFWMD requires an opinion of probable costs for funding allocations. The basis of costs for the project was based on vendor quotes, DCP drawings, and record drawings of similarly sized equipment.

1.5 Existing Information Review

Pertinent PRF information, including record drawings, previous studies, and five years of process monitoring and monthly operating reports data were reviewed in the preparation of this report. Existing information provided by the Authority and reviewed includes:

Record Drawings

- Plant 1 (original facility acquired in 1991) Record Drawings
- 2015 Peace River 1991 Facility (Plant 1) Rebuild Project
- 2003 Peace River Option Contract 3 Peace River Facility/Aquifer Storage and Recovery (ASR) Expansion (Plant 2)
- 2011 Regional Expansion Program PRF Expansion Contract 2 WTP Expansion (Plants 3 and 4)

Previous Studies

- 2020 Integrated Regional Water Supply Plan
- 2020 Water Quality Master Plan
- 2022 PRF Facility Capacity Optimization Study

Process Data

- Monthly Operating Reports (January 2017 – May 2022)
- Monthly Process Workbooks (January 2017 – May 2022)
- Individual Filter Turbidity Spreadsheets
- Sludge Handling Information
- Chemical Safety Data Sheets

- Existing Chemical Cost Information

Standards

- Recommended Standards for Water Works, 2018 Edition (Ten State Standards)
- Florida Administrative Code (FAC) Requirements
- Hydraulic Institute Standards

Section 2

Existing Treatment Facility

2.1 Overview of Existing Facilities

The Peace River Facility (PRF) is a conventional drinking water treatment plant involving PAC contact, rapid mixing, staged coagulation/flocculation, sedimentation, dual media filtration, and disinfection with chloramines. The PRF consists of four (4) treatment plants on site: Plant 1, Plant 2, Plant 3, and Plant 4. **Figure 2-1** shows the facility with the plant layouts. Each plant represents an independent treatment train.

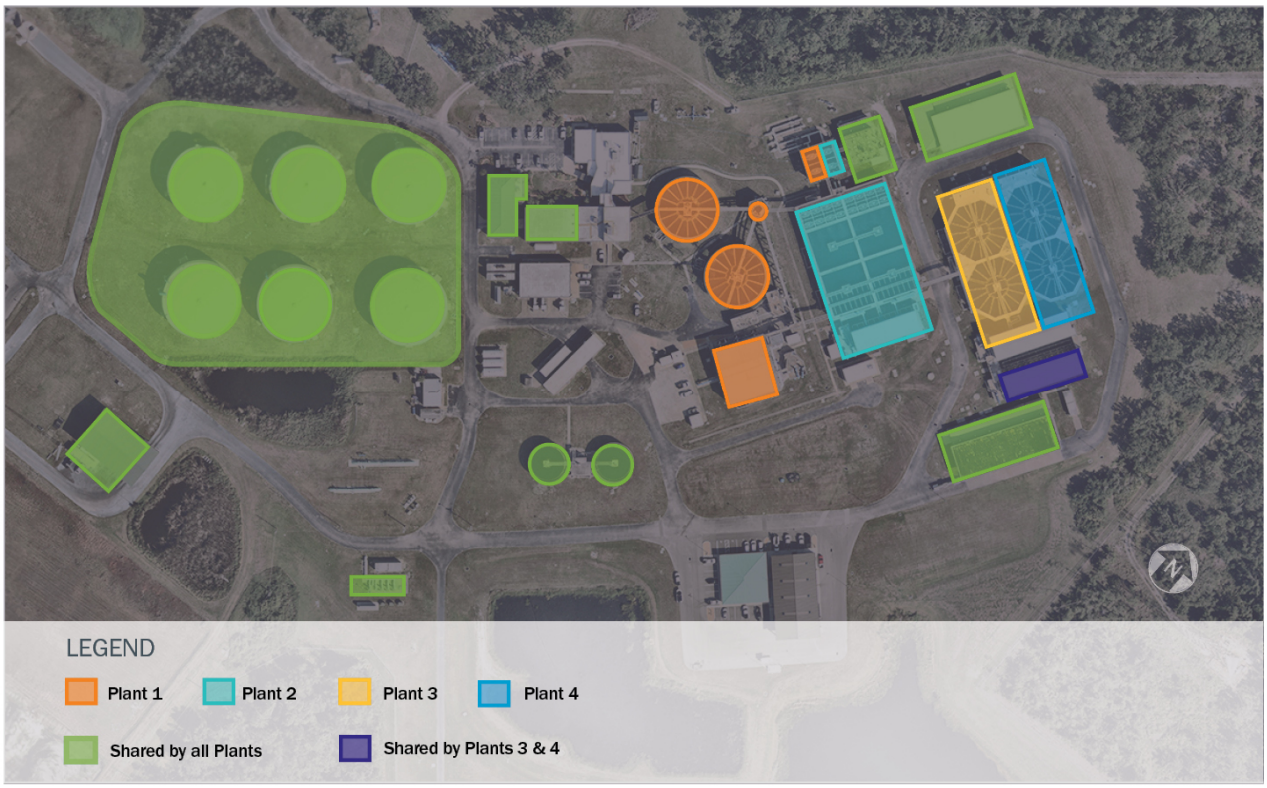


Figure 2-1. Existing Facility Site Map

All four plants share common chemical feed systems, except for polymer. There are three sets of PAC contactors, one shared by Plants 1, Plant 2, and the other two shared by Plants 3 and 4.

The facility treats surface water collected from an intake on a branch of the Peace River upstream of Charlotte Harbor Water. The water is pumped to Reservoir 2 (6.0-billion-gallon). When water is used from the reservoir, water from Reservoir 2 is conveyed by gravity to Reservoir 1 (0.5-billion-gallon), then pumped to the PRF. Under certain circumstances, water can be directed by gravity from Reservoir

2 to the PRF. The Authority diverts water from the Peace River to the reservoir system according to the withdrawal schedule in the existing Water Use Permit (WUP) 20010240.010 issued through the Southwest Florida Water Management District (SWFWMD) with a maximum annual average and peak monthly delivery of 34.7 MGD and 38.3 MGD, respectively. This permit is valid through October 2037. To optimize reservoir water quality conditions, the Authority monitors river water quality, including algae counts, the decision to withdraw water from the reservoir system.

2.1.1 Plant 1

Plant 1 is the oldest, initially constructed in the late 1970s, with a rated treatment capacity of 12 MGD. Plant 1 was upgraded in 2015 and re-rated to 15 MGD capacity. The plant has two PAC contact tanks in series, a flow distribution box, two SCUs, two chlorine contact chambers, and 6 dual-media filters.

2.1.2 Plant 2

Rated for 12 MGD, Plant 2 was completed in 2003. Plant 2 consists of two PAC contact units, two rapid mix basins, sixteen flocculation basins, four sedimentation basins, two chlorine contact chambers, and six dual media filters.

2.1.3 Plants 3 and 4

Plants 3 and 4 were completed in 2011 and are identical. Both plants are rated for 12 MGD. The plants each consist of three PAC contactor tanks in series, two rapid mix chambers, two SCUs, a chlorine contact chamber, seven dual media filters, and a transfer pumping station.

2.1.4 Existing Process Flow

Untreated raw water is drawn from the Authority reservoir system and directed to the plant's intake. Caustic is added for pH adjustment, and PAC is used to control T&O compounds, MIB and geosmin. The water treated with PAC then flows into PAC contact tanks. Alum and polymer are then introduced before passing to the SCUs. Subsequently, sodium hypochlorite is added as the primary disinfectant before the chlorine contact chambers. At this stage, ammonium hydroxide is injected to create chloramines and caustic is again added to lower the pH prior to granular media filters for filtration. Optimal finished pH levels are achieved with additional caustic dosing point prior to the existing transfer pump station and ground storage tanks. A visual representation of this process is shown in **Figure 2-2**, illustrating the process flow diagram for the current PRF and associated dosage locations for Plants 3 and 4. The dosage locations for caustic vary slightly between plants with Plant 1 differing from the injection locations shown with the second caustic location dosed prior to the sodium hypochlorite and ammonium hydroxide injection locations prefilter. Additionally, Plant 2 utilizes flocculation, and two stage sedimentation basins (not shown) in lieu of solids contact units with dosage locations identical to Plants 3 and 4 as shown in the figure below.

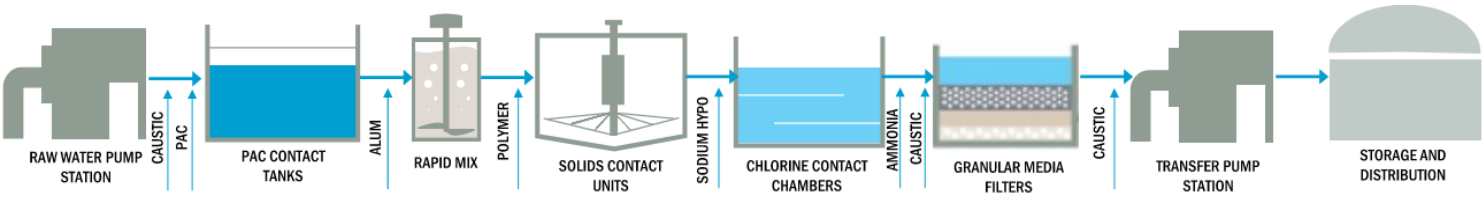


Figure 2-2. Existing Treatment Process Flow Diagram for Plants 3 and 4

2.2 Facility Capacity and Historical Flows

Five years of monthly operating reports (MORs) were reviewed to document the historical plant flows. Table 2-1 summarizes the existing facility flow conditions. The current annual average daily flow is 29.7 MGD, with a maximum day flow of 41.9 MGD, which occurred November 4, 2019, current rated capacity for the facility is 51.0 MGD finished water flow rate equivalent.

Table 2-1. Water Treatment Plant Capacity

Average plant finished flow rate, MGD	29.7
Maximum daily plant finished flow rate, MGD	41.9 (2019)
Highest monthly average plant flow, MGD	37.6 (2020)
Current Rated Maximum Capacity, MGD (MDD)	51.0
Future Plant Maximum Capacity, MGD (MDD)	75.0

Table 2-2 shows a summary by month of the daily average and maximum flows from January 2017 to April 30, 2023. Flows tend to be the highest from September through December and March through April.

Table 2-2. Historical Plant Flows by Month

Month	Average Daily Flow (MGD)	Maximum Daily Flow (MGD)
January	28.6	33.0
February	29.5	35.7
March	31.9	41.3
April	31.0	40.4
May	29.4	37.8
June	26.7	34.4
July	26.6	33.9
August	29.0	34.8
September	29.3	40.4
October	34.2	41.7
November	30.9	42.0
December	29.1	41.7

2.3 Historical Water Quality

The Funding Bridging Document in **Appendix A** summarizes historical water quality data. The historical water quality section intends to summarize the water quality.

Table 2-3 outlines the raw water quality parameters measured from river water samples. Data is summarized based on the maximum, average, minimum, 95th, and 5th percentiles.

Table 2-3. Overview of Historical River Water Quality

Parameter	Minimum	5th Percentile	Average	95th Percentile	Maximum
Alkalinity Total (mg/L)	9.0	38.0	71.8	103.0	146.0
Color (color units)	0.9	56.0	139.6	281.0	760.0
Total Hardness (mg/L)	25.0	77.0	157.2	246.0	1,264.0
pH	6.2	6.9	7.6	8.1	8.9
Temperature (deg. C)	2.0	19.0	24.9	29.0	77.0
Turbidity (NTU)	1.2	2.4	5.1	9.2	20.3
Iron (mg/L)	0.04	-[1]	0.09	-	0.14
Manganese (mg/L)	0.01	-	4.4	-	14.0

Notes:

1. *Dash (-) indicates there is not enough data available for statistical analysis.*

Table 2-4 summarizes existing raw water quality data in Reservoir 1. Data is summarized based on the maximum, average, minimum, 95th, and 5th percentiles.

Table 2-4. Overview of Historical Reservoir 1 Water Quality

Parameter	Minimum	5th Percentile	Average	95th Percentile	Maximum
Alkalinity Total (mg/L)	38.0	46.0	61.4	75.0	96.0
Color (color units)	18.0	44.0	80.6	130.0	203.0
Total Hardness (mg/L)	64.0	91.0	121.7	160.0	257.0
MIB (ng/L)	1.1	1.4	15.6	67.2	169.0
Geosmin (ng/L)	1.0	1.2	46.4	219.8	898.4
pH	7.0	7.3	7.7	8.0	8.6
Temperature (deg. C)	17.0	20.0	25.4	30.0	32.0
Turbidity (NTU)	1.0	2.0	3.5	5.6	15.0
TDS (mg/L)	145.5	186.0	233.1	308.0	399.2

Table 2-5 summarizes existing settled water quality data from the SCUs based on the maximum, average, minimum, 95th, and 5th percentiles and **Table 2-6** summarizes existing PRF finished water quality data based on the maximum, average, minimum and 95th percentile.

Table 2-5. Overview of Historical Settled Water Quality					
Parameter	Minimum	5th Percentile	Average	95th Percentile	Maximum
Alkalinity Total (mg/L)	1.0	8.0	11.9	16.0	56.0
Color (color units)	2.0	3.0	4.2	6.0	8.0
Total Hardness (mg/L)	1.0	8.0	11.8	16.0	56.0
pH	5.27	5.57	5.76	5.94	6.78
Temperature (deg. C)	15.0	19.0	24.9	30.0	32.0
Turbidity (NTU)	0.06	0.26	0.58	0.98	3.20
TDS (mg/L)	169.6	225.6	266.2	333.2	380.1

Table 2-6. Overview of Historical Finished Water Quality					
Parameter	Minimum	5th Percentile	Average	95th Percentile	Maximum
Alkalinity Total (mg/L)	4.0	35.0	44.2	52.0	64.0
Color (color units)	0.7	1.0	1.8	3.0	4.0
Total Hardness (mg/L)	4.0	35.0	44.2	52.4	64.0
MIB (ng/L)	1.0	1.2	3.0	7.1	14.2
Geosmin (ng/L)	1.0	1.1	3.3	8.7	10.4
pH	7.6	8.0	8.2	8.4	9.3
Temperature (deg. C)	17.0	20.0	25.6	30.0	32.0
Turbidity (NTU)	0.02	0.06	0.09	0.12	0.9
TDS (mg/L)	27.3	284.1	326.8	389.2	413.4

Section 3

Proposed Design Criteria

3.1 Overview

The PRF expansion is one project that was developed as part of an ongoing 5-year Authority CIP. Member and customer demand projections as required by the Master Water Supply Contract, as amended, identified the need to expand PRF finished water production by 24 MGD MDD. The proposed expansion approach that includes PAC, plate settlers, and conventional granular media filters was the selected treatment alternative as validated through pilot testing and documented within the Funding Bridging Document (Appendix A). The below section summarizes flow projections, the proposed process flow, and treated water quality requirements for the expansion.

3.2 Plant Capacity

The *Integrated Regional Water Supply 2020 Update* (Master Plan) provided demand projection updates for long-term water supply planning. Flow projection data is created directly from the member and customer estimates. Each year the four county members and City of North Port provide the Authority with seven (7) year demand projections that represent contractual water delivery obligations to the Authority. A twenty (20) year demand estimate is also provided annually to help with longer-range planning needs, though these do not represent binding contractual conditions to any member or customer.

Water withdrawals from the Peace River are regulated under WUP No. 20010240.010 issued February 2019, which authorizes the Authority to provide a regional supply with an average annual demand (AAD) quantity of up to 80 MGD reflecting a projected 29 MGD increase in treatment capacity under future conditions. This PRF expansion project will increase the total facility capacity by 12 MGD ADD and 24 MGD MDD. Refer to Table 2-1 for flow summaries for the PRF expansion.

3.3 Proposed Process Flow

The recommended alternative includes PAC contactors, rapid mixing and tapered flocculation followed by plate settlers, dual media filters, chlorine and ammonia contact chambers. Finished water transfer pumps deliver potable water to the ground storage tanks. A new high-service pumping station is needed for transmission of the additional capacity. An addition to the alum storage facility and a new chemical storage and metering facility is needed. Settled sludge will be thickened and dewatered by adding a new 50 ft diameter gravity thickener and blending tank, A third 2-meter belt filter press will be needed to dewater the additional volume of residuals.

The alternative will utilize existing infrastructure including the reservoir and river pumping station, the recycle pump station, and the finished ground storage tanks. **Figure 3-1** shows the process flow diagram for the selected alternative.

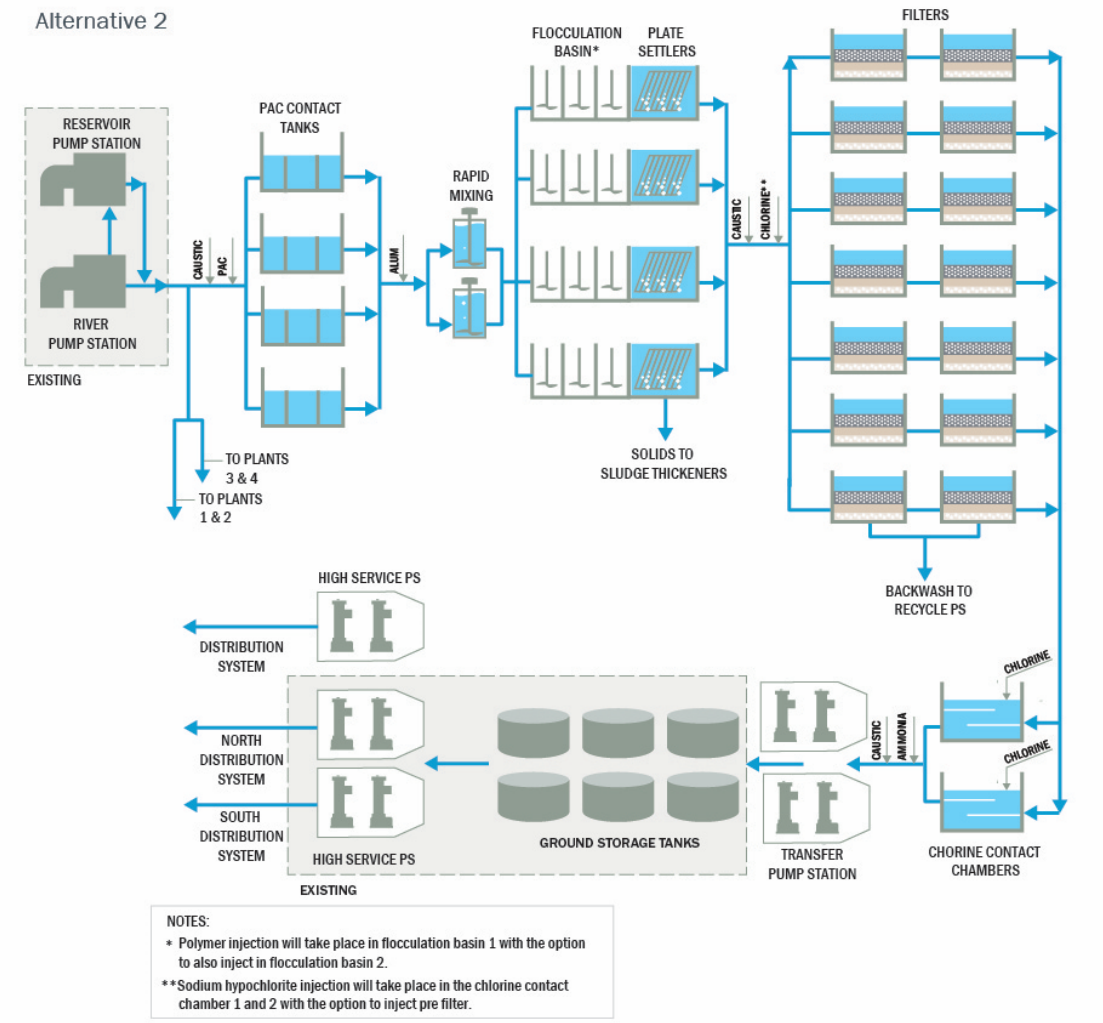


Figure 3-1. Alternative 2 Process Flow Diagram

Note that the Funding Bridging Document showed 6 filter cells. However, the basis of design for OPCC preparation purposes is based the filter design for the building the supplies Plants 3 and 4, which has 14 total filter cells (7 each). Final configuration of the filters will take place during final design.

3.4 Finished Water Quality Treatment Goals

The proposed water quality targets for the PRF expansion are:

- TOC Removal = greater than 70% removal raw to finished
- Turbidity
  - Settled = less than 1.0 NTU

  - Finished = less than 0.1 NTU
- Finished Color = less than 3.0 color units
- Finished MIB = less than 9.0 ng/L
- Finished Geosmin = less than 5.0 ng/L
- Finished pH – 8.0 - 8.3
- Finished Alkalinity – greater than 40 mg/L

3.5 Operational Considerations

Operational considerations identified by plant staff include algae and facility flow balancing and turn-down. Below is a summary of algal operational reviews, more information can be found in the Funding Bridging Document.

Algae - MIB and geosmin have been a persistent water quality challenge, and algal blooms within the reservoir system are also regularly experienced on a seasonal basis. The Authority doses copper sulfate into the Reservoir 2 open channel to Reservoir 1, as well as spot treatments in both reservoirs using watercraft to reduce algae concentrations reaching the PRF. To enhance the algal control strategy, the Authority is currently characterizing the algae species present to establish a baseline understanding of the reservoir water quality and algal ecology. Such improvements could result in significant chemical and PAC cost savings, improved water quality, and reduced maintenance and operations.

Operational Flow Balancing – The current plants have limited turndown due to the use of inter filter backwash using water from operating filters for bed expansion and maintenance of a sludge blanket in the Plants with SCUs. Each train can only be decreased from 12 MGD to 9 MGD. Any lower flow through the process causes operational challenges. The expansion intends to provide flow balancing so that the new expansion can have more flow granularity (turndown). The existing plants would have a consistent flow, and the expansion would be used to tweak any flow addition/reduction required to meet dynamic daily demands. Because of the modular arrangement Treatment trains will have the capability to turn down as low as 3 MGD from the 24 MGD MDD rated expansion flow.

Section 4

Proposed Treatment Facility Expansion

A progressive design-build project is planned for the expansion that will allow the Design-Builder creativity, innovation, and Authority input/involvement within the design/construction process. As previously discussed, the DCP includes this DCR, drawings, and an opinion of probable construction cost (OPCC) report. The DCR addresses high-level strategies, preferences, and specific design criteria questions. The DCR is not intended to hinder the progressive design-build process but to form the base project definition, scope, and identify potential project must-haves and key Authority preferences. One example of the work that will be needed related to preferences during design is the facility turndown. The Authority has challenges with limited turndown of the existing four plants onsite, and desires for the expansion to have greater turndown capability, achieved through a combination of multiple trains and turndown within each train. The Design-Builder will need to coordinate with the Authority on the desired train turndown and the minimum design flow for the expansion, and assess the feasibility of the preferences, as there may be limitations in certain processes or equipment associated with a high level of turndown. This could be the case, for instance, with chemical feed pumps, which need to be able to handle the range of conditions from minimum dose at minimum flow to maximum dose at maximum flow. The lower the minimum flow, the greater the pump turndown required, which could result in the need for additional pumps to operate in parallel to meet the entire range.

Section 4 discusses proposed equipment configurations. However, the intent is to form a cost basis, not dictate detailed design, which occurs within the progressive design-build delivery process. Recommendations in the individual "Recommendations and Additional Considerations" sections intend to be high-level direction, additional considerations, general project scope and guidance, and/or identified Authority preference.

4.1 Raw Water Flow Split

The PRF withdraws surface water from the Peace River and pumps it to the 6-billion-gallon Reservoir 2 or directly to the facility for treatment. Water flows by gravity from Reservoir 2 to the 0.5-billion-gallon Reservoir 1, which is then pumped to the PRF. The water first passes through venturi flow meters with modulating valve flow controllers before being conveyed to treatment. **Figure 4-1** shows the existing influent raw water meter configuration. The raw water for the expansion will not change. However, a new reservoir, reservoir pumping station, and river pumping station are currently being designed and will be constructed through two (2) other separate contracts. The large diameter raw water piping that conveys water from the off-stream reservoirs to the expansion project was not evaluated as part of the project scope because the sizing will be dependent on the new reservoir pumping station design. However, the

proposed river intake and reservoir projects intend to bring the raw water piping to the same location as the proposed inlet venturi meter and modulating valve configuration.

Raw water main sizing and layout from the reservoir pump station will depend on the final design of the new pump station and shall be verified by the Design-Builder for the PRF expansion project.

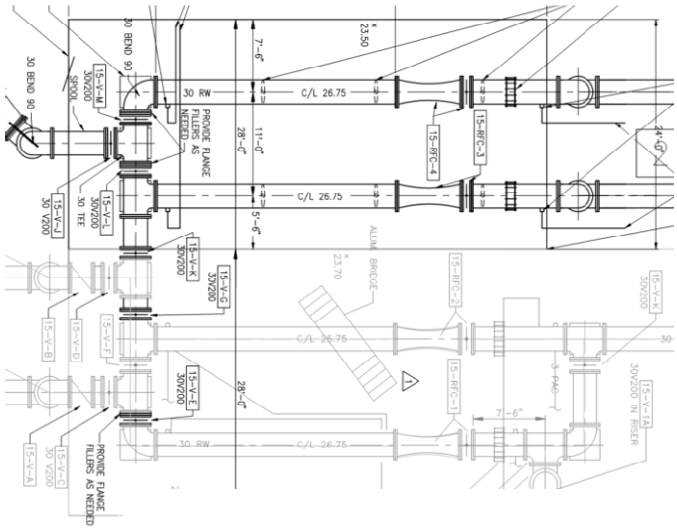


Figure 4-1. Existing Influent Raw Water Meter Configuration

The metering header is configured with a 48-inch diameter raw water main that distributes flow to one of four 30-inch raw water headers that individually serve Plants 1, 2, 3, or 4. Caustic and PAC are fed before and after the rate of flow controllers. A similar layout fed by a parallel raw water pipe is proposed for the expansion with 30-inch header pipes. Flow is controlled by venturi tube and modulating valve to maintain a flow set point. A similar arrangement proposed for flow control to the new facility.

The Design-Builder will determine the final raw water pipe sizes and rate of flow controller design. **Figure 4-2** shows the proposed location of the additional raw water influent piping and Venturi flow meters with modulating valve flow controllers. Note that the proposed influent piping is connected to the existing header. The proposed layout would include butterfly valves to separate the existing from proposed headers to provide additional redundancy within the raw water pipeline and the ability to service the other existing plants if necessary.

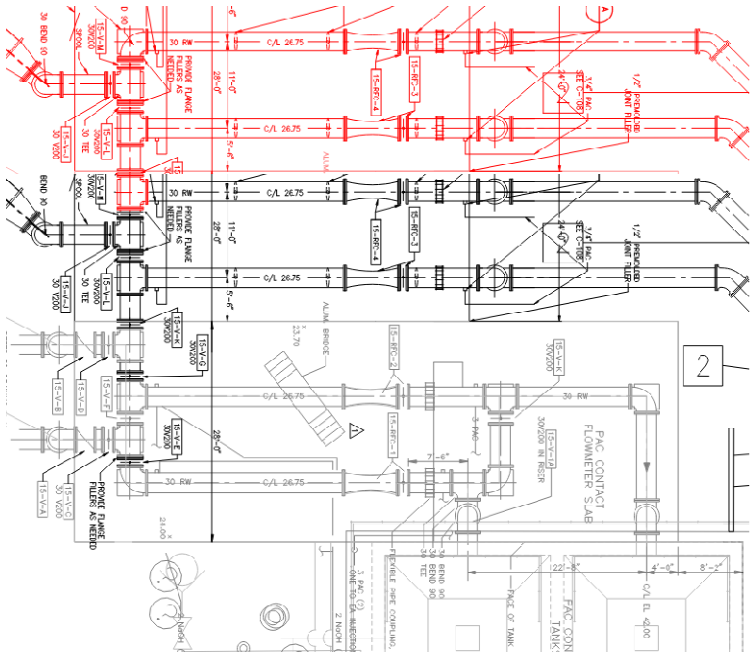


Figure 4-2. Proposed Location of the Additional Raw Water Influent Meter Headers

4.2 Pretreatment

4.2.1 Overview

Surface water pretreatment refers to the treatment processes prior to filtration. For the existing PRF, pretreatment includes chemical addition, PAC contactors, coagulation, flocculation, and SCUs (sedimentation). The proposed expansion pretreatment strategy is similar to Plants 3 and 4, with a common-wall structure containing PAC contact chambers, rapid mixing chambers, tapered flocculation and plate settlers. The difference between Plants 3 and 4 and the proposed expansion is that flocculation and plate settling will be used instead of SCUs with internal mixing and flocculation. **Figure 4-3** shows the proposed expansion's common-walled structure conceptually. Note that the Design-Builder is responsible for verifying, sizing, and designing the structure and process units to meet the required treatment goals.

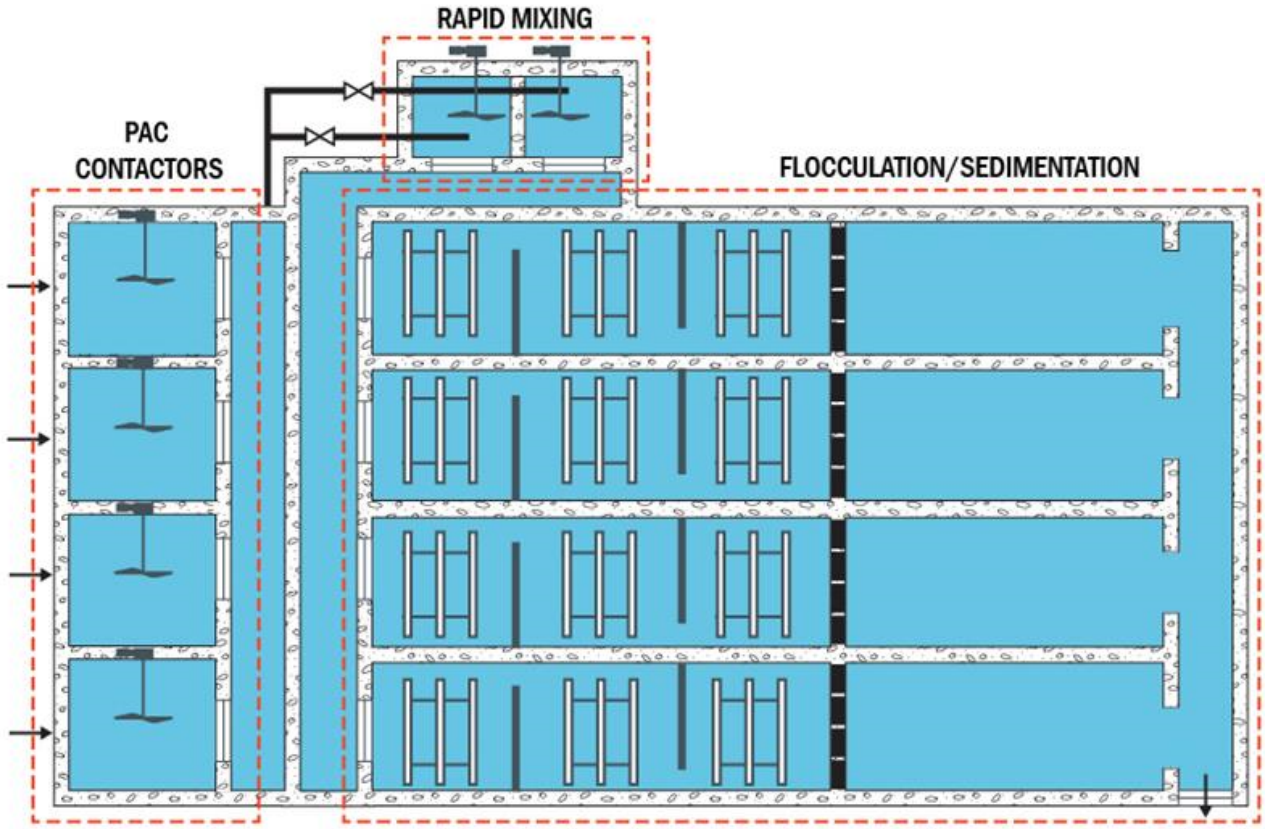


Figure 4-3. Conceptual Layout of Common Walled Pretreatment Structure

4.2.2 Powdered Activated Carbon Contactors (Process 015)

PAC is used seasonally to treat taste and odor. As previously indicated, PAC is injected into the raw water stream at the influent raw water header; then, the PAC treated water is conveyed to the PAC contactor tanks. PAC, after injection, indiscriminately absorbs certain compounds within the raw water. PAC usage is higher during the wet season due to the increased taste and odor compounds in the raw water. For the expansion, PAC will be introduced in the same methodology as the existing plants, with PAC slurry injection downstream of the new rate of flow controllers.

Sizing PAC contact tanks is done through detention time calculations and jar testing. The OPCC required preliminary tank sizing, which was assumed to be the same as the 2011 expansion detention times. Figure 4-4 shows a typical cross-section and plan view of one of the 2011 expansion PAC contact tanks.

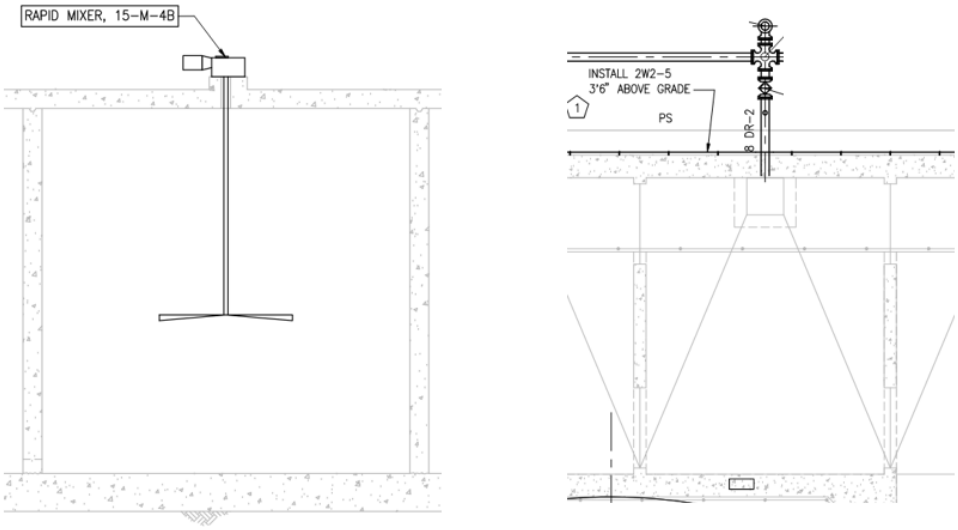


Figure 4-4. Typical PAC Contact Tank Section and Plan

The existing design conveys PAC treated water into the top of the contactor. Mixers keep the PAC suspended to achieve the detention time required. Settling occurs in the same tank. The water is conveyed through a closed channel located at the bottom of the tank to avoid short-circuiting and is conveyed to the rapid mix chamber.

Table 4-1 summarizes the PAC contactor configurations for both the 2011 expansion and the proposed expansion.

Table 4-1. PAC Contactor Configurations

	2011 Expansion	DCP Expansion
Number of Tanks (each)	6	4
Height per Chamber (ft)	20	20
Side Water Depth (ft)	17.1	15.0
Width per Chamber (ft)	19.33	28.0
Length per Chamber (ft)	24.0	28.5
Volume per Chamber (ft^3)	7,934	11,925
Volume per Chamber (gal)	59,350	89,205
Total Volume (gal)	356,096	356,821
Detention Time (min)	21.4 – 22.5	21.4 – 22.5

Note that the side-water depth (SWD) will depend on the hydraulic profile, required surface elevations, and plate settler design. The DCP Expansion assumes a 15.0 ft SWD, based on the manufacturer's preliminary plate settler proposals. Each PAC contact tank will have a mixer. It is recommended that, to

the degree practical given what may be differing geometry, these mixers be of similar size to the existing PAC contact mixers for spare parts, maintenance, and general operational purposes. The existing mixers within the PAC contact tanks are 15 horsepower (constant speed), but the final sizing and mixer specifics will depend on the required mixing energy and tank geometry – the new PAC tanks as sized above are larger than the existing, so larger mixers may be needed. The intent of the configuration is to provide one PAC contactor per flocculation/plate settler train for adequate turn-down. The goal utilized for purposes of this report, and to be verified with the Authority during design, was to allow 50% turndown of a single train, equivalent to a minimum flow rate of 3 MGD per train.

4.2.2.1 Recommendations and Additional Considerations

The following are additional considerations not already mentioned above related to the design of the PAC Contactors:

- The Design-Builder will be required to perform jar testing to confirm and adjust as needed any proposed PAC contactor sizing for the expansion. The jar testing should also evaluate if additional contact time yields any benefits, such as increasing PAC efficiency through life-cycle cost analysis.
- The concept of a common walled structure was provided for constructability purposes and a potential source of cost efficiency. The Design-Builder is not limited to the common walled structure and may consider alternative configurations within the site space limitations.

4.2.3 Rapid Mixing (Process 020)

Coagulation requires high-energy rapid mixing with a coagulant (alum is used at PRF) to condition the water before the flocculators and plate settlers. For this report and cost basis, the alum rapid mixing system assumes two (2) concrete chambers, each sized for the full expansion flow (24 MGD MDD), with one operating as duty and the other as a standby for redundancy. The two-tank configuration was assumed for simplicity and because all flow passes through the same rapid mix chamber, reducing potential for unequal flow splits or differing coagulation between multiple parallel rapid mix chambers with a lower flow through each. The Design-Builder will be responsible for determining the final number and configuration of the rapid mixing chambers during design.

This report assumes the alum is dosed into the rapid mix influent piping, which also contains valves to allow control over which rapid mix tank is the one in operation. The proposed concept has flow entering the bottom of the chamber, forcing the alum-injected water to pass through the mixer and exit through the top to minimize the potential for short-circuiting. The rapid mixers would operate on VFDs for operational flexibility. Slide gates are configured at the top of the chamber to allow for chamber isolation. Figure 4-5 shows a conceptual representation.

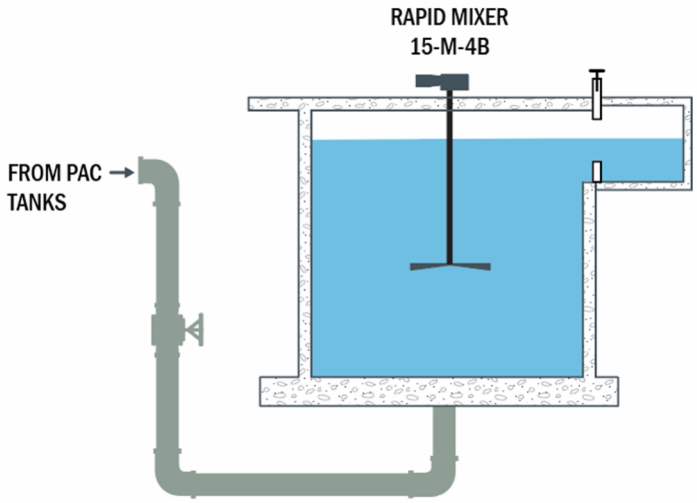


Figure 4-5. Typical Rapid Mix Tank Configuration

Plants 3 and 4 have a similar dual rapid mixing chamber configuration and operate on 15 horsepower variable speed motors. Note that additional chambers may potentially be required because the DCP expansion project intends to provide increased turndown, and each flocculator/plate settler train is rated for 6 MGD, with a 3 MGD proposed turndown capability. The final rapid mixing arrangement will need to be able to facilitate the turndown and associated minimum flow through the rapid mix process desired in coordination with the Authority during design.

4.2.3.1 Recommendations and Additional Considerations

The following are additional considerations not already mentioned above related to the design of the alum rapid mixing chambers:

- The Design-Builder will be required to perform jar testing to size the rapid mixing chambers. The jar testing should evaluate turndown considerations. The Design-Builder should consider the optimum number of rapid mix chambers to use. Note that more than two (2) chambers may potentially be needed depending on turndown preferences to be provided by the Authority during design.
- The Design-Builder will need to select the mixer type. No evaluation was performed to compare different types of mixers and overall process control, which is impacted by the selected configuration, mixer type and required velocity gradient (G value).

4.2.4 Flocculation/Sedimentation (Process 020)

A 4-train flocculator/plate settler configuration was preliminarily developed for purposes of this report that is within a common-walled concrete basin for cost efficiency. The four (4) hydraulically separated trains are intended to provide additional turndown by giving the ability to shut trains down and reduce flow through each train, providing a range of roughly 3 – 6 MGD per train. The trains are isolated using slide gates that are manually operated. The configuration allows for maximum operational flexibility PRF operations to use the expansion process to operate the facility with more granularity. **Figure 4-6** shows a plan and section view of a proposed train (one of four) rated for a 6 MGD maximum flow rate. Note that Meurer Research Incorporated (MRI) was the basis of design for purposes of this report, which was also

the piloted manufacturer. It should be noted that, while this figure shows horizontal paddle flocculators, this is only one potential flocculation technology for consideration. It is recommended that the Design-Builder also consider using vertical turbine style flocculators and assess technological advantages and disadvantages with the Authority during the design process. The evaluation shall include the use of variable speed vertical turbine flocculators or vertical paddlewheels for improved operational flexibility. Similarly, solids removal technology alternatives below the plate settlers should be assessed during design.

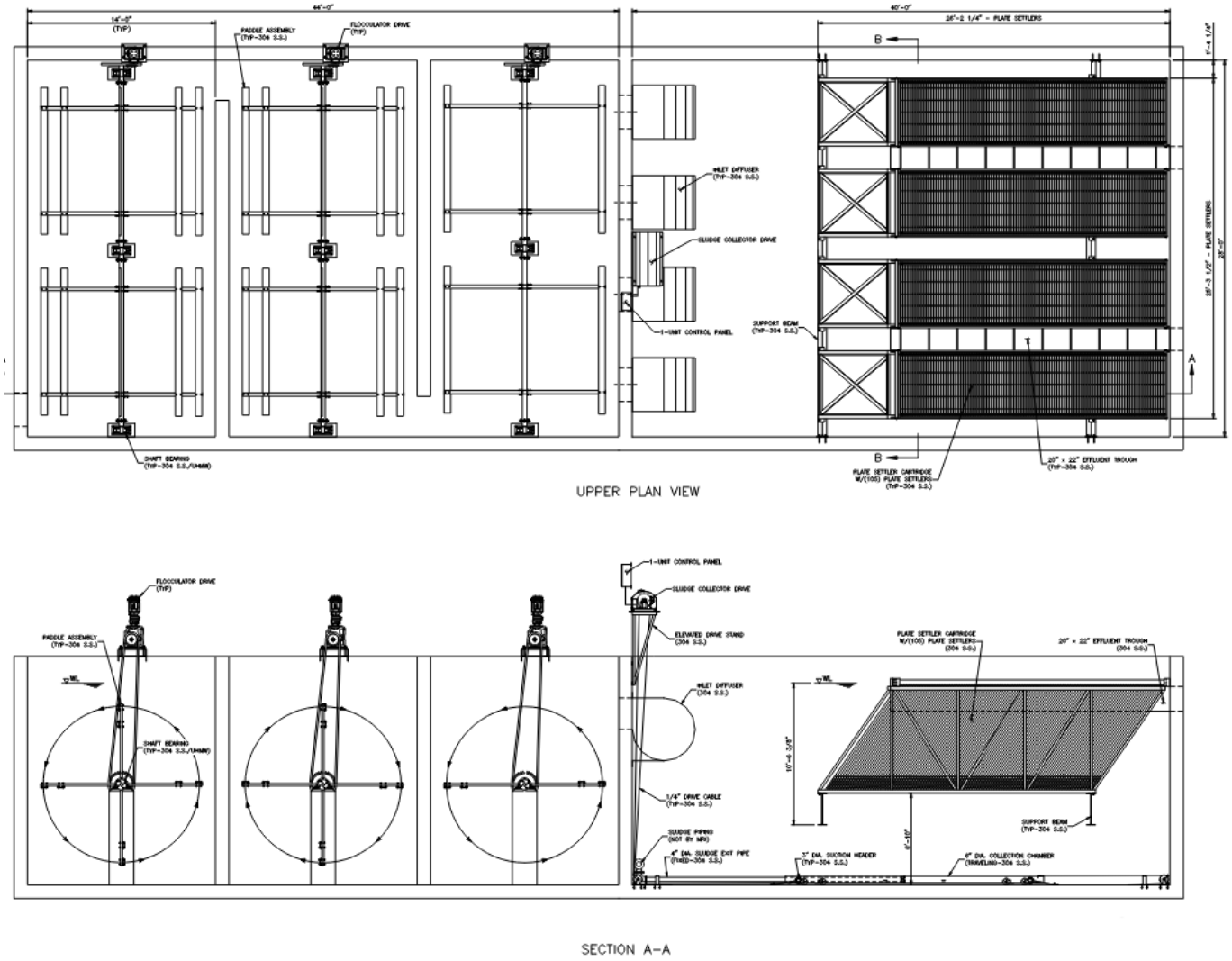


Figure 4-6. Plan and Section View of a Proposed Floc Basin and Plate Settler Train

Table 4-2 summarizes the sizing used as the basis of cost for the OPCC.

Table 4-2. Flocculator/Plate Settler Summary	
Parameter	Quantity
Number of Trains	4
Length (not including walls)	84
Width (inside, per train)	28
Width (total, not including walls)	112
Minimum Flow (per train)	3
Maximum Flow (per train)	6
Maximum Flow (total)	24

4.2.4.1 Flocculation Basins

Motorized slide gates with open/close commands are proposed before water enters each flocculation basin to control which train is operating. The proposed 3-stage flocculation basins are baffled to encourage plug-flow and separate the stages. As discussed above, horizontal paddlewheel flocculators are shown within the proposed design. However, the Design-Builder should consider alternate flocculator configurations (i.e., vertical turbine or vertical paddlewheel).

A concrete deck with portions of aluminum grating or hatches over the flocculation basins is proposed to minimize algae growth. If grating is ultimately selected, removable mats can cover the grating portions so operators can visually inspect the process. The flocculator motor drives are mounted on the concrete deck portions. Table 4-3 summarizes key parameters of the flocculation basins. Detention time should be between 20 and 45 minutes, with a design point around 30 minutes.

Table 4-3. Flocculation Basin Summary		
Parameter	Quantity	Units
Detention Time per Train	31.67	Minutes
Length	44	Feet
Width (inside, per train)	28	Feet
Width (total, not including walls)	112	Feet
Stages per Train	3	Each
Design G-value 1st stage	60	sec^{-1}
Design G-value 2nd stage	45	sec^{-1}
Design G-value 3rd stage	30	sec^{-1}

4.2.4.2 Plate Settlers

From the flocculation basins, the flocculated water enters the settling zones, where the inclined plates are installed. The plates are submerged at an angle, typically about 55 degrees (final angle to be selected during design), with settled water troughs above to collect settled water flow. Flow typically passes between and below the plate settlers and enters the plate assemblies through side inlet ports

and rises between the stainless-steel inclined plates. As flow travels up the plates, solids settle out onto the plate surface and then drop below the plates to the bottom of the basin for collection. There are multiple options available for solids collection, and technology selection should be completed during design. The clarified water continues to rise and passes through the top flow control device located above the plates. Water then passes from the settled water top flow control devices to the weirs at the side of the settled water troughs. The adjustable leveling weirs control the head that is on top of the flow control devices to help ensure even settled water flow distribution. Dual side loaded outlet troughs convey the settled water into a distribution channel, with a slide gate to isolate the process. No slide gates are required entering the plate settler, because influent isolation is managed in the flocculation basins.

Table 4-4 summarizes the settling zone's sizing used as the basis of cost for the OPCC.

Table 4-4. Plate Settler Settled Water Performance Requirements

Parameter	Quantity	Units
Number of Trains	4	Each
Plate Settler Loading Rate	0.4	gpm/ft^2
Projected Effective Plate Area (per train)	10,417	ft^2
Projected Effective Plate Area (total)	41,668	ft^2
Plates Per Cartridge	105	Each
Plate Cartridges (per train)	4	Each
Plate Cartridges (total)	16	Each
Plate Cartridge Weight (per Cartridge)	6,319	lbs
Length (inside)	40	Feet
Width (inside, per train)	28	Feet
Minimum flow (per train)	3	MGD
Maximum Flow (per train)	6	MGD
Inlet Diffusers (per train)	4	Each
Settled Water Troughs (per train)	2	Each
Estimated Head Loss	0.83	Feet

Table 4-5 summarizes the outer limit performance that the settled water must meet during 24 MGD MDD. Performance shall be meet or exceed the limits indicated in Table 4-5 during lower flow periods.

Table 4-5. Plate Settler Settled Water Performance Requirements		
Water Quality Parameter	**Value**	**Units**
Turbidity (95% Occurrence)	<1	NTU
Turbidity (5% Occurrence)	<2	NTU
Color	<5	CU
Total Organic Carbon Removal	<50	Percent

Note that the plate settler settled water turbidity must be low enough to enable the granular media filters to meet the regulatory turbidity requirement for filtered water while maintaining acceptable filter run time before breakthrough or terminal headloss. The maximum acceptable plate settler settled water turbidity may vary with filter media arrangement. Two (2) NTU is generally considered a conservative maximum value for limited time periods, (i.e., less than 5% of the time).

The proposed design has a loading rate of 0.4 gpm/ft^2. The equipment shall meet performance requirements at this loading rate. The final biddable specification shall have language related to the settled water quality, and the influent water quality. The Design-Builder shall consider:

> *"Maximum acceptable daily average turbidity in the plate settler settled water trough using a loading rate of 0.4 gpm/sf at 80% efficiency derived from pilot study shall be no greater than 1.0 NTU 95% of the time with influent turbidity at 1-50 NTU and 98% reduction over 50 NTU incoming at peak flow as measured over a 2-week test period.* Total organic carbon removal shall be 50% or greater to meet EPA Disinfection By-Product (DBP) requirements."

4.2.4.3 Sludge Removal

As mentioned above, the alum sludge settles downwards on and then below the plates in the settling zone, known as the sludge zone. There are several alternatives for sludge removal. The basis of cost assumed use of a vacuum sludge collector system based on MRI's quotation; however, no evaluation was performed to evaluate that the vacuum sludge collector system was the recommended alternative for sludge removal, and the Design-Builder shall evaluate options in coordination with the Authority. Additional discussion regarding solids management is located in *Section 4.7 - Solids Management*.

4.2.4.4 Recommendations and Additional Considerations

The following are additional considerations not already mentioned above related to the design of the plate settlers:

- Ongoing attached algae accumulation challenges within the existing SCUs (attached algae that builds up growth requires dedicated staff for its removal. The Design-Builder shall provide covers over the plate settler zone and settled water weirs and consider a concrete deck with aluminum grating or access hatches over the flocculation basins. Note that the covers' material selection may be considered proprietary in nature and limit manufacturers. The aluminum grating could be covered

with removable mats to minimize sunlight and algae growth. The Design-Builder shall consider alternative means and methods to mitigate algae growth on the plates.

- The Design-Builder shall consider flocculation wall construction. There was no consideration provided for ported walls or over-under walls in comparison of the baffled walls in the proposed configuration.

4.3 Filtration (Process 030)

4.3.1 Existing Filter Challenges

There are currently three (3) filter buildings. One serves Plant 1, another serves Plant 2 and the third serves Plants 3 and 4.

Plant 1 filters were constructed in 1979. The configuration has 6 granular media filter cells, which are fed directly after the SCUs. Plant 1 does not have an air scour system for backwashing. Plant 2 filters were constructed in 2001 and contain 6 granular media filter cells. Water leaving the sedimentation basin of Plant 2 enters the filter building directly. Plant 2 has an air scour system with blowers for backwashing. Both Plants 1 and 2 filters have an older underdrain system that requires a gravel media support layer directly on top of the underdrains to prevent sand loss through the underdrains.

The backwashing configuration at Plants 1 and 2 was designed for self-backwashing, meaning the filtered water from five (5) filters is used to backwash the remaining one filter. The disadvantage of this configuration is that if one filter is out of service or has limited capacity (i.e., the plant is running at reduced flow), backwashing capabilities are limited and may not provide adequate backwash flow and bed expansion. This design can therefore lead to limitations in plant turndown because there would not be enough filtered water flow to complete an effective backwash. The advantage is that the self-backwashing system is considered simplified operation.

Plant 1 and 2 filters were each initially designed for 18 MGD. The SCUs at each facility were only designed for 12 MGD. Thus, the filters were oversized and not always able to backwash adequately, leading to the installation of a supplemental backwash system in 2016 to provide additional backwashing capacity.

The filter building for Plants 3 and 4 was constructed in the 2011 expansion with seven (7) granular media filter cells per train (14 total cells within the filter building). The configuration was designed for a maximum 5 gpm/sf loading rate through the media filters. These filters are also designed with the self-backwashing concept flow from other filters in operation and one cell being placed out of service. The seven cells also provide a N+1 cell under backwashing operations to minimize the opportunity for inadequate backwashing and increasing filter redundancy. The filters in Plants 3 and 4 have air scour, but no supplemental backwash.

Section 4.4 discusses the existing disinfection strategy that utilizes settled water chlorination for primary disinfection immediately followed by ammonia addition to convert to chloramination upstream of the filters. Pre-filter chloramination is less common and an unusual practice due to the risk of nitrification within the filters. For the new train, the proposed disinfection strategy moves the primary disinfection

point downstream of the filters where the organic compound concentrations will be lower, resulting in lower chlorine demand and potentially lowers DBP formation. A low dose pre-filter chlorination injection point is proposed for operational flexibility and is described in Section 4.5. Low dose pre-filter chlorine aids iron and manganese removal and mitigates biological fouling. This strategy minimizes corrosion potential within the filter underdrains by reducing the pre-filter chlorine dose and eliminating the pre-filter ammonia dose.

4.3.2 Proposed Filtration

For cost estimating purposes, the 2011 expansion filter building for Plants 3 and 4 was used to estimate concrete quantities, footprint, and overall building design. Table 4-6 summarizes the filter approach assumed for the OPCC.

Table 4-6. Filter Summary

Parameter	Quantity	Units
Building Width	85	Feet
Building Length	120	Feet
Building Height	25	Feet
Filter Cells	14	Each
Filter Cell Length	25	Feet
Filter Cell Width	15	Feet
Filtration Rate	5	gpm/sf
Gravel Layer	16	Inches
Sand Layer	12	Inches
Anthracite Layer	24	Inches
Backwash Method	Air Scour/Supplemental Backwash	

While the existing filter building was used as the basis for purposes of this report, the Design-Builder shall work in collaboration with the Authority to define key design aspects of the new filter building, and certain key portions may differ from the existing facility. There is no preference for the previously designed cell configuration with 14 cells (seven per train).

The Authority has a preference to provide for the rated capacity with at least one filter cell out of service for backwash. This N+1 approach is the minimum required redundancy and allows the remaining filter cells to provide the rated capacity of 24 MGD MDD at the design loading rate. The number and configuration of filter cells and final redundancy requirement (if more stringent than N+1 under backwashing) shall be finalized during design. The 10-States Standard recommends a loading rate between 2 and 4 gpm/square foot. However, the loading rate depends directly on the filtration system, media, and backwashing strategy that will be selected by the Design-Builder In addition, the Design-Builder shall coordinate with the Authority on whether other filter building design preference for sets of filter cells that are separated from each other, or whether all the filter cells would function together.

The Authority has a preference for a pumped backwash system for operational flexibility and improved bed expansion regardless of finished water production rates. The method would either use a supplemental backwash tank with pumps to fill the tank or have additional pumps to pull backwash water from the ground storage tanks. The OPCC assumed supplemental backwash pumps would be provided at the high service pump station. The selection between a backwash tank and backwash supply pumps, along with sizing of the backwash system will need to be completed during design and will be impacted by elements such as filter cell sizes, bed expansion rates, and system head losses as calculated by the design-build team.

Filter media retention shall be considered that may replace the existing filter design that uses a gravel layer under sand with available underdrain products to accommodate air scour within the underdrains.

4.3.3 Recommendations and Additional Considerations

Additional filter design considerations include:

- The Design-Builder shall provide improved filter access within each cell to provide for inspections and maintenance activities beneath the underdrains.
- The Design-Builder shall enclose filters within a screened enclosure and roof, similar to the existing filters.
- Consider corrosion potential related to disinfection doses and additional injection locations when selecting filter underdrains, supports, and internal equipment corrosion potential by optimizing disinfection dosing points and materials of construction. For example, this report is based on the addition of the main chlorine dose for disinfection being downstream of the filters, with the flexibility to dose some chlorine upstream of the filters. Higher chlorine doses upstream of the filters could potentially impact design and material selection.
- The Design-Builder shall provide blowers and air headers for air assisted backwash scour, coordinated with the underdrain selection.
- Note that the Authority has standardized on pneumatic clamshell type actuators.

4.4 Disinfection (Process 025)

This section discusses an overview of the disinfection strategy to inactivate *Giardia lamblia* (*Giardia*) cysts and viruses for the existing facility along with the facility expansion and considerations for chlorine contact basin sizing.

The U.S. Environmental Protection Agency (EPA) defines water treatment microbial removal and inactivation requirements for primary disinfection. These regulations stipulate amounts of viruses, *Giardia*, and *Cryptosporidium* that must be removed or inactivated through distinct physical and disinfection processes. As shown in the table below, the PRF must achieve 4.0-log removal of virus (99.99% removal), 3.0-log removal of *Giardia* (99.9% removal), and 2.0-log removal of *Cryptosporidium*. EPA classifies treatment facilities into four “bins” based on source water quality test results: higher bin classifications require additional *Cryptosporidium* removal. The PRF’s source water is assigned the Bin 1 classification for *Cryptosporidium*, which does not require additional treatment beyond conventional

filtration to meet the 2.0-log requirement. For viruses and *Giardia*, additional inactivation is required through disinfection.

The PRF is categorized as a Subpart H water facility according to FDEP Code FAC 62-550.817 that requires the facility to comply to Rule 62-550.817 regarding filtration and disinfection. This requires a total of 3-log removal of *Giardia* and 4-log removal of viruses, and the type of facility dictates the required minimum log removal credit from disinfection to comply with F.A.C. 62-550.817(2)(b) requirements.

Table 4-7. Primary Microbial Removal Requirements

Parameter	Virus	*Giardia*	*Cryptosporidium*
Total Required Removal / Inactivation	4.0-log[1]	3.0-log[1]	2.0-log[2]
Maximum Removal Credits from Conventional Filtration	2.0-log	2.5-log	2.0-log[2]
Minimum Inactivation Required from Disinfection	2.0-log	0.5-log	N/A[3]

Notes:

1. Surface Water Treatment Rule (SWTR)

2. Long Term 2 Enhanced SWTR (LT2SWTR)

3. Additional treatment not required for Bin 1 water sources

Chemical disinfection is achieved through a primary disinfectant's contact time in water. The U.S. EPA has defined the numerical CT value (C, residual concentration of the chemical times T_{10}, effective contact time) corresponding to log removal achieved for each type of pathogen for each disinfectant. These values are also dependent on temperature and pH, which impact disinfection efficacy. Greater CT values are required for chloramines than chlorine to achieve the same disinfection target. For example, to achieve a 0.5-log reduction of *Giardia* with water temperature of 15 degrees C and pH of 7.0, a CT of 15.2 min-mg/L is required for free chlorine (chlorine residual of 3.0 mg/L) whereas a CT of 250 min-mg/L is required for chloramines. Chloramine disinfection requires over 16 times more CT than chlorine, thus increasing the volume required to achieve necessary contact time.

The effective contact time (T_{10}) is an estimate of the detention time within a basin at which 90 percent of the water passing through the unit is retained in the basin. T_{10} is determined through tracer study or estimated based on the theoretical detention time and a baffling factor assigned based on the estimated hydraulic efficiency of the contact basin. Disinfection credit can be obtained either in a designated contact basin or as a combination of multiple treatment units such as within a pipeline following a process, at the top of filter bed media if covers are provided and within ground storage tanks prior to distribution. The inactivation ratio (IR) for a facility describes the ratio of CT available to its required CT for minimum disinfection removal. Therefore, facilities must have an IR $\geq$ 1.0 at the worst-case condition (normally high flow rate at low temperature). The design will be based on conservative sizing while providing appropriate operational flexibility to achieve IR values greater than 1.0.

FAC 62-550.310(2)(a) establishes maximum residual disinfectant levels (MDRL) for chlorine and chloramines, summarized in Table 4-8. The facility must maintain a minimum free chlorine residual of 0.2 mg/L throughout the drinking water distribution system.

Table 4-8. Maximum Disinfection Residual Levels	
Parameter	MRDL (mg/L)
Chlorine	4.0 (as Cl2)
Chloramines	4.0 (as Cl2)

FAC 62.550.310(3) sets maximum contaminant level (MCL) requirements for disinfection byproducts, summarized in Table 4-9.

Table 4-9. Disinfection Byproduct MCLs	
Parameter	MCL (mg/L)
Bromate	0.010 mg/L
Chlorite	1.0 mg/L
Total Trihalomethanes (TTHM)	0.080 mg/L
Haloacetic Acids (five) (HAA5)	0.060 mg/L

FAC 62-550.310(5) bases total coliform MCL on the presence or absence of total coliform in a sample, rather than coliform density. A system that collects 40 or more samples per month is compliant if no more than 5% of the monthly samples are total coliform positive. A system collecting fewer than 40 samples a month is compliant if only one collected sample a month is total coliform positive.

4.4.1 Water Quality Characteristics

Temperature and pH are the two primary water quality characteristics impacting the effectiveness of disinfection chemicals. The water temperature varies seasonally for the Peace River Facility with minimums experienced in the winter months, although low temperatures are still fairly high due to the temperate climate. Low water temperatures are important because for a given disinfection target, the required CT increases as temperature decreases. Flow demand for the facility is historically inversely correlated to temperature with lower demands experienced during the summer wet season periods due to lower population regionally during this time of the year.

Figure 4-7 shows historical water quality data by month from 2017 to 2023 for temperature and flow rate for the existing facility. This data was used for a realistic basis of design for PRF operations. Flow rate calculations for the facility expansion were calculated based on a capacity factor that was applied based on the average day demand (ADD) for the expansion of 12 MGD and max day demand (MDD) of 24 MGD MDD which was used to calculate an assumed monthly finished water flow rate. From this data, a minimum temperature of 29°C for summer periods (May to September) and a minimum temperature of 15.0°C for winter periods (December to March) were identified as the conservative basis for CT calculations.

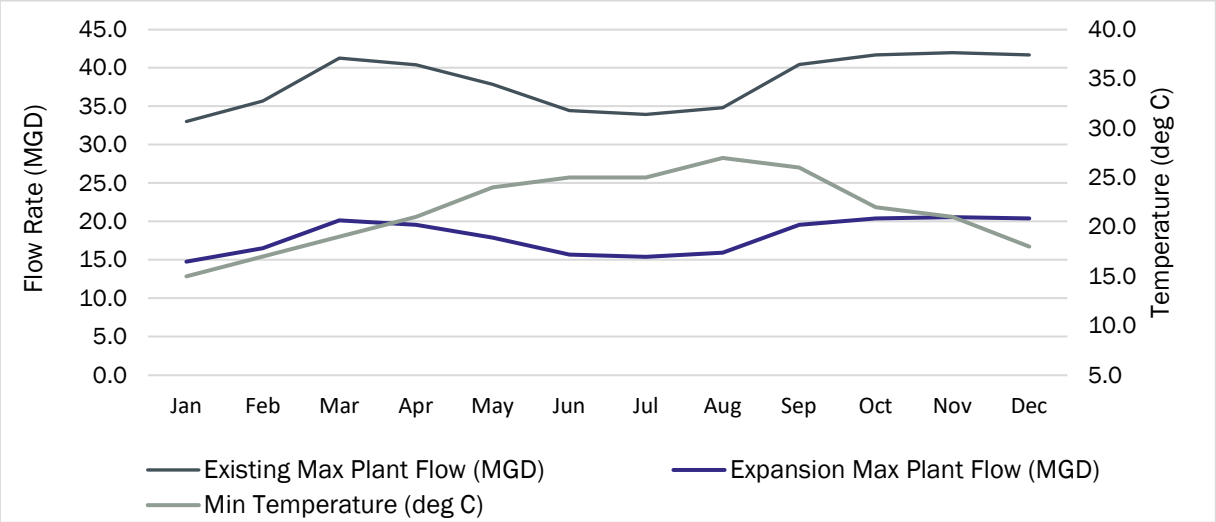


Figure 4-7. Flow Rate and Temperature Data by Month

Additionally, pH influences disinfection reaction kinetics and thus the CT requirements. As pH increases, required CT increases. This assessment assumed a conservative pH of 7.0 at the point that chlorine will be applied. This assumption is based on the plant's current operational target for filter influent pH of 6.8. Chlorine will be applied downstream of filtration, but prior to the addition of caustic which increases the finished water pH to a higher value.

4.4.2 Existing Disinfection Strategy

The existing PRF disinfection strategy consists of a higher dose of 5 – 6 mg/L of sodium hypochlorite to settled water, injected at the existing chlorine contact tanks, with a short run of free chlorine disinfection followed by ammonium hydroxide for disinfection via chloramination upstream of the filters. The facility currently has a target of 4 mg/L for chloramines leaving the facility. The original facility switched to chloramine disinfection in 1983 to reduce TTHM formation. During the 2011 expansion, the facility converted from gas chlorine to liquid disinfection chemicals. In 2019, covers and screened enclosures were installed on the existing filter structures to qualify the filter volume as added contact time for additional chloramination CT credit.

4.4.3 Proposed Disinfection Strategy

For the PRF expansion, the primary disinfection location will be post-filter chlorination contact basins with sodium hypochlorite injected via diffusers at the inlet of each basin to achieve 0.5-log *Giardia* and 2.0-log virus inactivation (Table 4-7). Ammonium hydroxide would then be injected via a diffuser prior to the outlet weir location for conversion to chloramines for secondary/residual disinfection prior to the transfer pump station and existing ground storage tanks. A low dose of sodium hypochlorite will be applied upstream of the granular media filters to maintain filter performance.

This approach differs from the current PRF disinfection strategy which involves the use of sodium hypochlorite and ammonium hydroxide to form chloramines prior to the filters. DBP formation can be higher when targeting primary disinfection on settled water rather than filtered water. Nitrification within

the filters can occur when employing chloramination for residual disinfection prior to filtration. Moreover, operational staff have reported concerns of corrosion on the underdrains of the existing filters. Relocating the primary disinfection point downstream of the filters provides advantages by reducing the corrosion potential on the filter underdrains due to the abrasive nature of sodium hypochlorite.

4.4.3.1 Chlorination Contact Basin Configuration

The proposed chlorine contact basin configuration utilizes a serpentine configuration with transfer pumps on the back end of the structure. A superior baffling factor of 0.7 was selected based on a length-width ratio (L:W) > 30 and a concept that assumes serpentine intra-basin baffles along with outlet weirs. The design volume was calculated based on a free chlorine residual of 6.0 mg/L based on historical MOR chlorine residual data in winter. A lower free chlorine residual target would require a larger basin volume; however, the disinfection achieved through prefilter chlorination or chloramination was not evaluated. For this report and cost basis, the chlorine contact basin configuration assumes two (2) concrete chambers, each sized for the full expansion flow (24 MGD MDD), with one operating as duty and the other as a standby for redundancy and to permit cleaning and maintenance operations in one cell without disrupting operations. The conceptual basin design shown in Table 4-10 provides sufficient CT to meet microbial disinfection requirements within this basin alone, assuming an IR of 1.2 for conservatism.

Table 4-10. Chlorine Contact Basin Design Criteria and Configuration

Parameter	Units	Value
Free chlorine residual	mg/L	6.0
CT Required for 0.5-log Giardia (15.0°C, pH 7)	min-mg/L	24.03
CT Required for 2-log Virus (15.0°C, pH 7)	min-mg/L	4.0
Number of Basins	each	2
Number of Passes per Basin	each	3
Pass Width (inside)	ft	6
Pass Length (inside)	ft	80
Basin Min. Water Depth	ft	12
Basin Max. Water Depth	ft	14
Basin Freeboard Depth	ft	2
L:W	-	40.0
Each Contact Basin Volume	gal	129,250
Total Contact Basin Volume	gal	258,500
Approximate Footprint	ft x ft	84 x 44

4.4.3.2 Conceptual Layout

Figure 4-8 shows a concept layout of the structure, baffling configuration, and weir locations. The concept assumes a filtered water line that branches to feed each chamber with valves for isolation. A

pressure relief valve (PRV) may be required at the high point of each inlet line. The configuration utilizes a serpentine channel with three passes per chamber based on design assumptions, with approximately 0.13 MG per chamber. Conceptional footprint requirements are 84 ft x 44 ft with a maximum side water depth of 14 ft, basin freeboard of 2 ft, minimum weir length of 6 ft and an assumed wall thickness of 2 ft for budgeting purposes. The transfer pump station will be part of the same common wall structure, located downstream of the chlorine contact chambers. A diffuser for sodium hypochlorite shall be provided at the influent of each chlorine contact chamber directly in front of the inlet pipe. A diffuser for sodium hypochlorite shall be provided at the influent of each chlorine contact chamber directly in front of the inlet pipe. Diffusers for ammonium hydroxide and caustic are recommended at the outlet weir prior to the transfer pump station. Coordination with the Authority will be needed to identify specific preferences with regard to basin configuration sizing, location of weirs and slides gates, volume of basins and desired configuration operations (single/dual basin) during design.

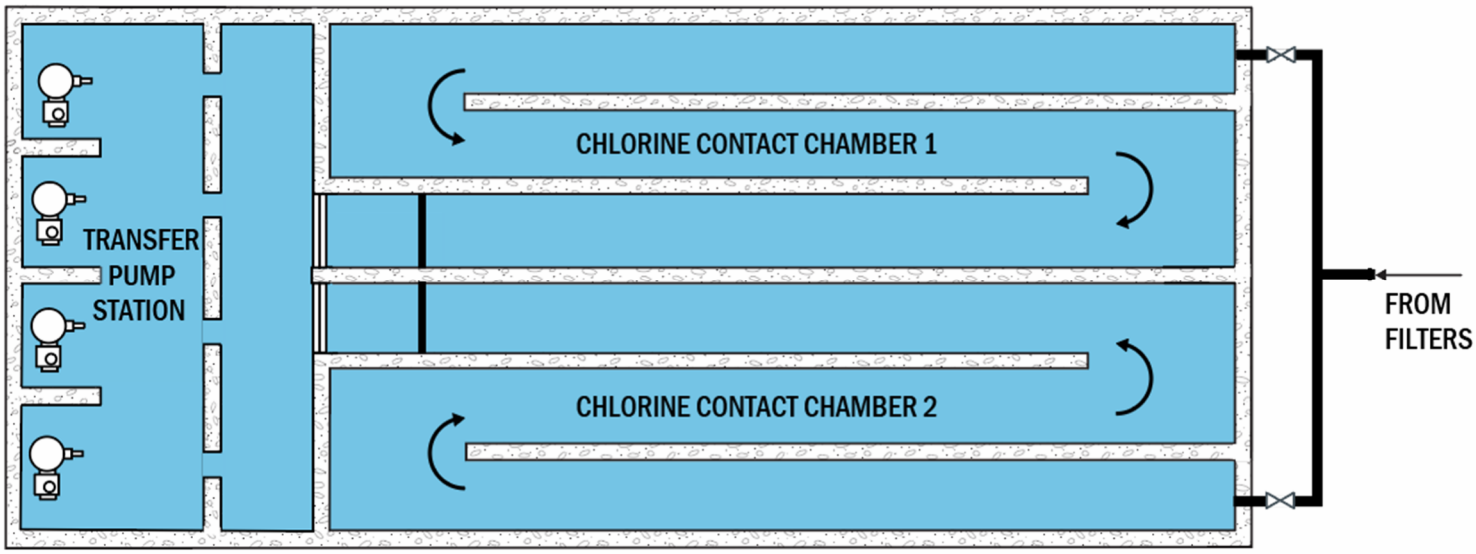


Figure 4-8. Concept Layout of Chlorine Contact Chamber Structure

4.4.4 Recommendations and Additional Considerations

Additional considerations include:

- Perform a disinfection evaluation which includes both the existing and new treatment trains, considering that the existing ground storage tanks will have higher flowrates and therefore less contact time for chloramination disinfection credit for the existing trains.
- Consider modification of the existing trains' disinfection strategy to eliminate ammonia feed upstream of the filters. Chlorine would be dosed in two places, with a low dose in settled water and a final dose in filtered water along with ammonia to meet the chloramination residual target needed entering the distribution system. In this approach, the plant would get credit for chlorine disinfection in the settled water chlorine contactors all the way through filtration and eliminate the potential for nitrification in the filters.

- Consider installation of covers on proposed filters for the facility expansion to provide additional CT credit.
- Coordinate with the Authority to determine operational preferences concerning the size and layout of the chlorine contact chamber basin configuration, weir placement, basin volume and preferred operational setup (single or dual chambers) and confirm preferred disinfection strategy.
- Consider simulated distribution system (SDS) tests to evaluate effects of chlorine disinfection and contact time followed by chloramination to quantify DBP formation potential i.e., THMs and HAAs.
- Perform computational fluid dynamic (CFD) modeling to confirm assumed baffling factor of chlorine contact chamber structure during design.
- Following construction of the new contact chamber, consider a tracer study to evaluate the baffle factor used in disinfection compliance reporting. Perform tracer studies on existing chlorine contact basins, clear wells, and ground storage tanks.

4.5 Chemical Systems

4.5.1 Chemical Dosages and Feed Locations

This section summarizes design minimum, maximum, and average dosages for each chemical, along with feed locations. Feed locations are shown in the Process Flow Diagram in Section 3 and are discussed below.

Chemical dosages were based on either historical data from January 2017 through April 2023, or from the 2023 piloting effort. For historical data, the maximum value used was generally the 95th percentile, with 5th percentile values generally representing minimum dosages. Selected apparent outliers in the data were removed from the data set. Confirmation of the design minimum, maximum, and average values is recommended during design, including whether higher maximum values or lower minimum design values are warranted.

Table 4-11 shows the chemicals involved in the PRF expansion.

Table 4-11. Chemicals Stored and Fed

Chemical	Concentration	Density
Powered Activated Carbon (PAC)	0.8 – 1.2 lb PAC/gal	8.76 lb/gal
Aluminum Sulfate (Alum)	48.5% $Al_2(SO_4)_3$ by weight	11.2 lb/gal
Polymer	Dry, 100% Active – makedown concentration varies (0.025 – 0.05 lb/gal)	-
Sodium Hydroxide (Caustic)	50% NaOH by weight	12.7 lb/gal
Sodium Hypochlorite	12.5% NaOCl by weight	10.0 lb/gal
Ammonium Hydroxide	19% $NH_4(OH)$ by weight	7.7 lb/gal

4.5.1.1 PAC

PAC is fed at the raw water prior to the PAC contact tanks for taste and odor control. The PAC is delivered dry to the site and diluted as it is transferred into the PAC storage tanks. The stored/fed concentration varies between approximately 0.8 and 1.2 lb PAC per gallon. Minimum, maximum, and average values were based on historical data and are summarized in **Table 4-12** along with the preliminary design values for the expansion – the same values are used for each. Doses are expressed as dry PAC.

Table 4-12. PAC Existing and Preliminary Design Dosages

Chemical Dose	Existing Facility	Expansion
Minimum (mg/L)	5.3	5.3
Average (mg/L)	16.5	16.5
Maximum (mg/L)	35.9	35.9

4.5.1.2 Alum

Alum is fed at the rapid mix for coagulation. **Table 4-13** shows the range of doses applicable to the existing plant and to the proposed expansion. Doses are expressed as alum ($Al_2(SO_4)_3$).

Minimum, maximum, and average values were based on historical data and are summarized in the table below along with the preliminary design values for the expansion – the same values are used for each.

Table 4-13. Alum Existing and Preliminary Design Dosages

Chemical Dose	Existing Facility	Expansion
Minimum (mg/L)	110	110
Average (mg/L)	153	153
Maximum (mg/L)	160	160

4.5.1.3 Polymer

Polymer is fed to aid with flocculation and sedimentation. **Table 4-14** shows the range of doses applicable to the existing plant and to the proposed expansion.

Minimum, maximum, and average values were based on historical data and are summarized in the table below along with the preliminary design values for the expansion – the same conservative minimum value was used for the expansion, but higher average and maximum values were used for the expansion based on piloting results, which showed higher polymer usage than the existing PRF, and reflects a conservative dose rate. Doses are expressed as dry polymer, as the polymer is a dry, bagged product.

Table 4-14. Polymer Existing and Preliminary Design Dosages		
Chemical Dose	Existing Facility	Expansion
Minimum (mg/L)	0.15	0.15
Average (mg/L)	0.29	0.44
Maximum (mg/L)	0.33	0.53

4.5.1.4 Caustic

Caustic is fed at several points in the facility - to the raw water for alkalinity adjustment, and pre-filter and post-filter for pH adjustment. Minimum, maximum, and average values were based on historical data and are summarized in Table 4-15 along with the preliminary design values for the expansion. The values provided represent the total overall effective plant dose, which is typically split between the various dose points. The values used were the same for average and maximum, but a lower minimum value was used for the expansion based on the piloting. If pump sizing becomes an issue, this low value may need to be re-evaluated to evaluate whether the dose rate is realistic. Doses are expressed as NaOH.

Table 4-15. Caustic Existing and Preliminary Design Dosages		
Chemical Dose	Existing Facility	Expansion
Minimum (mg/L)	18.6	2.0
Average (mg/L)	31.2	31.2
Maximum (mg/L)	40.0	40.0

4.5.1.5 Sodium Hypochlorite

Sodium hypochlorite is fed pre-filter and/or post-filter for disinfection. Minimum, maximum, and average values were based on historical data and are summarized in Table 4-16 along with the preliminary design values for the expansion – the same values are used for each. The values provided represent the total overall effective plant dose, which may be split between the dose points. Doses are expressed as chlorine.

Table 4-16. Sodium Hypochlorite Existing and Preliminary Design Dosages		
Chemical Dose	Existing Facility	Expansion
Minimum (mg/L)	7.0	7.0
Average (mg/L)	8.7	8.7
Maximum (mg/L)	10.2	10.2

4.5.1.6 Ammonium Hydroxide

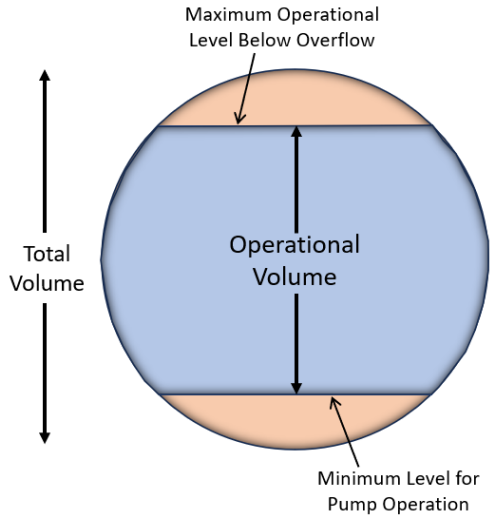
Ammonium hydroxide is fed post-filter for chlorine residual (chloramines). Minimum, maximum, and average values were based on historical data and are summarized in Table 4-17 along with the preliminary design values for the expansion – the same values are used for each. Doses are expressed as ammonium hydroxide.

Table 4-17. Ammonium Hydroxide Existing and Preliminary Design Dosages		
Chemical Dose	Existing Facility	Expansion
Minimum (mg/L)	1.0	1.0
Average (mg/L)	1.5	1.5
Maximum (mg/L)	2.8	2.8

4.5.2 Chemical System Storage Tank Sizing

Several considerations were taken into account in the preliminary sizing of storage tanks, and the sizing selected varied as discussed below for each chemical. Key considerations included providing the larger of a minimum of 30 days of storage at design average flow/average dose, or the size needed for the tank to readily accept up to 150% of a full load of chemical (delivery volume up to 6,000 gallons except for PAC at 40,000 lb). Other considerations included alignment with existing tank sizes for consistency, providing adequate storage to account for delivery times (particularly for chemicals like PAC with more lengthy delivery times), and provision of a minimum of two tanks for redundancy. It is expected that storage sizing will be optimized, and adjustments made as necessary during design.

Chemical feed flowmeters will be used and day tanks shall not be allowed. All tanks shall be horizontal configuration. Both total/nominal tank volume and operational tank volume are identified in the chemical specific sections below. Operational working tank volumes represent the actual volume required, by removing a portion of the tank height to account for items like sidewall overflows and setpoints for minimum and maximum operational levels, all of which result in volume that is not available for use. Horizontal tanks were sized with operational/working volume being 85% of total/nominal volume. This value shall be verified during design and tank sizing adjusted if needed as it may vary by tank size.



Tank materials of construction shall be FRP, with the exception of carbon steel for the ammonium hydroxide tanks, and concrete for the PAC tanks.

4.5.3 Chemical Feed Pump Type

Diaphragm metering pumps shall be provided. With the exception of PAC, the facility currently utilizes chemical pump skids, with Prominent pumps. Separate, non-skid mounted, Milton Roy diaphragm metering pumps are used for PAC feed. Specific pump model shave not been selected at this stage. Specific pump models/sizing and in some cases pump types see discussion below for polymer), are anticipated to be determined and/or will be finalized during design

.

4.5.4 PAC System

4.5.4.1 Storage Considerations

A new PAC delivery, storage, and feed facility is required. There is no redundancy currently with the single delivery system, and new feed pumps are needed to deliver PAC to the feed points.

PAC is delivered as a dry product in bulk tankers to the site, with deliveries up to 40,000 lb, and conveyed from the truck into the storage tanks where it is mixed with water as it is being delivered tanks using a spray system located at the point as the dry PAC enters the tank. The spray system dilutes the PAC to the desired concentration while helping reduce the dust. The existing tanks are rectangular concrete structures, each approximately 20 feet wide, 20 feet long, with a depth of approximately 19'-9" from the top of the concrete deck to the floor. The effective working depth is limited to approximately 13 feet due to losses resulting from pump suction elevations, top deck thickness, and PAC feed and mixing configuration. Each tank has a turbine type mixer to keep the PAC in solution. The amount of water added varies based on the desired slurry concentration, which typically varies from approximately 0.8 to 1.2 lb PAC/gallon. A thinner slurry (i.e., closer to 0.8 lb/gallon) is preferred when available storage and usage rates allow as it is easier to feed and results in less clogging than more concentrated slurry solutions.

PAC storage tanks for the PRF expansion were sized based on the design flows and dosages and general sizing considerations discussed above, including sizing for 150% of a full 40,000 lb delivery, diluted to 0.8 lb/gallon. Tank sizing presented in this document was based on the following:

- Storage volume to meet peak conditions;
- PAC deliveries have up to a two-week lead time;
- Design storage to account for the tanks are mixed, which increases the chances that a PAC tank may be out of service for maintenance or repair of the mechanical mixing equipment.

Table 4-18 summarizes key information about the storage tanks. The usage and storage capacity are for a feed at 0.8 lb/gal concentration. Final PAC tank sizing of them will be finalized in coordination with the Authority during design.

Table 4-18. PAC Storage Tank Design

Item	Storage Tank
Number of Tanks	4
Tank Width (ft.)	28
Tank Length (ft.)	28
Total Tank Height to Top of Deck (ft.)	19.8
Effective Working Depth (ft.)	13
Working Tank Capacity, Each (gal)	76,235

Table 4-18. PAC Storage Tank Design	
Item	Storage Tank
Total Tank Working Storage (gal)	304,940
Average Usage (gpd / lb PAC per day)	2,064 / 1,651
Maximum Usage (gpd / lb PAC per day)	8,982 / 7,186
Supply Days at Avg/Avg	147.7
Supply Days at Max/Max	33.9

4.5.4.2 Chemical Feed and Transfer Considerations

PAC pumping will be generally consistent with existing facility configurations. Three individually mounted diaphragm metering pumps will be used, with one feeding to each of the two PAC influent lines upstream of the four PAC contactors, with one common standby. Service water is also used as post-dilution/carrier water on the discharge side of each pump downstream of the flowmeter, consistent with the existing PAC feed pumps. In addition, centrifugal transfer pumps similar to the existing PAC transfer pumps will be used to transfer PAC slurry either between the four new tanks, or from any of the four new tanks over to the existing tanks. Piping modifications will also be made to allow for pumping PAC slurry from the existing PAC storage tanks to the new ones. These interconnections will help increase overall PAC system flexibility, redundancy, and total facility storage.

4.5.4.3 Conceptual Layout

Figure 4-9 shows the existing PAC system layout, with the four storage tanks, exterior PAC transfer pumps, and a building enclosure with HVAC for the feed pumps that shares a common wall with the storage tanks. It is anticipated that the layout of the new PAC system would generally mirror this existing facility, though with the larger tanks discussed above and with final sizing to be determined during design. The feed pump room, for example, could potentially be reduced in size given the more limited number of feed pumps involved, though adequate clearance for maintenance will be necessary given the potential for plugging associated with feeding PAC slurry. Coordination with the Authority will be needed to identify specific preferences with regard to clearances and resulting room dimensions.

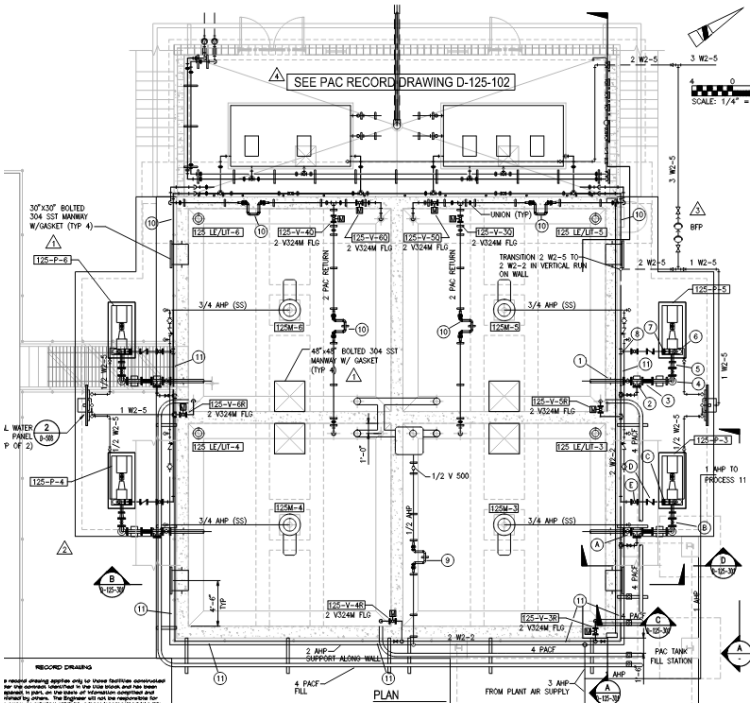


Figure 4-9. Existing PAC System Layout

4.5.4.4 Recommendations and Additional Considerations

Additional considerations include:

- Consider constructing new PAC storage tanks near the existing PAC storage tanks to limit PAC delivery truck traffic, as depicted in the conceptual site plan. An additional access roadway will be needed to allow for delivery to this location and PAC delivery trucks to safely enter and exit the area.
- The range of slurry concentrations from 0.8 to 1.2 lb/gallon shall be considered.
- Consider providing overflow functionality from the PAC storage tanks which the current PAC storage tanks do not provide.
- Consider at least one manual roll-up door to the PAC feed pump room for easier access with large items.
- Consider increasing feed pump redundancy by providing a second spare feed pump, such that each dose point would have its own dedicated spare pump. Benefits of this approach include additional redundancy and easier operations within SCADA when using the spare pump. Consider feed pump room slope and trench drains with a sump pit to support cleanup of breaks, leaks, plugging, etc. A permanent sump pump may not be necessary, as a hard piped sump discharge line connecting to the filter drain line or another suitable location may be considered. A portable sump pump may be acceptable.
- Consider painting the interior of the feed pump room black to manage aesthetics from PAC usage.
- Consider PAC feed lines in sleeves to allow easy replacement, when necessary, between the feed pump room and injection point.

- Consider hatches in top deck of PAC storage tanks such that they are above or near the point where the PAC enters the tank from the delivery truck and the water sprays, in order to allow staff to inspect this regularly without need to drain the PAC tank to enter and inspect it.
- Consider stainless steel valves within the feed pump room upstream of the post-dilution water connection to correct known, due to past issues with caking and breaking of handles with PVC valves. Flanges or unions in the piping within the pump room are preferred in selected locations to allow staff greater cleaning flexibility. Stainless steel piping in lieu of PVC in the pump room shall be considered.
- Consider acceptable service water pressure in the PAC system area and whether improvements are needed to the new and existing systems.
- Evaluate turndown with pump sizing to ensure feed pumps can meet the full range from design minimum dose at minimum flow, up to design maximum dose at maximum flow at each dose point.

4.5.5 Alum System

4.5.5.1 Storage Considerations

A new alum storage and feed facility will be constructed for the expansion, as the existing alum storage already provides fewer days of storage than is typical, and new feed pumps are needed to deliver alum to the feed points.

Alum is delivered as a liquid product in bulk tankers to the site and conveyed from the truck into the storage tanks. There are currently three horizontal storage tanks and three vertical tanks. Horizontal tanks shall be used for the expansion and new tanks shall be as similar in size as possible to the existing tanks, which are 12 feet in diameter and 21.5 feet in straight shell length.

Alum storage tanks for the expansion were sized based on the design flows and dosages and general sizing considerations discussed above, providing 30 days of storage at average flow and average dose. Table 4-19 summarizes key information about the storage tanks.

Table 4-19. Alum Storage Tank Design

Item	Storage Tank
Number of Tanks	5
Nominal Tank Diameter (ft.)	12
Nominal Tank Straight Shell Length (SSL - ft.)	21.5
Nominal Tank Capacity (gal)	20,350
Working Tank Capacity (gal)	17,300
Total Tank Working Storage (gal)	86,500
Average Usage (gpd)	2,837
Maximum Usage (gpd)	5,934
Supply Days at Avg/Avg	30.5
Supply Days at Max/Max	14.6

4.5.5.2 Chemical Feed Considerations

Alum feed will be consistent with existing facility configurations. Three skid mounted diaphragm metering pumps shall be used, with two as duty and one as standby feeding to the rapid mix tanks that are online. Each duty pump would be rated to supply at least half of the total maximum demand, such that two would feed in parallel at high demands and one may be adequate at lower demands. This approach was requested for alum to keep the pumps smaller and quieter and may be further evaluated in design based on pump sizing, noise, and turndown considerations.

4.5.5.3 Conceptual Layout

A new alum storage and feed building shall be constructed as close to the existing alum building as possible. This new building will house the alum storage tanks and feed pumps, along with the new polymer system. The building layout will be generally similar to the existing, which is shown in **Figure 4-10** – an area roughly the size of the red hatched area in the figure below would not be a part of the new building. The containment area for the horizontal tanks is preliminarily sized at 39'-4" by 80'-0", with 2'-6" tall walls. Containment sizing provides for 110% of one tank's total/nominal volume plus 20 minutes of fire sprinkler volume at 0.2 gpm/ft^2 coverage, plus freeboard. Sizing will be finalized during design, including tank and equipment clearances, sizing, number, and usage of fully enclosed rooms, such as the alum feed pump room and any others. Refer to the polymer system section for discussion of the polymer system.

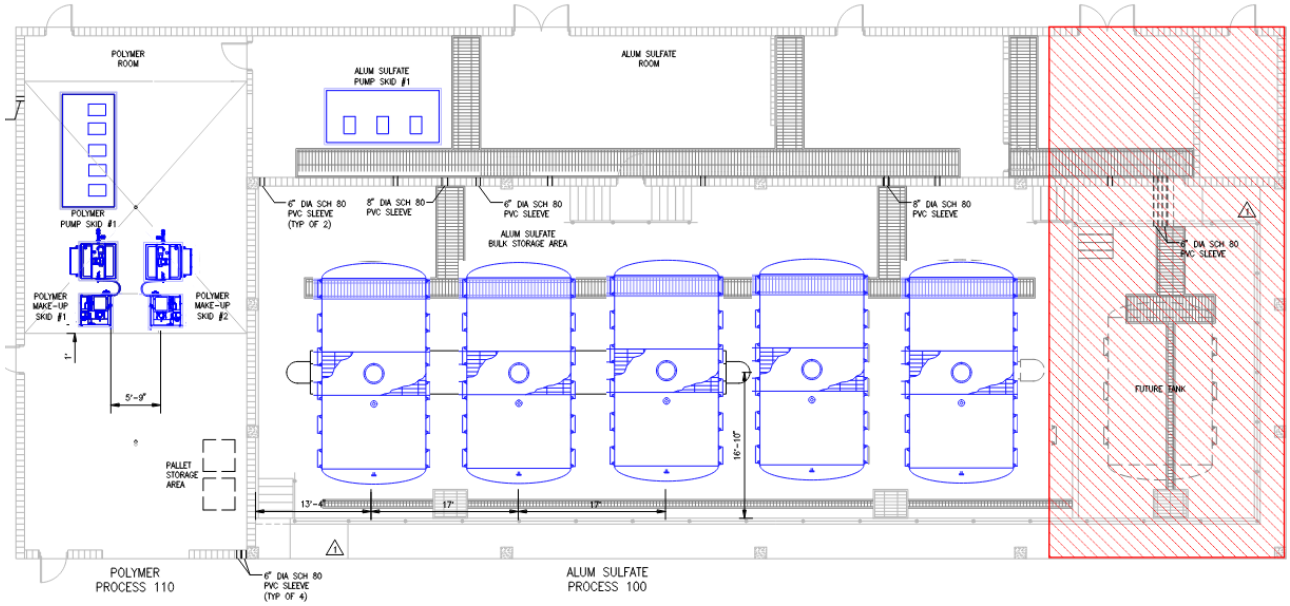


Figure 4-10. Concept Layout of Proposed Alum/Polymer Storage and Feed Building

4.5.5.4 Recommendations and Additional Considerations

Additional considerations include:

- Consider the feasibility of connecting the alum feed pump suction header from the five new tanks to the alum feed pump suction header in the existing alum building, i.e., connecting all of the alum

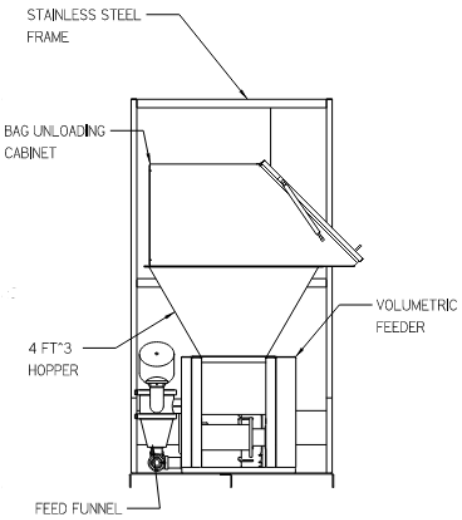
tanks together to possibly improve operational flexibility and improve storage limitations at the existing facility.

- Consider providing two (2) suction penetrations at the bottom of each alum storage tank which was indicated as a preference by the Authority to provide redundancy for the suction interconnections.
- Evaluate further increasing chemical storage in this new building to address alum storage limitations in the existing alum building. This concept would build on the alum tank interconnection concept discussed above.
- Evaluate turndown with pump sizing to ensure feed pumps can meet the full range from design minimum dose at minimum flow, up to design maximum dose at maximum flow at each dose point.
- Consider selecting feed pumps of the same make and model both between dose points of the same chemical, and between chemicals, taking advantage of options for pumps with significant turndown.

4.5.6 Polymer System

4.5.6.1 Storage/Make-down Considerations

A new polymer system will be constructed for the expansion, given constraints in the existing polymer system). The same dry polymer shall be used to aid in flocculation/sedimentation. It is delivered to the site in 50-pound bags that are stored on pallets in the area adjacent to the mixing/aging and feed equipment. The dry polymer is added by hand to a hopper mounted above a dry feeder, which conveys the polymer to a mixing/aging tank in a batch mode. Once it is adequately mixed and aged, the batch is transferred to the feed tank, which is connected to the chemical feed pumps.



The existing dry polymer system with one duty, one standby unit produces a 0.025 lb/gallon polymer solution, and the new system will do the same for consistency. The existing system has relatively small, 2.5 cubic foot hoppers. A larger, 4 cubic foot hopper with integral shelf shall be considered in design. The larger hopper and shelf will allow greater quantities to be fed into the hopper.

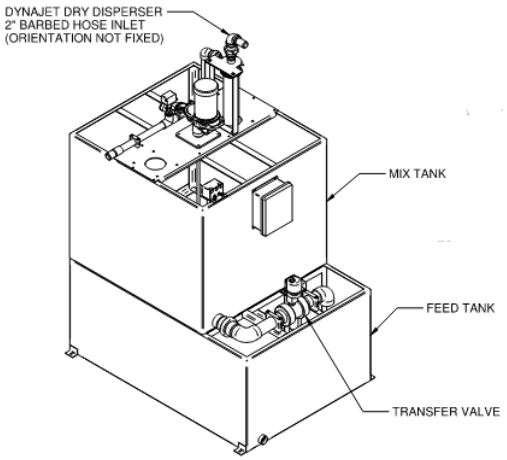


Table 4-20 summarizes key information about the new dry polymer system, including the make/model assumed for purposes of this report, which is the currently available version of the existing dry polymer system servicing Plants 3 and 4. The current polymer supplier recommends a minimum recommended aging time is 60 minutes, and with a preference for 90 minutes if achievable.

Table 4-20. Dry Polymer System Parameters	
Item	Details
Number of Units	2 (1 duty, 1 standby)
Make/Model	UGSI Dynajet DJ390
Hopper Capacity (cubic feet)	4
Mixing/Aging Tank Capacity (gal)	390
Feed Tank Capacity (gal)	420
Outlet Concentration (lb polymer/gal)	0.025
Average Usage (gal/hr)	73
Maximum Usage (gal/hr)	177
Aging Time at Avg Usage (minutes)	217
Aging Time at Max Usage (minutes)	89

4.5.6.2 Chemical Feed Considerations

Polymer feed will be consistent with existing PRF configurations. A total of five skid mounted diaphragm metering pumps shall be used, with four as duty and one as a common standby feeding to the four flocculation trains.

4.5.6.3 Conceptual Layout

The new alum storage and feed building will also house the new polymer system. The building layout will be generally similar to the existing, depicted in **Figure 4-11**, with the polymer system on the left-hand side as shown in blue. An area approximately equal to the hatched area in the figure below would be excluded from the new building footprint. Sizing and any adjustments to the layout shall be finalized by the design-build team.

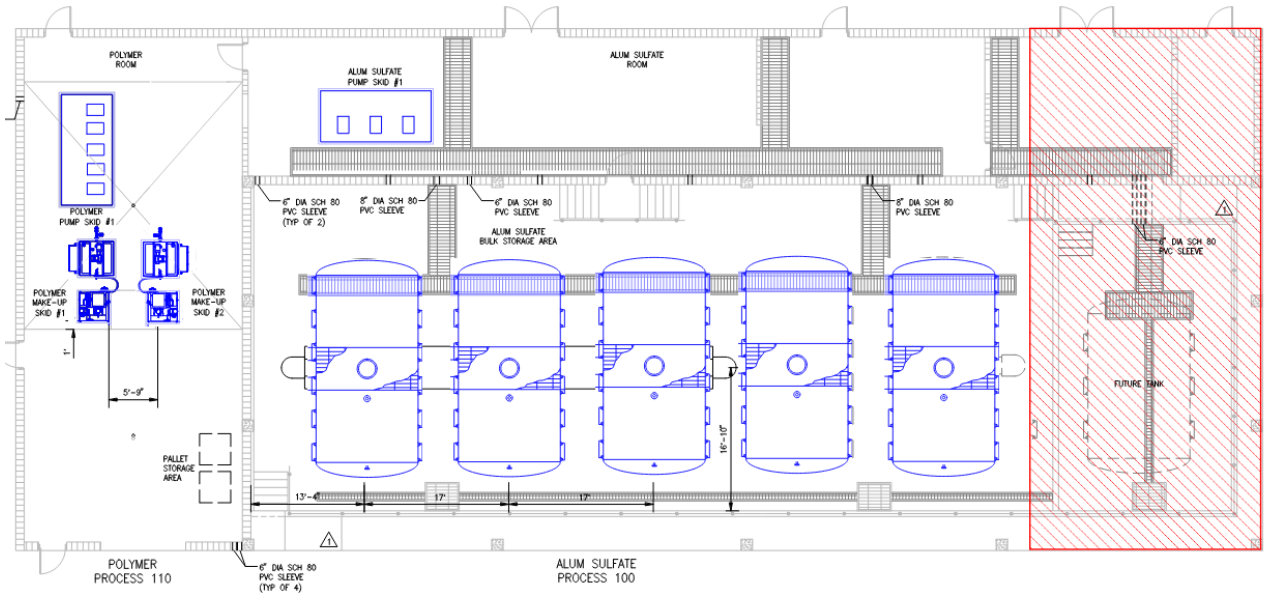


Figure 4-11. Concept Layout of Proposed Alum/Polymer Storage and Feed Building

4.5.6.4 Recommendations and Additional Considerations

Additional considerations include:

- Consider alternative feed pumps to compare lower shear dosing pumps, such as progressing cavity or peristaltic pumps against higher shear pumps such as diaphragm pumps to potentially allow for lower dosage requirements.
- Consider reusing the existing dry polymer units to supply Plants 3 and 4 and the PRF expansion. The manufacturer reported that the existing system would be adequate to support this condition at the maximum dosage and provide 100 minutes or more of if the outlet concentration was increased to 0.05 lb/gallon, a typical value for this model of system. A 4 cubic foot hopper could serve in place of the existing 2.5 cubic foot hoppers on each unit. The additional feed pumps on a single five-pump skid could be installed within the current dry polymer storage portion of the room. The Authority elected at this stage to pursue the new system because the existing system is running effectively at 0.025 lb/gal. If budget constraints or other considerations were to make this option somewhat more attractive, it could potentially be re-evaluated.
- Evaluate turndown with pump sizing to ensure feed pumps can meet the full range from design minimum dose at minimum flow, up to design maximum dose at maximum flow at each dose point.
- Where feasible, consider selecting feed pumps of the same make and model both between dose points of the same chemical, and between chemicals, taking advantage of options for pumps with significant turndown.

4.5.7 Caustic System

4.5.7.1 Storage Considerations

A new caustic storage and feed facility will be constructed for the PRF expansion, as the existing caustic storage is not sufficient to provide for the combined demand of the existing facility and the expansion. Caustic is delivered as a liquid product in bulk tankers to the site and conveyed from the truck into the storage tanks. There are currently three horizontal storage tanks. Horizontal tanks for the PRF expansion shall be as similar in size as possible to the existing horizontal tanks, which are 12 feet in diameter and 21 feet in straight shell length.

Caustic storage tanks for the expansion were sized based on the design flows and dosages and general sizing considerations discussed above, with the governing factors being the provision of a minimum of two tanks and matching the existing tank dimensions. Table 4-21 summarizes key information about the storage tanks, which are the same dimensions as the existing horizontal caustic tanks.

Table 4-21. Caustic Storage Tank Design	
Item	Storage Tank
Number of Tanks	2
Nominal Tank Diameter (ft.)	12
Nominal Tank Straight Shell Length (SSL - ft.)	21
Nominal Tank Capacity (gal)	19,930
Working Tank Capacity (gal)	16,940
Total Tank Working Storage (gal)	33,880
Average Usage (gpd)	489
Maximum Usage (gpd)	1,255
Supply Days at Avg/Avg	69
Supply Days at Max/Max	27

4.5.7.2 Chemical Feed Considerations

Caustic feed will be generally consistent with existing PRF configurations. Eight skid mounted diaphragm metering pumps shall be used, located on two separate skids. The first skid will consist of five pumps, four duty and one as a common standby feeding to the two raw water headers, and two prefilter headers. The second skid will consist of three pumps, two duty and one as a common standby feeding the diffusers downstream of the chlorine contact tanks.

A new Hypochlorite storage and feed building will be constructed across the road from the existing Hypochlorite building. This new building will house the caustic, sodium hypochlorite, and ammonium hydroxide storage tanks and feed pumps for the expansion. The building layout will be similar to the existing. Two areas roughly as shown in red hatched in **Figure 4-12** would not be a part of the new building as only two tanks of each chemical are needed as shown in blue. The containment area for the horizontal caustic tanks is preliminarily sized at 40'-0" by 35'-0", with 3'-6" tall walls. Containment sizing provides for 110% of one tank's total/nominal volume plus 20 minutes of fire sprinkler volume at 0.2 gpm/ft^2 coverage, plus freeboard. Sizing shall be finalized during design, including tank and equipment clearances for appropriate room sizing. Refer to the sodium hypochlorite and ammonium hydroxide system sections for discussion of those systems.

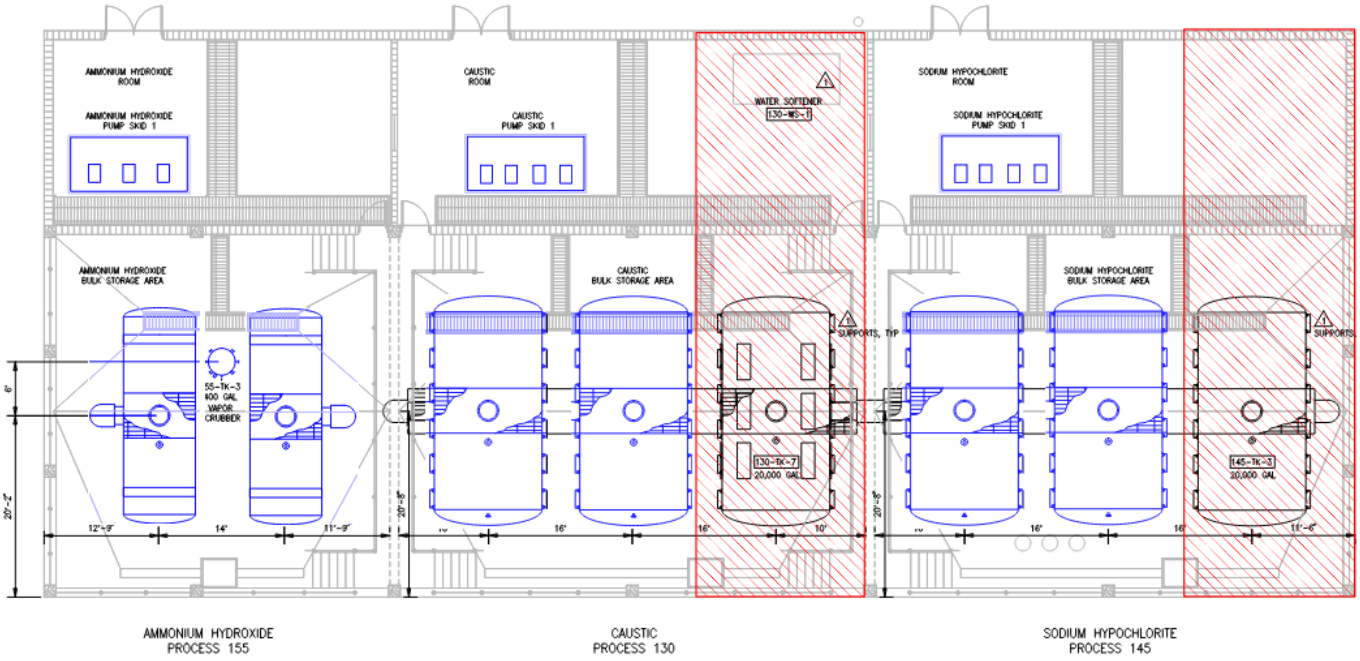


Figure 4-12. Concept Layout of Proposed Hypochlorite Storage and Feed Building

4.5.7.3 Recommendations and Additional Considerations

Additional considerations include:

- Assess the feasibility of connecting the caustic feed pump suction header from the two new tanks to the caustic feed pump suction header in the existing Hypochlorite building, i.e. connecting all the caustic tanks together. If feasible, this would increase flexibility and help reduce the potential for storage limitations at the existing facility. Tank sizing and quantity could potentially also be assessed and optimized if the storage is shared and not dedicated to the PRF expansion.
- Consider increasing feed pump redundancy by providing two additional spare feed pumps, such that each of the three dose points would have its own, dedicated, spare pump. Benefits of this approach include additional redundancy and easier operations within SCADA when using the spare pumps. This is because plant flow signals, for example, used to pace chemical dosing would not need to be swapped in the SCADA system for the spare pump to function properly based on the location it is actually feeding.
- Consider providing two (2) suction penetrations at the bottom of each storage tank. If feasible, this would provide redundancy for the suction interconnections.
- Evaluate turndown with pump sizing to ensure feed pumps can meet the full range from design minimum dose at minimum flow, up to design maximum dose at maximum flow at each dose point.
- Where feasible, consider selecting feed pumps of the same make and model both between dose points of the same chemical, and between chemicals, taking advantage of options for pumps with significant turndown.

4.6 Sodium Hypochlorite System

4.6.1.1 Storage Considerations

A new sodium hypochlorite storage and feed facility will be constructed for the PRF expansion, as the existing sodium hypochlorite storage is not sufficient to provide for the combined demand of the existing facility and the expansion. Sodium hypochlorite is delivered as a liquid product in bulk tankers to the site and conveyed from the truck into the storage tanks. There are currently three horizontal storage tanks. Horizontal tanks shall be used for the expansion and the new horizontal tanks be as similar in size as possible to the existing horizontal tanks, which are 12 feet in diameter and 21 feet in straight shell length, recognizing in cases this may result in an increased quantity of storage that may be greater than would otherwise be necessary.

Sodium hypochlorite storage tanks for the expansion were sized based on the design flows and dosages and general sizing considerations discussed above, with the governing factors being the provision of a minimum of two tanks and matching the existing tank dimensions. Table 4-22 summarizes key information about the storage tanks, which are the same dimensions as the existing horizontal sodium hypochlorite tanks.

Table 4-22. Sodium Hypochlorite Storage Tank Design

Item	Storage Tank
Number of Tanks	2
Nominal Tank Diameter (ft.)	12
Nominal Tank Straight Shell Length (SSL - ft.)	21
Nominal Tank Capacity (gal)	19,930
Working Tank Capacity (gal)	16,940
Total Tank Working Storage (gal)	33,880
Average Usage (gpd)	726
Maximum Usage (gpd)	1,701
Supply Days at Avg/Avg	47
Supply Days at Max/Max	20

4.6.1.2 Chemical Feed Considerations

Sodium Hypochlorite feed will be generally consistent with existing facility configurations. Five skid mounted diaphragm metering pumps will be used, with four as duty and one as a common standby feeding to two separate pre-filter headers and to the two chlorine contact tanks.

4.6.1.3 Conceptual Layout

A new Hypochlorite storage and feed building will be constructed across the road from the existing Hypochlorite building. This new building will house the caustic, sodium hypochlorite, and ammonium hydroxide storage tanks and feed pumps for the expansion. The building layout will be similar to the existing, which is shown in the figure below. Two areas roughly as shown in red hatched Figure 4-13 would not be a part of the new building as only two tanks of each chemical are needed as shown in blue.

The containment area for the horizontal sodium hypochlorite tanks is preliminarily sized at 40'-0" by 35'-0", with 3'-6" tall walls. Containment sizing provides for 110% of one tank's total/nominal volume plus 20 minutes of fire sprinkler volume at 0.2 gpm/ft^2 coverage, plus freeboard. Sizing is expected to be finalized during design, including tank and equipment clearances and coordination with the Authority on room sizing. Refer to the caustic and ammonium hydroxide system sections for discussion of those systems.

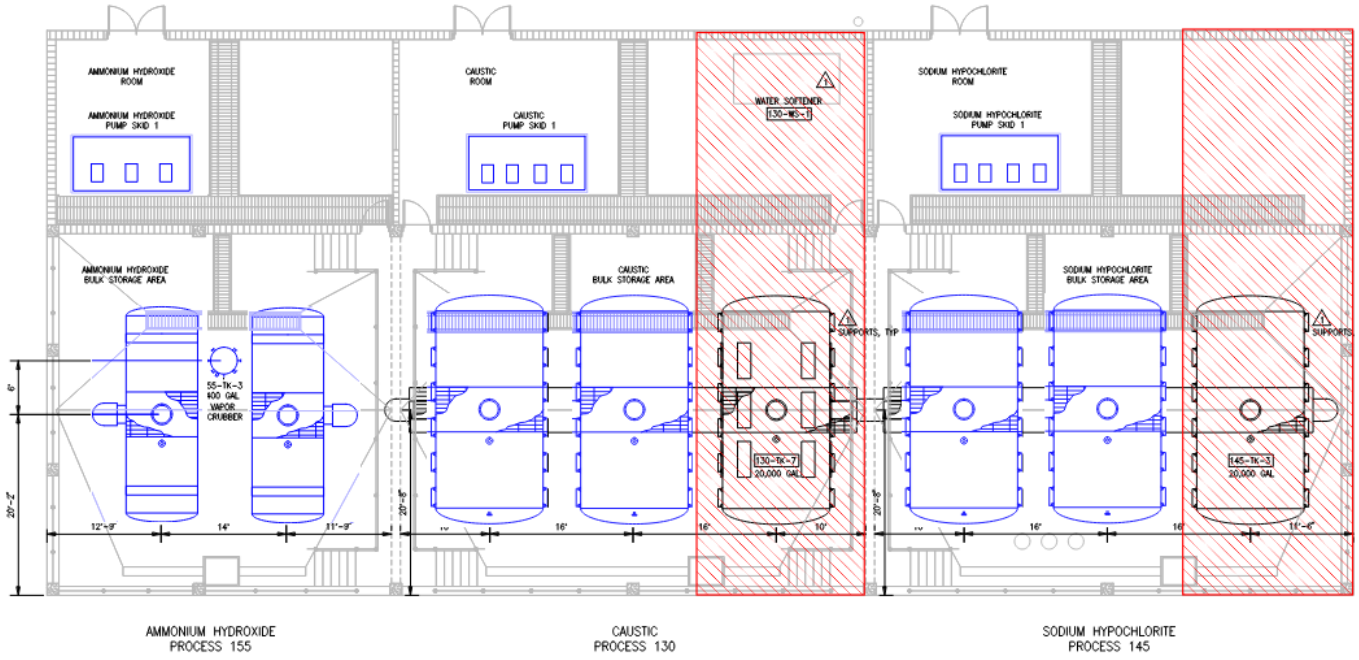


Figure 4-13. Concept Layout of Proposed Hypochlorite Storage and Feed Building

4.6.1.4 Recommendations and Additional Considerations

Additional considerations include:

- Consider the impacts of sodium hypochlorite degradation in balance with the desired number of days of storage. Particularly with outdoor storage, lengthy storage times may result in chemical degradation and impact operating costs and feed pump sizing.
- Assess the feasibility of connecting the sodium hypochlorite feed pump suction header from the two new tanks to the sodium hypochlorite feed pump suction header in the existing Hypochlorite building, i.e., connecting all of the sodium hypochlorite tanks together. If feasible, this would increase flexibility and help reduce the potential for storage limitations at the existing facility. Tank sizing and quantity should be assessed and optimized if the storage is shared and not dedicated to the PRF expansion.
- Consider increasing feed pump redundancy by providing at least one additional spare feed pump, such that both the pre-filter dose point and the chlorine contact tank dose points (i.e., a common standby for those two points near each other and paced off the same flow signal) would have its own, dedicated, spare pump. Consider a fully dedicated spare pump for all three duty pumps. Benefits may include additional redundancy and easier operations within SCADA when using the

spare pumps. This is because plant flow signals, for example, used to pace chemical dosing would not need to be swapped in the SCADA system for the spare pump to function properly based on the location it is actually feeding.

- Consider providing two (2) suction penetrations at the bottom of each storage tank. If feasible, this would provide redundancy for the suction interconnections.
- Evaluate turndown with pump sizing to ensure feed pumps can meet the full range from design minimum dose at minimum flow, up to design maximum dose at maximum flow at each dose point.
- Consider selecting feed pumps of the same make and model both between dose points of the same chemical, and between chemicals, taking advantage of options for pumps with significant turndown. This will help make operations and maintenance less complex.

4.6.2 Ammonium Hydroxide System

4.6.2.1 Storage Considerations

A new ammonium hydroxide storage and feed facility will be constructed for the expansion, as the existing ammonium hydroxide storage is not sufficient to provide for the combined demand of the existing facility and the PRF expansion. Ammonium hydroxide is delivered as a liquid product in bulk tankers to the site and conveyed from the truck into the storage tanks. There are currently two horizontal steel storage tanks and one common vapor scrubber. Horizontal tanks shall be used for the expansion and new horizontal steel tanks be larger than the existing 7,500 gallons capacity.

Ammonium hydroxide storage tanks for the expansion were sized based on the design flows and dosages and general sizing considerations discussed above, with the governing factors being the provision of a minimum of two tanks and providing at least 150% of a delivery to a single tank. Table 4-23 summarizes key information about the storage tanks, which were sized with the same length as the caustic and sodium hypochlorite tanks for consistency in the facility layout.

Table 4-23. Ammonium Hydroxide Storage Tank Design

Item	Storage Tank
Number of Tanks	2
Nominal Tank Diameter (ft.)	9
Nominal Tank Straight Shell Length (SSL - ft.)	21
Nominal Tank Capacity (gal)	10,880
Working Tank Capacity (gal)	9,250
Total Tank Working Storage (gal)	18,500
Average Usage (gpd)	102
Maximum Usage (gpd)	381
Supply Days at Avg/Avg	181
Supply Days at Max/Max	48.5

4.6.2.2 Chemical Feed Considerations

Ammonium hydroxide feed will be generally consistent with existing facility configurations. Three skid mounted diaphragm metering pumps will be used, with two as duty and one as a standby feeding to the dose point at the combined chlorine contact tank outlet.

4.6.2.3 Conceptual Layout

A new Hypochlorite storage and feed building will be constructed across the road from the existing Hypochlorite building. This new building will house the caustic, sodium hypochlorite, and ammonium hydroxide storage tanks and feed pumps for the expansion. The building layout will be similar to the existing, which is shown in **Figure 4-14**. Two areas roughly as shown in red hatched in the figure below would not be a part of the new building as only two tanks of each chemical are needed. The containment area for the horizontal ammonium hydroxide tanks is preliminarily sized at 40'-0" by 32'-0", with 3'-6" tall walls (shorter walls would provide adequate containment but using the same wall height would allow the base slab for all three containment areas to be at the same elevation for ease of construction). Containment sizing provides for 110% of one tank's total/nominal volume plus 20 minutes of fire sprinkler volume at 0.2 gpm/ft^2 coverage, plus freeboard. Sizing is expected to be finalized during design, including tank and equipment clearances and coordination with the Authority on room sizing. Refer to the caustic and sodium hypochlorite system sections for discussion of those systems.

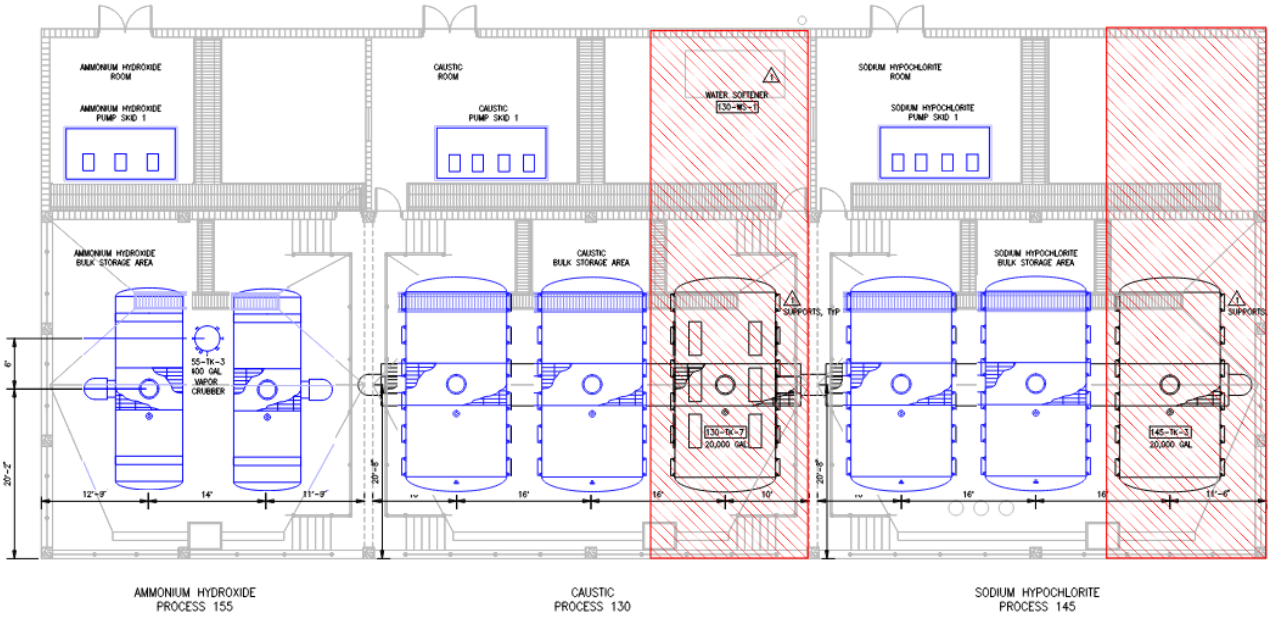


Figure 4-14. Concept Layout of Proposed Hypochlorite Storage and Feed Building

4.6.2.4 Recommendations and Additional Considerations

The following are additional considerations not already mentioned above related to the design of the new Ammonium Hydroxide System:

- Assess the feasibility of connecting the ammonium hydroxide feed pump suction header from the two new tanks to the ammonium hydroxide feed pump suction header in the existing Hypochlorite building, i.e., connecting all of the ammonium hydroxide tanks together. If feasible, this would increase flexibility and help reduce the potential for storage limitations at the existing facility. Tank sizing and quantity could potentially also be assessed and optimized if the storage is shared and not dedicated to the PRF expansion.
- Consider providing two (2) suction penetrations at the bottom of each storage tank which was indicated as a preference by the Authority. If feasible, this would provide redundancy for the suction interconnections.
- Design-builder shall include provisions for a modestly sized ammonium hydroxide vapor scrubber capable of handling occasional emissions.
- Evaluate turndown with pump sizing to ensure feed pumps can meet the full range from design minimum dose at minimum flow, up to design maximum dose at maximum flow at each dose point.
- Where feasible, consider selecting feed pumps of the same make and model both between dose points of the same chemical, and between chemicals, taking advantage of options for pumps with significant turndown. This will help make operations and maintenance less complex.

4.7 Pumping Systems

4.7.1 Overview

The PRF has several pump stations that could potentially be reused or expanded for cost savings opportunities. The PRF expansion will require modification or addition of the following pump stations:

- Two (2) Transfer Pump Stations (new)
- High Service Pump Station (potentially expand existing or new)
- Recycle Pump Station (potentially expand existing or new)

This section discusses three (3) existing pump stations that could potentially be expanded: South Regional High Service Pump Station (SRHSPS), North Regional High Service Pump Station (NRHSPS), and Recycle Pump Station. Design, layout, and pumping capacity of the existing stations was reviewed using hydraulic models and compared the current configuration to design standards established by the Hydraulic Institute (HI). Since the granular media filters and associated transfer pump stations have yet to be designed, the transfer pump stations were excluded from the review, and are described in Section 4.6.5.2 to support the basis of cost design.

4.7.2 High Service Pump Stations (Process 060 and 062)

The existing SRHSPS (Process 060) and NRHSPS (Process 62) use a control strategy by maintaining a distribution system pressure setpoint between 71 – 73 psi. Two (2) separate pressure-indicating transmitters on a combined discharge following the discharge header configuration monitor the pressure set point and are used to control pump speeds for the variable speed pumps at each HSPS.

4.7.2.1 South Regional High Service Pump Station (SRHSPS - Process 060)

Figure 4-15 shows the SRHSPS layout, which was constructed before the NRHSPS. The SRHSPS was initially constructed in 1979 to house six (6) pumps, with plans to add up to four (4) more future pumps. Pump 60-P-5 was added in 2001 and rebuilt due to cavitation during the 2011 expansion to match replacements for pumps 60-P-2 and 60-P-3, which were renumbered during the 2011 expansion. In the 2011 expansion, space was left for a future fourth pump (60-P-4), which was installed in 2013 to match pumps previously installed pumps 60-P-2 and 60-P-3 (2011). In 2016 the final pump (60-P-8) was installed. The pumps convey flow to either the north or south regional transmission systems.

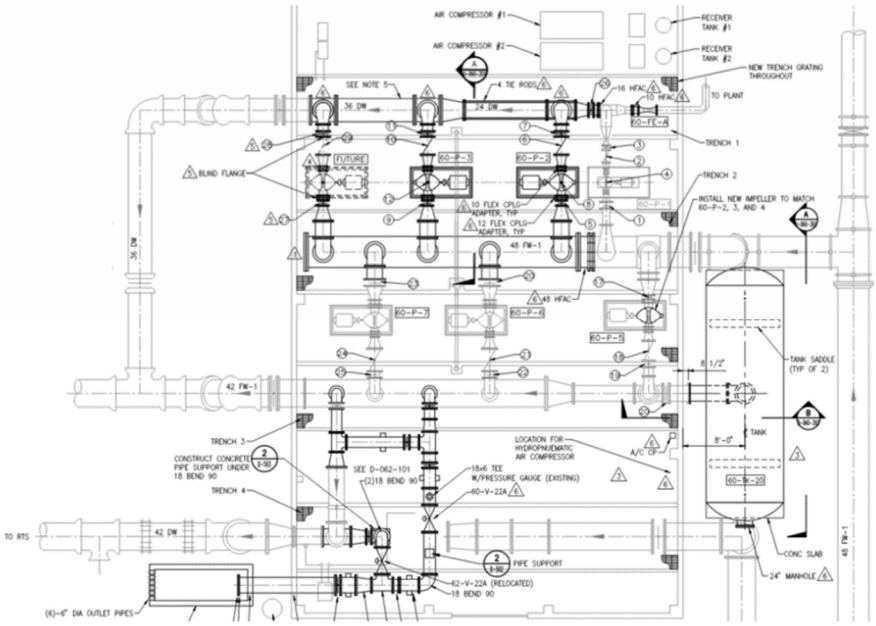


Figure 4-15. South Regional High Service Pump Station Layout

The pumps within the SRHSPS are horizontal split case pumps that range in size from 50 HP to 350 HP. Pump 60-P-1 (50 HP) was intended to be utilized for plant water. However, the pump is not used during current typical operations. Table 4-24 summarizes the existing SRHSPS pumps.

Table 4-24. South Regional High Service Pump Station

Pump	60-P-1	60-P-2	60-P-3	60-P-4	60-P-5	60-P-6	60-P-7	60-P-8
Manufacturer	Peerless	FlowServe	FlowServe	FlowServe	FlowServe	Bell and Gossett (Xylem)	Bell and Gossett (Xylem)	FlowServe
Model	Not Identified[1]	10LR-17B	10LR-17B	10LR-17B	10LR-17B	e-XC	e-XC	10LR-17B
Type	Horizontal Split Case	Horizontal Split Case	Horizontal Split Case	Horizontal Split Case	Horizontal Split Case	Horizontal Split Case	Horizontal Split Case	Horizontal Split Case
HP	50	300	300	300	300	350	350	300
Speed (RPM)	1750	1765	1765	1765	1765	1800	1800	1765

Table 4-24. South Regional High Service Pump Station								
Pump	60-P-1	60-P-2	60-P-3	60-P-4	60-P-5	60-P-6	60-P-7	60-P-8
Power Supply	480 V/3 Phase/60 Hz	480 V/3 Phase/60 Hz	480 V/3 Phase/60 Hz	480 V/3 Phase/60 Hz	480 V/3 Phase/60 Hz	480 V/3 Phase/60 Hz	480 V/3 Phase/60 Hz	480 V/3 Phase/60 Hz
Speed Control	Variable	Variable	Variable	Variable	Constant	Constant	Constant	Constant
Flow (gpm)	800	6000	6000	6000	4000	5500	5500	6000
BEP Efficiency	Not Identified	87.3	87.3	87.3	87.3	84.6	84.6	84.5
Suction (in)	6	14	14	14	14	12	12	14
Discharge (in)	4	10	10	10	10	10	10	10

Notes:

1. *Pump 60-P-1 was the smallest pump and not currently used in general operations. The pump model was not identified.*

4.7.2.2 North Regional High Service Pump Station (Process 062)

NRHSPS, shown in **Figure 4-16**, was constructed during the 2011 expansion and includes four (4) pumps and space for a future fifth pump (62-P-5), which was installed as part of the 2016 expansion.

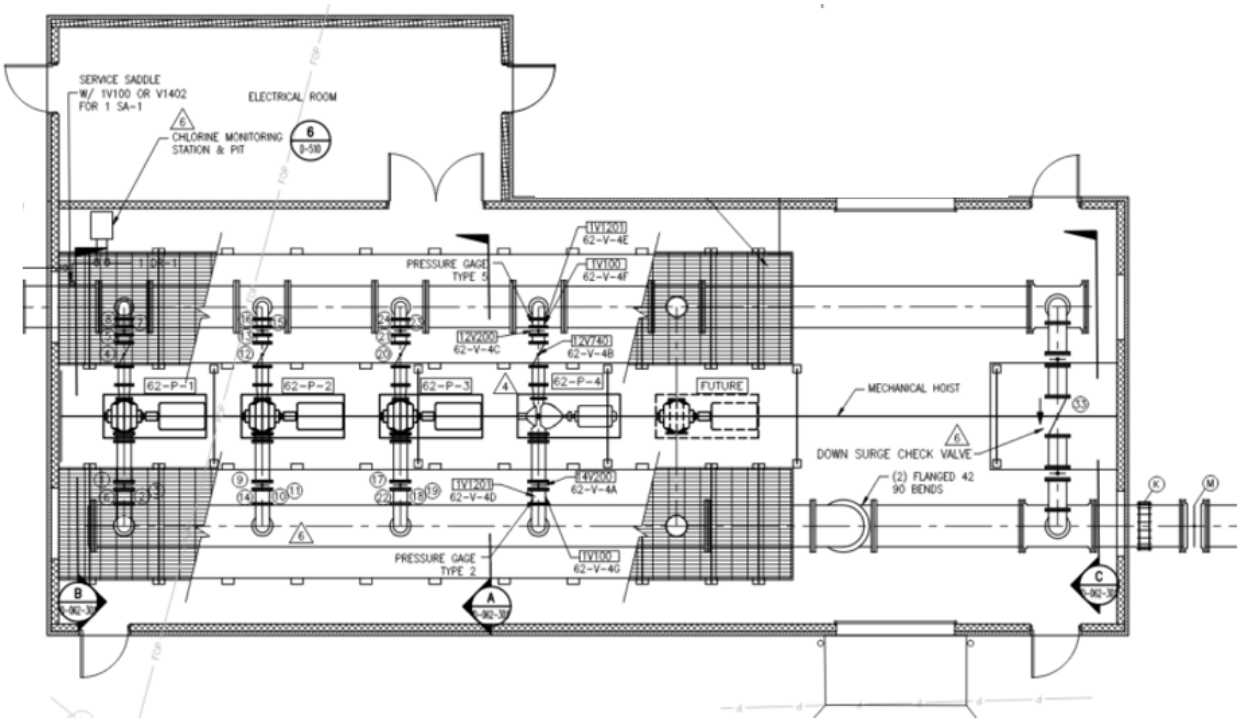


Figure 4-16. North Regional High Service Pump Station

The NRHSPS is connected to the 42" diameter regional transmission main, just downstream of the SRHSPS. The pumps convey flow to either the north or south regional transmission systems. The five (5) pumps within the NRHSPS are identical, summarized in **Table 4-25**.

Table 4-25. North Regional High Service Pump Station					
Pump	62-P-1	62-P-2	62-P-3	62-P-4	62-P-5
Manufacturer	FlowServe	FlowServe	FlowServe	FlowServe	FlowServe
Type	Horizontal Split Case	Horizontal Split Case	Horizontal Split Case	Horizontal Split Case	Horizontal Split Case
Model	10LR-17B	10LR-17B	10LR-17B	10LR-17B	10LR-17B
HP	300	300	300	300	300
Speed (RPM)	1765	1765	1765	1765	1765
Power Supply	480 V/3 Phase/60 Hz	480 V/3 Phase/60 Hz	480 V/3 Phase/60 Hz	480 V/3 Phase/60 Hz	480 V/3 Phase/60 Hz
Speed Control	Variable	Variable	Variable	Constant	Constant
Flow (gpm)	6000	6000	6000	6000	6000
BEP Efficiency	84.5	84.5	84.5	84.5	84.5
Suction (in)	14	14	14	14	14
Discharge (in)	10	10	10	10	10

4.7.2.3 High Service Pump Station Operations

Pump speed is controlled to maintain distribution pressure setpoint of 71 – 73 psi to supply the minimum pressure requirements at each connection point. There are several constant and variable speed pumps. The constant speed pumps run at 100% speed continuously. The variable speed pump speeds cannot exceed 97% of full speed to avoid due to cavitation. The variable speed pumps also have lower speed limits of 80% operation (approximately 80%) because the pumps cannot overcome the distribution pressure requirement. Authority staff indicated that the current operating range is narrow and lacks flexibility due to the limitations of the existing variable speed pumps.

SRHSPS (Process 060)

Pump 60-P-5 has experiences numerous operational challenges. The pumps were initially sized for 80 psi distribution pressure and required impeller trimming for the 71 – 73 psi setpoints. Thus, the initial 60-P-5 design point was not selected for the end application appropriately. Other pumps were impacted because the 80-psi design point caused 60-P-5 to over pump by causing other pumps to contribute less flow and shifting the operational pump far left. This condition was non-ideal but corrected through impeller trimming.

NRHSPS (Process 062)

The NRHSPS is newer and operates constantly. Staff have indicated that the NRHSPS pumps cavitate when VFD speeds exceed 97%.

4.7.3 Hydraulic Modeling

Hydraulic models were developed using Applied Flow Technologies' (AFT) Fathom to evaluate pumping alternatives. The software solution engine uses the Newton-Raphson matrix iteration method plus proprietary methods to solve pipe flow applications. AFT Fathom uses Bernoulli's Equation and Reynolds Number-based relationships, including the Darcy-Weisbach equation, for pipe friction calculation. The modeling results are discussed in the respective sections.

4.7.3.1 High Service Pumping Modeling

The hydraulic model was used to estimate the capacity of the existing HSPSs. Record drawings were used to evaluate HSPS layout, pipe size, elevations, piping and pumping configuration, and speed control. Pump curves were used from either O&M Manuals or manufacturer input. Based on current operation information, VFD pump speeds were limited to 97%. Flow, pressure, and amp draw data from SCADA records was reviewed. Ground storage tank elevation SCADA records were reviewed, and the average ground storage tank water elevations were used. The model was used to evaluate baseline HSPS conditions and estimate the ultimate pumping capacity. Transmission main and transmission pressure/flow data was not available for the evaluation, so discharge pressure setpoints were used as the pumps' discharge condition.

The current mode of operation is maintaining a pressure setpoint between 71 – 73 psig. The model evaluated pump operation at discharge pressure setpoints ranging from 66 psig to 100 psig, in 5 psig increments to simulate potential headloss in the transmission system. A 66psig value was selected as the lowest pressure since at lower pressure setpoints selected pumps would run out on their pump curves. Since current operations require a pressure of ~70 psig, additional flow through the transmission system will increase headloss, likely causing the overall pressure setpoint to increase at the HSPSs to maintain the required delivery pressures. **Table 4-26** summarizes the modeling results and **Figure 4-17** shows the results graphically with pressure set-points related to flow. Note that the model assumed the largest pump out of service in each of the HSPS, and high friction losses for the pipelines.

Table 4-26. Total Flow from SRHSPS and NRHSPS at Varying Discharge Pressures

Discharge Pressure Setpoint, psig	SRHSPS Flow, MGD	NRHSPS Flow, MGD	Total Plant Flow, MGD
66	57	35	92
70	55	34	89
75	52	32	84
80	49	30	79
85	46	28	74
90	42	26	68
95	38	24	62
100	34	21	55

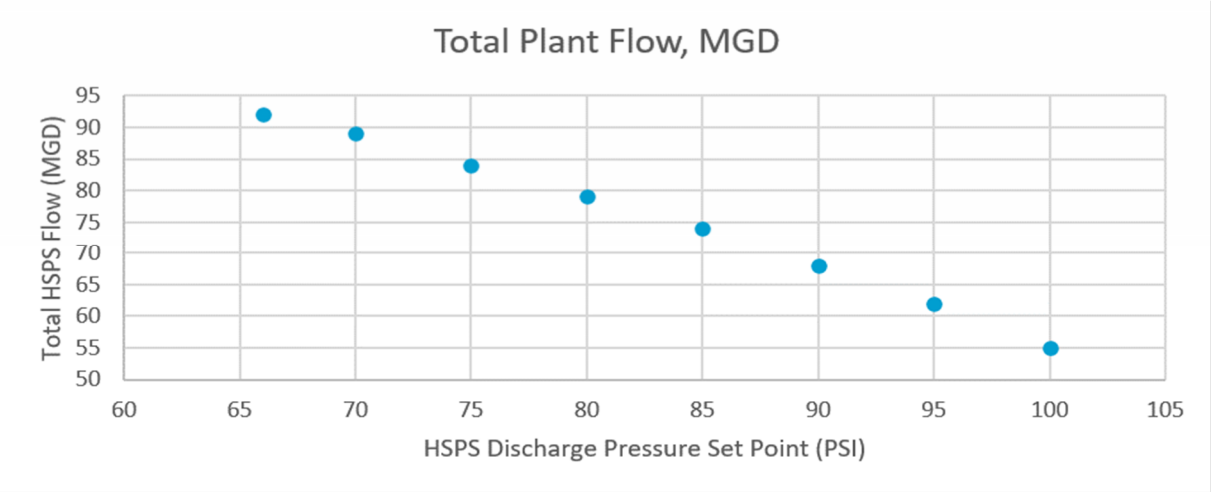


Figure 4-17. Discharge Pressure and Total HSPS Capacity

Modeled results show that the existing system could supply a maximum of approximately 88 MGD at current pressure setpoints of 71 – 73 psig. However, the future system future discharge pressure setpoints for the pumps are unknown. As discharge pressure increases to overcome additional system loses, total PRF finished flow will decrease due to pumps operating further left on their curves.

Modeling results showed some of the pumps operated outside of their Preferred Operating Region (POR) at pressure ranges below 75 psig, and above 95 psig. The VFDs for high service pumps are limited to 97% of full speed to prevent cavitation. Increasing the flow through the pumps, as well as operating the pumps outside of their POR, can further reduce pump performance and increase cavitation issues. Additional information related to pump curve characteristics are provided in the subsequent sections. Note that, except for a few infrequent instances associated with lower pressure set points, there appears to be sufficient $NSPH_A$ within the system. Additional modeling was not performed because of an information gap in the transmission system. In general, the model predicted pump flows slightly higher than what is currently experienced measured at the pump station. This observation could be caused by a variety of reasons, including impeller wear from operations that is not captured in the factory pump performance curves.

Conclusions and recommendations from the hydraulic modeling include:

- Currently, at low pressure set points, the existing pumps tend to operate outside the POR.
- Pumps operate outside the POR when the pressure setpoint exceeds 95 psig. This setpoint corresponds to a flow of 62 MGD.
- Based on the hydraulic analysis and existing pump performance concerns, using the existing pumps to meet additional Plant capacity requirements will not be considered further. Additional information is needed regarding the transmission system and existing and future connection pressure requirements.
- Additional pumping capacity will be required to meet future demands. However, the analysis was performed on a pressure set-point established on the immediate discharge of the HSPS. Not enough

information was available to analyze a realistic range of transmission-wide pressure loses/requirements.

- The Design-Builder shall develop a transmission main model and base pump selection on the existing HSPSs and transmission main requirements for the short- and long-term requirements. Transmission main record drawings, future plans, and demand/pressure requirements will be provided for model inputs.

4.7.3.2 Hydraulic Institute Standard Review

A high-level review of the existing HSPS was conducted related to HI Standards compliance. The HI Standards are routinely updated with new information regarding pump station design, including recommendations such as wet well geometry, pump performance, clearances, factors to minimize vortexing, and other industry-practiced design elements to ensure the pumps operate as intended. A pump or pumping system that may be considered out-of-compliance with current HI Standards does not imply it was initially designed in that manner, and only reflects current best practices that are documented in the most current HI Standards. The following HI Standards were referenced within the review:

American National Standards Institute, "American National Standard for Rotodynamic Pumps for Pump Piping", Hydraulic Institute, 2012. (ANSI/HI 9.6.6.-2016)

American National Standards Institute, "American National Standard for Rotodynamic Pumps for Pump Intake Design", Hydraulic Institute, 2016. (ANSI/HI 9.8.-2018)

4.7.3.3 SRHSPS (Process 060)

Figure 4-18 summarizes the findings from the HI Standard Review for the SRHSPS. The review includes distances from fittings, valves, and other interconnections of the suction main. The distances specified within the guidance document are calculated by using suction inlet diameters upstream of the pipe. When fittings are located too close to the pump's inlet, swirling and fluid turbulence can occur. These dynamics can adversely affect pump performance by reducing efficiency, head, $NPSH_A$, and potentially cause noise, vibration, damage, and can ultimately shorten the useful service life. A uniform straight inlet uninterrupted flow is desired. The HI Standard review shows that SRHSPS is not designed to current best practices, which may be the cause for some of the operational challenges observed.

South Regional High Service Pump Station Hydraulic Institute Design Standard Comparison

	Pump Number							
Criterias from 9.6.6.3.2	60-P-1	60-P-2	60-P-3	60-P-4	60-P-5	60-P-6	60-P-7	60-P-8
Suction Velocity	✓	✓	✓	✓	✓	✓	✓	✗
Criterias from 9.6.6.3.4	60-P-1	60-P-2	60-P-3	60-P-4	60-P-5	60-P-6	60-P-7	60-P-8
90° Elbow	n/a	✗	✗	✗	✗	n/a	n/a	✓
Red Elbow	✓	n/a	n/a	n/a	n/a	✗	✗	n/a
Reducer	✗	✗	✗	✗	✗	✗	✗	n/a
Tee	✓	✗	✗	✗	n/a	✗	✗	✓
BFV	✗	✗	✗	✗	✗	✗	✗	✓
Distance between inlets	✗	!1	✗	✗	✗	✓	✗	!1

Figure 4-18. Findings from the HI Standard Review for the SRHSPS

Notes:

1. *The distance between suction pipes indicates potential issues with the distance from the adjacent pump. In the case of 60-P-2, if 60-P-1 is running simultaneously there will be operational challenges; however, pump 60-P-1 is not typically run during day-to-day operations. In the case of 60-P-8, the designated space for a future pump is not sufficient. In the case of 60-P-8, the designated space shown on the record drawings for the addition of a future pump (60-P-9) is not sufficient.*

Note that the SRHSPS was built before the 2011 expansion, which indicates that the original design intent may not have included the 2011 expansion's excess capacity. The modifications were completed in 2011 to save costs by utilizing existing infrastructure.

NRHSPS (Process 062)

Figure 4-19 summarizes the findings from the HI Standard Review for the NRHSPS. Overall, NRHSPS is generally designed to HI standards.

North Regional High Service Pump Station Hydraulic Institute Design Standard Comparison

	Pump Number				
Criterias from 9.6.6.3.2	62-P-1	62-P-2	62-P-3	62-P-4	62-P-5
Suction Velocity	⊗	⊗	⊗	⊗	⊗
Criterias from 9.6.6.3.4	62-P-1	62-P-2	62-P-3	62-P-4	62-P-5
90° Elbow	✓	✓	✓	✓	✓
Red Elbow	n/a	n/a	n/a	n/a	n/a
Reducer	n/a	n/a	n/a	n/a	n/a
Tee	✓	✓	✓	✓	✓
BFV	✓	✓	✓	✓	✓
Distance between inlets	✓	✓	✓	✓	✓

Figure 4-19. Findings from the HI Standard Review for the NRHSPS

4.7.3.4 HSPS Pump Modifications

The following were considered for pump modifications:

Increasing Flow: Modeling identified that current conditions suggest that the existing pumps are slightly oversized for the existing pressure setpoints. The HSPS pumps experience cavitation due to runout conditions. Increasing impeller sizes to increase ultimate HSPS flow can exacerbate the current operational cavitation conditions observed.

Reducing Flow: Trimming the existing impellers would have the opposite impact and reduce the overall flow capacity, which is counterproductive to the PRF expansion. If the pumps are used for increasing flows over time, the pumps will likely cavitate.

New Pump Selection: New HSPSs pump selections could improve overall operations. However, pump optimization for the PRF is outside the scope of the expansion. When considering new pump selection to achieve the correct flow configurations, the following items were considered:

- There are currently a total of 13 pumps. Pump replacement may range between $100,000 and $200,000 per pump (i.e., motor, pump baseplate, and pump). The capital costs associated with replacing all pumps with new pump selections would likely be similar or exceed the capital costs to build a new HSPS for the expansion that houses four (4) high-service pumps.
- SRHSPS is non-HI compliant. When fittings are located too close to the pump's inlet fluid turbulence occurs. These dynamics adversely affect pump performance by reducing efficiency, head, and $NPSH_A$, and potentially causing noise, vibrations, and damage, ultimately reducing the useful pump service life. Replacement pumps would require significant upgrades to the existing pump stations

and suction main to become HI compliant, which may would likely exceed the cost of building a new expansion HSPS.

- Significant suction pipe, discharge pipe, and building improvements are required to bring SRHSPS to HI compliance.
- The HI compliance issues within SRHSPS are related to distances between fittings and valves. NRHSPS suction pipe is currently sized, configured, and fittings are designed for the existing conditions. A required suction pipe size increase would bring pipe suction velocities within HI compliance. However, the increased pipe sizing would bring the piping configuration out of HI compliance due to insufficient straight pipe lengths after the last flow distributing fitting to the pump inlet, requiring more significant upgrades.
- Note that HI Section 9.6.6.3.9 includes provisions for pump station retrofit or modifications where that states that pipe sizing reduction can occur to be compliant with distance between pump inlets and flow disturbance fittings if the other design criteria can be met by the higher velocities caused by the smaller pipes. However, these conditions are unknown at this time because the pumps cannot be sized without a more thorough investigation and is not recommended.

4.7.3.5 Recommendations and Additional Considerations

Additional recommendations and considerations include:

- It is recommended that a new HSPS be built to provide the additional distribution flow associated with the PRF expansion.
- The proposed HSPS be constructed similar to the NRHSPS for operational consistency.
- The proposed HSPS be HI Standard complaint, including the suction piping systems fitting distances requirements intended to minimize opportunities for swirling and the general velocity requirements. Suction piping velocities shall be less than 8 feet per second.
- Consider providing connections to the current ASR wells for operational flexibility and multiuse of treated water.
- Consider integrating controls between the pump stations to reduce the flow required from NRHSPS to improve overall system longevity.
- The new HSPS shall use the transmission/distribution model to properly select and size the new pumps. The model and selection shall consider short- and long-term flow and pressure conditions to ensure the pumps will operate within the POR during operations and not adversely impact the existing pump operations.

4.7.4 Recycle Pump Station (Process 097)

Figure 4-20 shows the recycle pump station (process 097). The pump station was constructed in 2011 and sized to facilitate a future expansion. The station houses three (3) 200 HP pumps, and two (2) 100 HP jockey pumps. The design included space for a future pump.

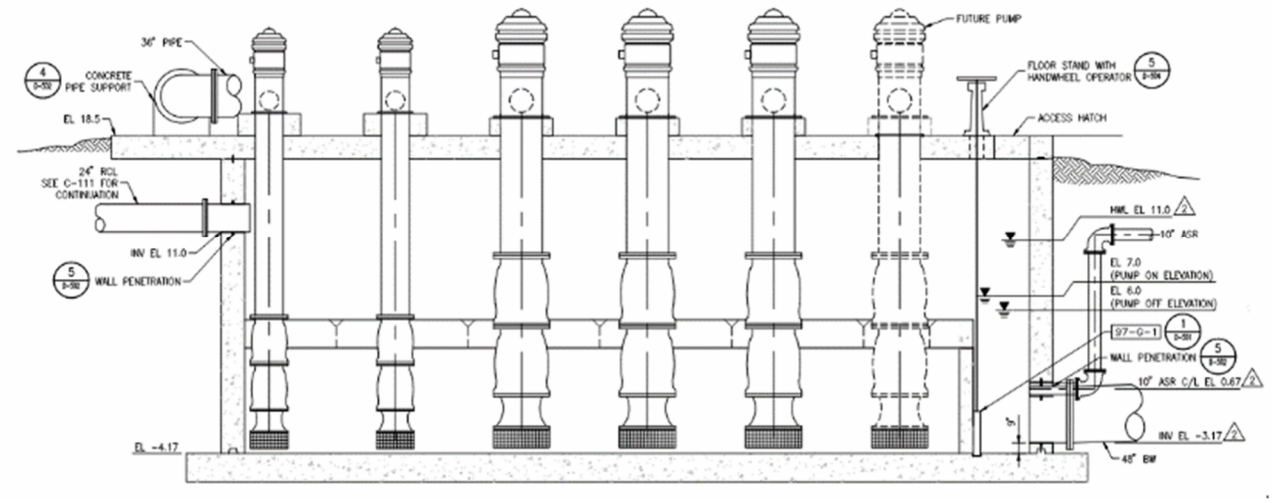


Figure 4-20. Recycle Pump Station

Table 4-27 shows a summary of the existing Recycle PS pumps.

Table 4-27. Recycle Pump Station

Pump	97-P-1 & 97-P-2	97-P-3 Through 97-P-5
Manufacturer	FlowServe	FlowServe
Model	18ENH	20ENH
Type	Multi-stage Vertical Turbine	Multi-stage Vertical Turbine
HP	100	200
Speed (RPM)	1200	1200
Power Supply	480 V/3 Phase/60 Hz	480 V/3 Phase/60 Hz
Speed Control	VFD	VFD
Flow (gpm)	3500	7600
BEP Efficiency	86	86
Suction (in)	12	18
Discharge (in)	16	20

The pumping station is supplied from the existing filters, plant drains, and pressate from the belt filter presses. The recycle station conveys flow back to the Reservoir 2. The 2011 expansion also allowed influent to come from the gravity thickener supernatant. However, the Authority diverts the supernatant to the sludge drying beds to avoid sending additional chemicals to the reservoir.

The recycle pump station design was reviewed to evaluate whether the station could be used within the PRF expansion project. There were minor discrepancies between the current HI Standards. However, the non-compliant issues are considered minimal and would not significantly impact the overall operation or

pump life. Minor modifications to the existing recycle pump station are recommended to optimize the life of the pumps.

Current Flows

Hourly SCADA records were reviewed from January 1, 2023, to January 31, 2023, to evaluate the current recycle pump station average flows conditions. Recycle pumps were not running consistently every hour, so there were periods of influent flow only. The influent flow was calculated by dividing the hourly pumping rate when the pumps were operating by the number of hours with no pump activity, summarized in Table 4-28.

Table 4-28. Recycle Pump Station Influent Flows

Peak (gpm)	Base (gpm)	Delta (Peak – Base, gpm)	Average (gpm)
10,810	92	10,718	1,728

The belt filter presses only operate one shift per day during the week. The average base flow was over the 24 hours. Pressate from dewatering is the primary source of inflow besides the backwashing activities, which provides higher inflow rates during the daytime when the dewatering process is operational.

The recycle pump station influent flow was normalized by dividing the calculated influent flow by the daily average finished water flow for the same periods to obtain a recycled pump station influent flow (gpm) per million gallons (MG). Table 4-29 summarizes the results.

Table 4-29. Summary Recycle Pump Station Inflow

	Base	Average	Peak
Recycled Inflow, gpm/MGD	3	59	369

The normalized recycled pump station influent flow was then multiplied by the current ADD, anticipated future ADD, current MDD, and expansion MDD to estimate the short-term and long-term recycle pump station influent flow ranges. Table 4-30 summarizes the results. The estimated peak condition (75-MGD PRF rated capacity after expansion) is 27,683 gpm.

Table 4-30. Summary Recycle Pump Station Inflow

Plant Finished Water Rate	Recycled Base Influent Flow (gpm)	Average Influent Flow (gpm)	Peak Influent Flow (gpm)
Existing ADD (29.7), MGD	92	1,728	10,810
Expansion ADD (41.9), MGD	131	2,438	15,466
Existing MDD (51.0 MDD), MGD	160	2,967	18,825
Expansion ADD (41.7), MGD	131	2,426	15,392
Expansion MDD (75.0), MGD	235	4,363	27,683

4.7.4.1 Recycle Pump Station Modeling

The recycle pump station was modeled using AFT Fathom to evaluate if the current pump station could support the additional recycle flow generated from the complete expansion's 75 MGD MDD-rated flow conditions. Record drawings were used to identify recycle pump station layout, pipe size, elevations, piping and pumping configuration, and speed control. Reservoir record drawings were used to inform the force main pipe's size, material, elevations, and overall length from the recycle pump station to the reservoir. Pump curves were from O&M Manuals and manufacturer input.

The results of this modeling are summarized in Table 4-31. Note that the current five (5) pump configurations can convey the estimated peak flow (27,683 gpm) condition associated with the PRF expansion.

Table 4-31. Recycle Pump Station Fathom Model Results

Peak (gpm)	Max Flow 5 Pumps (gpm)	Max Flow 6 Pumps (gpm)
High Hydraulic Scenario	29,605	35,020
Low Hydraulic Scenario	35,530	42,981

The original recycle pump station was designed to handle three (3) filter buildings backwashing simultaneously, maximum daily flow, and a treatment process draining simultaneously. The recycle pump station was also designed to take the flow of the supernatant from the gravity thickeners, meaning a conservative flow rate was planned initially, and the base flow is less than anticipated during previous expansions, as the PRF diverts supernatant from gravity thickeners to the sludge drying beds.

4.7.4.2 Recommendation and Additional Considerations

Recommendations and additional considerations regarding the Recycle Pump Stations include:

- The existing recycle pump station can be used for the expansion. Adding the 6th pump is recommended to achieve N+1 redundancy. The peak condition would warrant five pumps in operation. There is space for the future pump. A flow conditioning pump intake is recommended and is consistent with the existing pumps.

4.7.5 Transfer Pump Station (Process 035)

The existing transfer pumps from the 2011 expansion project are constructed within common wall construction of the granular media filter buildings and are integral to Plants 3 and 4 operations. The existing transfer pump station was not feasible because the existing transfer pump stations are integrally connected. A new transfer pump station is required for the DCP Expansion.

4.7.5.1 Existing Transfer Pump Station

The existing transfer pumps operate on variable frequency drives to maintain a wet well level. Table 4-32 summarizes the existing transfer pumps.

Table 4-32. Plant 3 & 4 Transfer Pumps	
Pump	35-P-1 through 35-P-4
Manufacturer	FlowServe
Model	25EPM-1
Type	Single-stage Vertical Turbine
HP	150
Speed (RPM)	885
Power Supply	480 V/3 Phase/60 Hz
Speed Control	VFD
Flow (gpm)	9030
BEP Efficiency	50.5
Impeller Size (in)	19.5
Discharge (in)	20

4.7.5.2 Proposed Transfer Pump Station

The design basis assumed that the transfer pumps are located within common-wall construction downstream of the chlorine contact basin. Four pumps were used to have 3-duty and one redundant configuration (N+1). Figure 4-21 shows a conceptual level design of the transfer pump station.

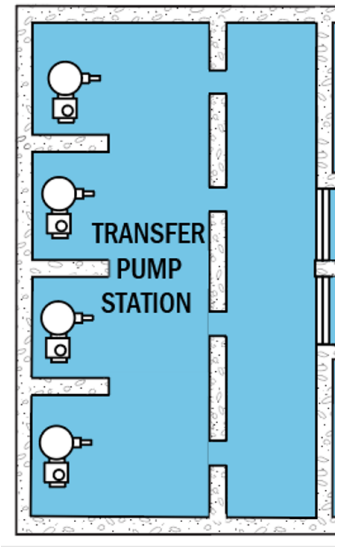


Figure 4-21. Concept Layout of Transfer Pump Station

The process flow has post-chlorinated water travel over weirs to encourage air removal of entrained air and off-gassing. The four holes in the figure are orifices, which also encourage entrained air removal, off-gassing, and flow distribution. The orifices are designed for velocities of 2 feet per second. The pumps

are shown with baffles to be HI Compliant. However, if a physical model is performed, the baffles may not be required. The pumps shown are vertical turbine pumps. A separate discharge pipeline from the transfer pumps to the ground storage tanks was assumed because the 2011 expansion transfer finished water pipeline was intended to convey only part of the flow and could have contact time impacts. The transfer pump station static head requirements depend on the ground storage water elevations. The pumps are assumed to be similar in size to existing pumps because the static head requirements are similar to the 2011 expansion project. Table 4-33 shows the necessary hydraulic elevation requirements.

Table 4-33. Hydraulic Elevations Requirements

Design Criteria	Number	Units
Approximate Finished Floor Elevation (estimated)	30	Feet
Maximum Ground Storage Tank Level	30	Feet
Minimum Ground Storage Tank Level	20	Feet
Low Flow	1,389	GPM
Combined High Flow	16,667	GPM

Table 4-34 summarizes the preliminary transfer pumps design basis.

Table 4-34. Preliminary Transfer Pumps Design Criteria

Design Criteria	Number
Type	Vertical Turbine
No. of Pumps	3 duty, 1 standby
Design Head Max (feet)	100
Max Flow (gpm)	10,500
Motor Speed	1,200
Motor Control	Variable
Horsepower	150
Power Supply	480V / 3 Phase / 60 Hz

4.7.5.3 Recommendation and Additional Considerations

Recommendations and additional considerations regarding the transfer pump stations include:

- The new transfer pump station be HI Standard complaint.
- The Design-Builder shall consider whether fewer transfer pumps would be optimal.
- The Engineer of Record makes final recommendations regarding the transfer pump configuration and pump selection.

- The Design-Builder, in collaboration with the Engineer of Record and the Authority shall identify the tie-in point.

4.8 Solids Management Strategy

4.8.1 Current Solids Management

The current solids management system is based on gravity thickening of settled alum-PAC sludge prior to mechanical dewatering by belt press. Settled sludge with a solids concentration of about 0.5% is transferred by gravity "blow down" to one of two 50 ft diameter by 15 ft SWD gravity thickener tanks. The gravity transfer is controlled by timers and motorized valves on withdrawal piping connected to the sludge hoppers in the solids contact (Units 1, 3 and 4) and conventional (Unit 2) settling basins.

Supernatant displaced by the sludge blowdown was intended to be recycled to the reservoir through the recycle pumping stations that also transfers filter backwash to Reservoir 2.

The design concept is for sludge to be gravity thickened to about 2.5% solids prior to pumped transfer to one of two belt press feed pumps. The belt press feed pumps are VFD controlled progressive cavity pumps and meter thickened sludge to one of two 2-meter belt presses. Dewatered cake is transferred to haul trucks by progressive cavity pumps.

One of the gravity thickeners was converted to a blending tank by re-piping the transfer pump to provide in-basin recirculation. This modification improved management of the belt press operation by providing a consistent feed solids concentration. Otherwise, the solids concentration diminishes as the sludge blanket is withdrawn requiring adjustments to optimize belt press performance. Currently the supernatant is directed to the sludge dewatering pond rather than recycled to the reservoir.

4.8.2 Future Solids Production with Expansion

Surface water treatment residuals primarily consist of aluminum hydroxide, removed organics, suspended solids, and settled PAC. The production of water treatment residuals can be estimated as follows:

lbs/day (dry solids) = MGD processed x 8.34 [(alum dose mg/L x alum coagulant factor) + PAC (mg/L) + polymer (mg/L) + TOC (mg/L) removed by enhanced coagulation + raw water TSS (mg/L)]

For the PRF:

- Surface Facility Ultimate Design finished water MGD is 75 MGD.
- Alum dosage average application is 153 mg/L for design (enhanced coagulation).
- Use a coagulant factor of 40% which is the proportion of aluminum hydroxide sludge observed in relation to the aluminum sulfate applied in terms of dry weight. (This value can range from 36% to 44% in practice).
- PAC dosage average application is 16.5 mg/L for design. *Seasonally the PAC dose can be significantly higher, this will require the belt filter presses to be operated for longer durations.*
- Polymer dosage average application is 0.44 mg/L for design.
- Reservoir raw water average TOC is assumed to be 20 mg/L for design based on reported turbidity. Design TOC removal is 70%, or 14 mg/L.

Reservoir average raw water TSS is assumed to be 3 mg/L for design.*lbs/day = 75 x 8.34 [(153 x 0.40) + 16.5 +0.44 + 14 + 3] = 59,260 lbs/day dry solids at peak production.*

If assume that the solids concentration of the sludge increases to 30% during dry storage prior to hauling, this production is equivalent to 1.32 tons per day to be hauled per million gallons per day of finished water produced. This calculated value is close to the reported contract hauling from May 2022 through February 2023 of 1.28 tons/MGD produced.

4.8.3 Solids Management System

The proposed solids management system builds on the existing system of gravity thickening of settled solids followed by mechanical dewatering using belt filter presses. Settled solids generated by the expansion will be metered and pumped to a new gravity thickener/blending tank (Process 80). Thickened sludge underflow will be pumped to the belt press facility (Process 90), or alternatively to the existing thickener/blending tank Thickener supernatant will flow by gravity to the recycle pumping station. Design assumptions are that the settled solids underflow (sludge) will have a solids concentration of 0.5% (5,000 mg/L) and that thickened sludge will have a solids concentration of 2.5% (25,000 mg/L). Dewatered sludge is a semi-solid assumed to have a solids concentration of 20% (200,000 mg/L). Pressate and belt wash waste streams will flow by gravity to the recycle pumping station. A new third belt filter press is required, and will have a dedicated, variable speed, progressive cavity pump that operates in a metering fashion while being unaffected by feed solids concentration or head conditions. The feed pump will be a positive displacement progressive cavity pump. Dewatered cake (semi-solid) will be transported to the truck loading station by a dedicated positive displacement progressive cavity semi-solid pump.

4.8.3.1 Settled Sludge Transfer Pumping

Assuming a settled sludge solids concentration of 0.5% the liquid volume of settled sludge from all of the settling processes at full production of 75 MGD finished water (*solids contact - Units 1, 3, and 4, conventional 2-stage - Unit 2, and proposed plate settlers*) is given by:

gallons per day wet solids = lbs/day dry solids (100%) / ratio of wet solids to dry solids / 8.34 lb/gal

gal/day = 63,477 / (0.5/100) / 8.34 = 1,522,230 gal/day

For the new process design capacity of 24 MGD MDD the proportion coming from the proposed plate settlers is:

1,522,230 x (24/75) = 487,000 gal/day = 338 gpm (if continuous withdrawal)

Continuous sludge withdrawal is recommended because the plate settling process does not rely on a sludge blanket to assist the consolidation of settled sludge. However, to provide operational flexibility pumps that can deliver up to 700 gpm with VFDs are recommended.

Use 2 pumps, one stand-by, equivalent to Gorman Rupp T6A61S-B5/F (15 hp).

Provide magnetic flow meter on 8-inch transfer pipe to gravity thickener.

4.8.3.2 Gravity Thickener and Blending Tank

A third gravity thickener will be needed to concentrate the solids generated at the new plate settling facilities. The thickener will be similar to the two existing gravity thickeners and would be 50 ft in diameter with a 15 ft SWD. Due to the low pH and high corrosivity of the alum sludge, the thickened sludge collector should have all wetted components fabricated from AISI Type 316 or 316L stainless steel. Supernatant displaced by settled sludge transfer will be pumped to the recycle pumping station. Thickened sludge will be pumped to the belt filter press facility. The thickener basin will be configured to also function as a blending tank to homogenize the contents for a consistent solids concentration feeding the belt press. This will be accomplished by piping the thickened sludge transfer pump to alternatively function as an internal recycle pump.

Thickened sludge or homogenized sludge will be pumped to the existing thickener complex for blending or repumping to the belt filter presses. If the new thickener is out of service, the piping will allow settled sludge to bypass the thickener and be pumped directly to the existing thickener complex for thickening and blending. A visual representation of the proposed gravity thickener and blending tank is shown in Figure 4-22 which includes a plan and elevation view of the structure.

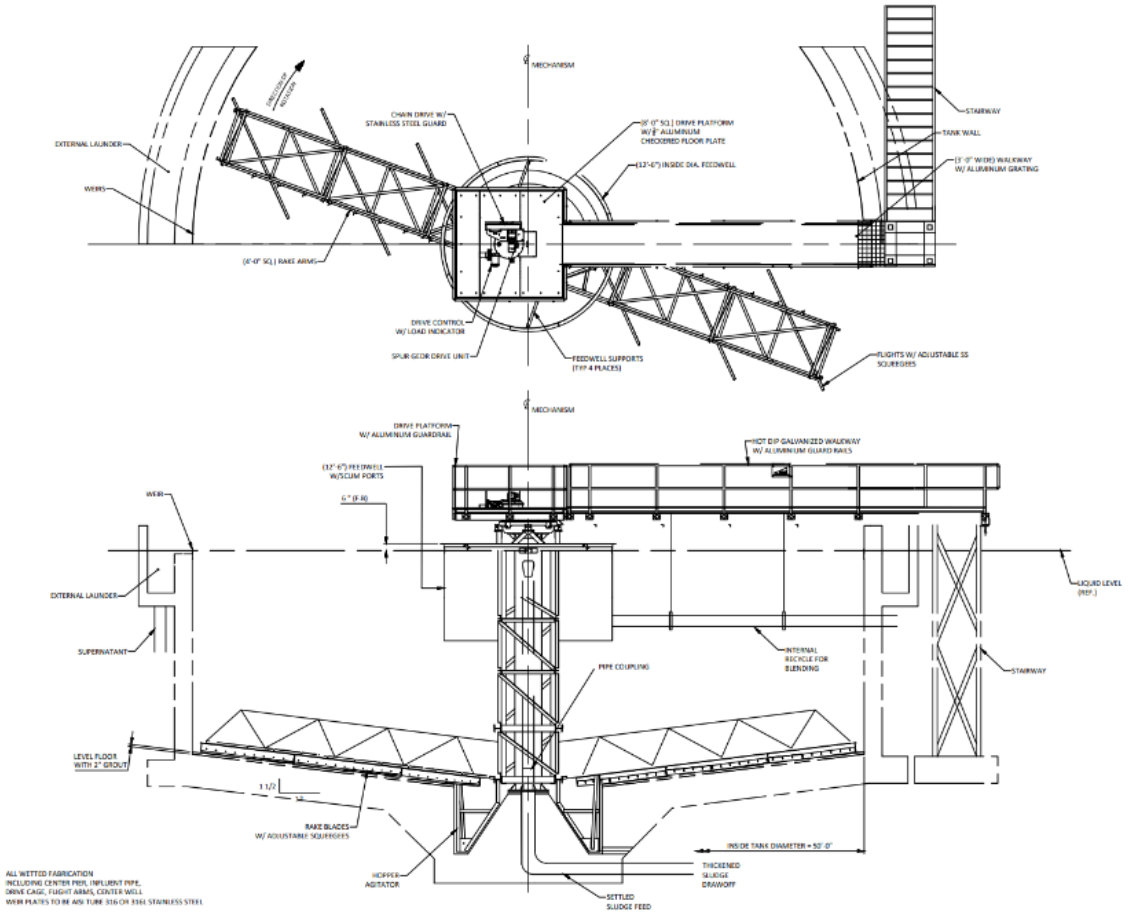


Figure 4-22. Plan and Elevation of Proposed Gravity Thickener

4.8.3.3 Thickener Supernatant Pumps

Supernatant pumping will use submersible pumps in a duplex pump wet well that could be constructed integral to the thickener basin. Constant speed pumps would have level control with high level alarm. Discharge would be to the recycle pumping station, with alternate piping to the existing back-up drying bed. Level control would include one pump on, two pumps on, high level alarm, pumps off. Pumping capacity is to be equivalent to the maximum settled sludge transfer pumping capacity.

Use 2 pumps, alternating, equivalent to Flygt N 3127 HT3 N-technology with capacity of 700 gpm at 24 ft TDH with minimum 10 hp motor.

4.8.3.4 Thickened Sludge Pumps

Assuming a thickened and blended for consistency sludge with a solids concentration of 2.5%, the volume of thickened sludge produced per day from the new 24 MGD MDD process is estimated as:

63,477 lbs/day dry solids x (24/75) = 20,300 lbs/day.

The volume of wet thickened sludge at a 2.5% solids concentration is:

gal/day = 20,300 / (2.5/100) / 8.34 = 97,400 gal/day

Assuming at least an 8-hour per day operation of the belt filter press associated with the new process train, the maximum thickened sludge flow rate is:

97,400 gal/day / 8 hours per day / 60 min per hour = 200 gpm (8-hour per day operation)

Use 2 pumps, one stand-by, equivalent to Gorman Rupp T4A61S-B5/F (7.5 hp).

4.8.3.5 Belt Filter Press Feed Pumps

Belt press feed pump shall be single stage progress cavity pump with VFD drive with flow controlled by the belt press control system. Provide one new progressive cavity feed pump manifolded into the existing belt press feed piping. Liquid pumped may be 1% to 5% solids concentration. Maximum capacity 300 gpm and minimum capacity 60 gpm.

Provide one VFD controlled pump dedicated to the new belt filter press, equivalent to SEEPEX BN 130-6LS / A1-C1-L8-F0-GA, with minimum 25 hp motor. Belt filter press feed pump will be interlocked with the thickened sludge transfer pump and controlled by belt press operation. Pumps and devices shall be of materials and coatings suitable for outdoor application.

4.8.3.6 Belt Filter Press

The existing belt filter press facility was designed for three 2-meter belt presses, with two Ashbrook 2-meter presses installed. Therefore, a third 2-meter belt press will be installed in the space provided previously. The new belt press will be an Alfa Laval AS-H Belt Press G3 200 (Klampress High Solids). In 2012 Alfa Laval purchased Ashbrook Simon-Hartley and the G3-200 replaces the original presses.

The belt press can process 1,500 lbs (dry solids equivalent) / hour in this application. The dry solids production anticipated to be generated by the 24 MGD MDD capacity expansion is 20,300 lbs per day,

requiring operation up to 14 hours er day or two shifts at full finished water production. Belt wash requirements are 80 gpm at 85 psi. In 14 hours of operation this could total 67,200 gallons

Assuming a cake solids concentration of 20%, pressate volume can be estimated as:

$$gal/day = 20,300 / (20/100) / 8.34 = 12,170\ gal/day$$

At full finished water production of 24 MGD MDD about 80,000 gpd of pressate and belt wash will flow by gravity to the recycle pumping station. A visual representation of the proposed belt filter press is shown in **Figure 4-23** which includes a plan and elevation view of the structure.

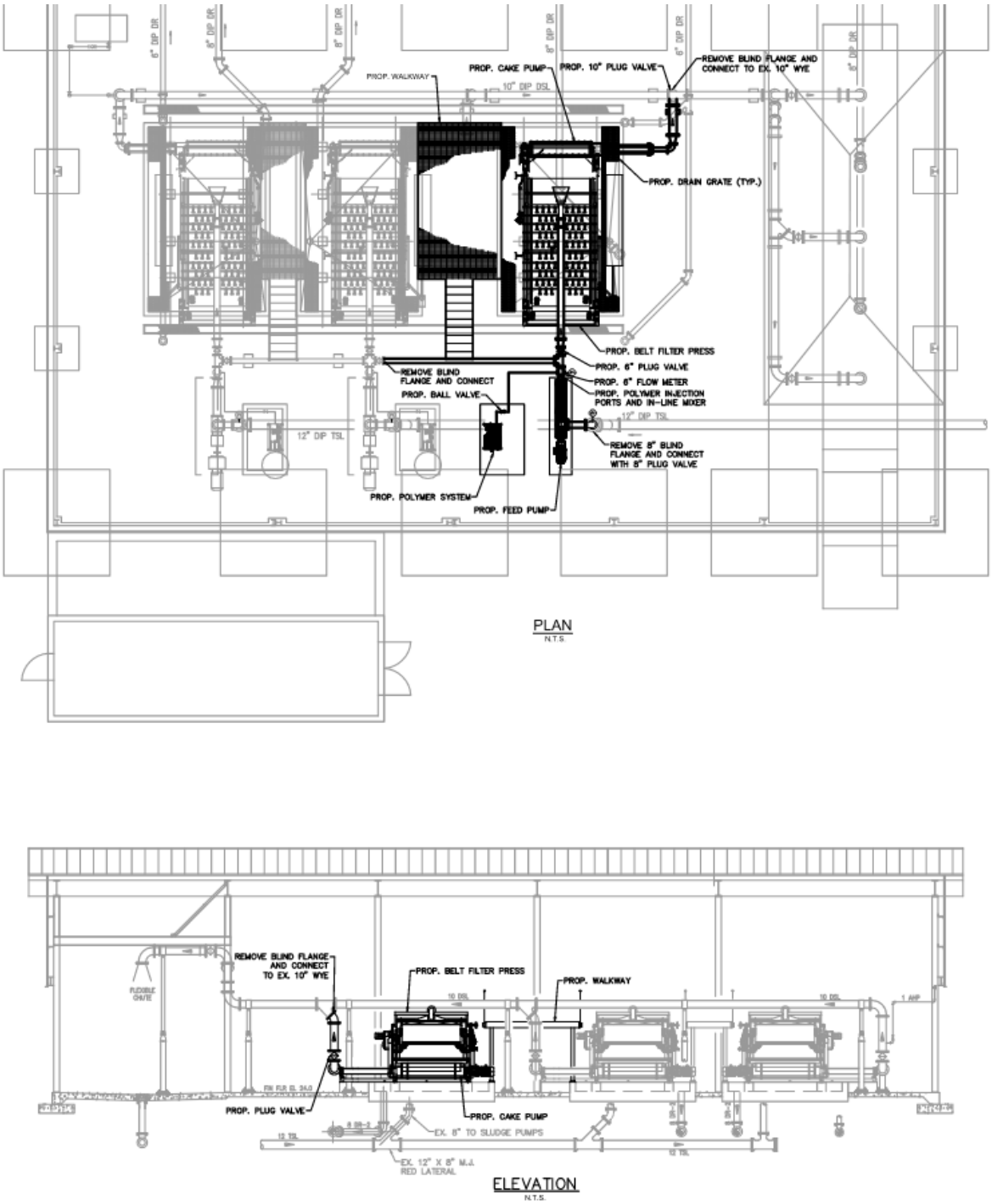


Figure 4-22. Plan and Elevation of Proposed Belt Filter Press

4.8.3.7 Dewatered Cake Pumps

Belt press discharge semi-solids (cake) pump shall be single stage open hopper progress cavity pump with VFD drive with flow controlled by the belt press control system. Provide one new progressive cavity feed pump manifolded into the existing belt press cake piping. Semi-solid liquid pumped may be 15% to

30% solids concentration. Maximum capacity 20 gpm and minimum capacity 15 gpm at 150 psi discharge pressure.

Provide one VFD controlled pump dedicated to the new belt filter press, equivalent to SEEPEX BTVE 35-24 / B2-B3-L8-F0-S, with minimum 25 hp motor. Provide a laser level system and touch controller in NEMA 4X enclosure. Provide dry run protection. Pumps and devices shall be of materials and coatings suitable for outdoor application.

4.8.3.8 Existing Cake Pumping System

The existing belt filter press configuration uses semi-solids progressive cavity cake pumps to transfer dewatered sludge to haul truck loading bays. The existing piping is configured for adding a third belt press. Operations reported the piping works well but the cake pump is difficult to access for maintenance. Reconfiguration of the solids handling system to use belt conveyors would be a complication. Progressive cavity pumps have newer designs for their pumps that is intended to make disassembly more convenient, it is proposed to use the newer design for the new cake pump. Furthermore, the conversion of the cake pump system was assessed with operations. Belt conveyors would have separate challenges and maintenance requirements. The Design-Builder shall not consider conversion of the dewatered cake system to belt conveyors, as an operational decision and Authority preference.

4.8.3.9 Dewatering Polymer Feed System

Provide a wet polymer blending and feed system dedicated to the new belt filter press. Polymer system furnished to be coordinated with Authority preferences for type of polymer and polymer delivery and storage. The polymer system to be equivalent to Polyblend® MM1200 Polymer Feeder with a feed pump capacity of 0.2 to 4.0 GPH and includes provisions for dilution water flow rate of 60 to 1,200 GPH. Major system components will be skid mounted and will include a mixing chamber, dilution water flow meters and controls, polymer metering pump, and NEMA 4X control panel. Materials suitable for outdoor installation and corrosion resistant. Interlock polymer feed with operation of the belt filter press.

4.9 Site-Civil

This Section describes the design criteria for civil and yard piping improvements, including existing conditions, civil design criteria, and standards applicable. Civil and yard piping standards shall be coordinated amongst engineering disciplines during final design and construction. The objective of these guidelines is for consistency and accuracy in civil and site engineering design.

4.9.1 Existing Assets

The topography within the PRF property for the undisturbed property is lower that the adjacent developed areas by approximately 10 ft. Fill was imported to elevate and level the site during the several construction phases. The developed site consists of paved areas (asphalt, concrete), tanks, buildings, and existing ground surfaces. The existing stormwater facilities onsite consist of a series of wet retention ponds and a pipe network, which directs all stormwater runoff to the wet retention areas. Utilities include

process piping, potable water and electrical ductbanks. For additional information regarding electrical services, refer to record drawings.

4.9.2 Responsibilities

The civil design standards must achieve level of service to maintain the health and safety of plant personnel and visitors. These factors include effective stormwater management, maintaining emergency access routes to all areas, minimizing accidents through proper roadway and traffic safety, locating piping systems to avoid leaks and spills, and other related issues. Considerations include:

- Survey coordination
- Geotechnical coordination
- Grading design
- Roadway design
- Stormwater design
- Site piping design
- Coordinate with other design disciplines

4.9.3 Codes

The PRF is located within the Desoto County, Florida. Design standards and corresponding jurisdictions are provided below.

4.9.3.1 Federal

The United States EPA has approved Florida's application to administer and enforce the Florida's Pollutant Discharge Elimination System program. Through this program, the FDEP administers construction general permits for construction activities that disturb 1 acre or more.

4.9.3.2 State

The Florida Building Code identifies minimum design standards for roads, grading, stormwater, emergency vehicle access, landscaping, and utility design.

FAC 62-555 specifies the state requirements for pipe separation. The FAC also provides several other permitting requirements for construction of public water systems.

Construction activities that disturb 1 acre or more are required to obtain authorization to discharge stormwater under a National Pollutant Discharge Elimination System (NPDES) construction stormwater permit, which is available through the FDEP. This permit outlines construction provisions to comply with the requirements of the NPDES stormwater regulations.

4.9.3.3 Local

The PRF is required to adhere to DeSoto County Building Code for setback distances between buildings, minimum flood elevations, and requirements for finished floor elevations. If there are conflicts between

local, State, and Federal requirements, the more stringent requirement is applicable, unless a variance is requested and approved by the proper organization.

The locations for proposed new facilities are not located in a FEMA defined Flood Zone however, portions of the PRF property are in FEMA Zones A and AE (FEMA effective 10/7/2021). Where indicated in adjacent areas, the BFE is shown to be elevation 12.3 NAVD. For critical infrastructure, all facilities subject to flood damage should be placed not less than 2 ft above any known BFE, and 2 ft above grade regardless of Flood Zone is recommended (ASCE Class 4 Critical Infrastructure).

Desoto County land development permitting would fall under Section 20-142, Public / Institutional (P/I). Because the Peace River Facility is a water treatment plant, it would fall under Section 20-142 (1) c.1 and would be exempt from land development permitting under special exceptions.

4.9.4 Preliminary Environmental Site Assessment

A preliminary environmental review was performed for the proposed project by Earth Resources Consultants, which consisted of field work performed (March 2023) and desktop work. The two summaries below are related to the significant findings. Refer to Appendix B of Funding Bridging Documents (included in **Appendix A** of this report) for the entire Earth Resources Consultant's report. The preliminary review indicated:

- Six (6) active groper tortoise burrows were documented within the site area which may require an additional permit from the Florida Fish and Wildlife Conservation Commission (FWC) prior to construction activities. Burrows may not be destroyed. Prior to construction a biological survey of the project site will be required to check for the presence of the burrows.
- Wetlands were identified within the site. However, the location of the wetlands can be avoided. The Design-Builder shall consider the required wetland setbacks. **Figure 4-24** shows the approximate project site boundary in relation to local wetlands. Generally no structure shall be closer than 30 ft to a wetland boundary, with specific requirements to be confirmed.

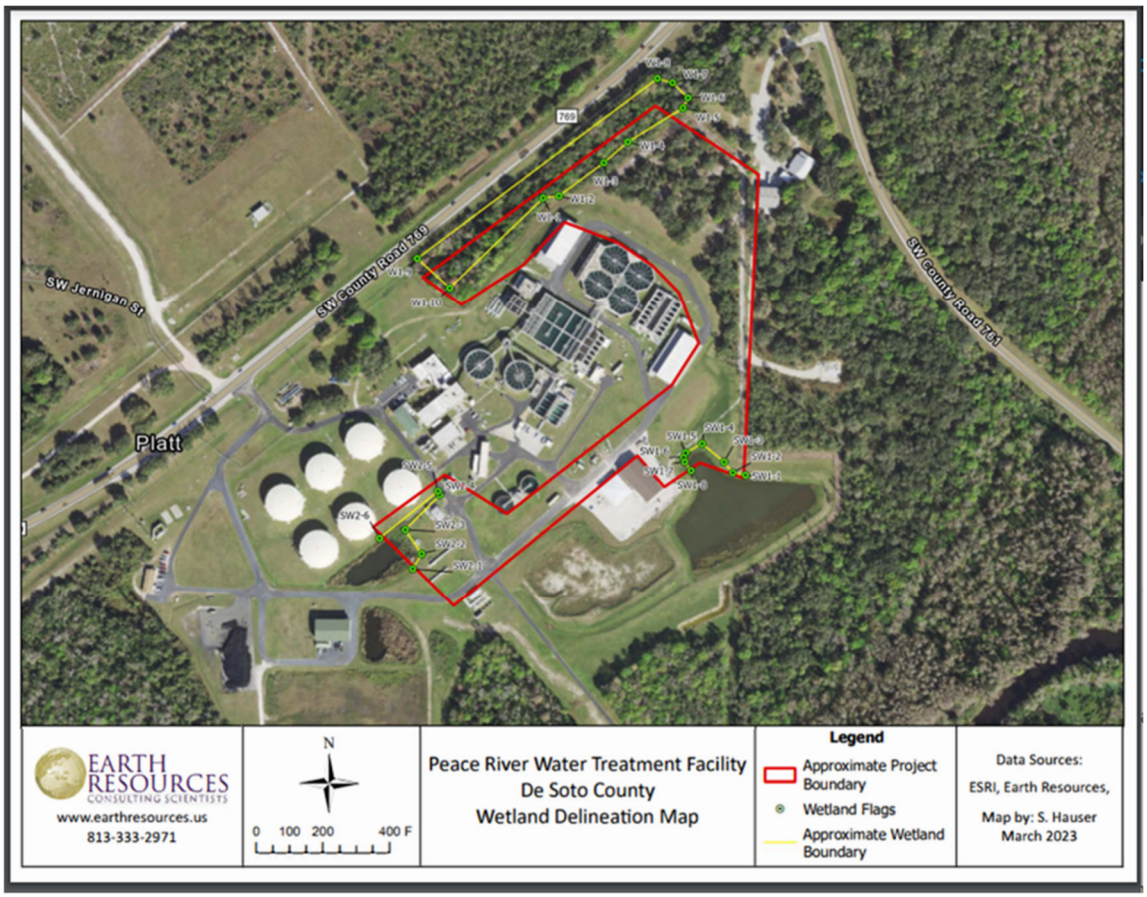


Figure 4-24. Wetland and Surface Water Location Map

4.9.5 Survey

A survey was conducted on the week of February 13th, 2023, by Hyatt Survey Services, Inc. The survey focused on the undeveloped area to document topography, existing conditions, significant trees, and potential fill quantities required. The facility's developed area that was unlikely to be impacted was not surveyed. Figure 4-24 shows the survey limits.

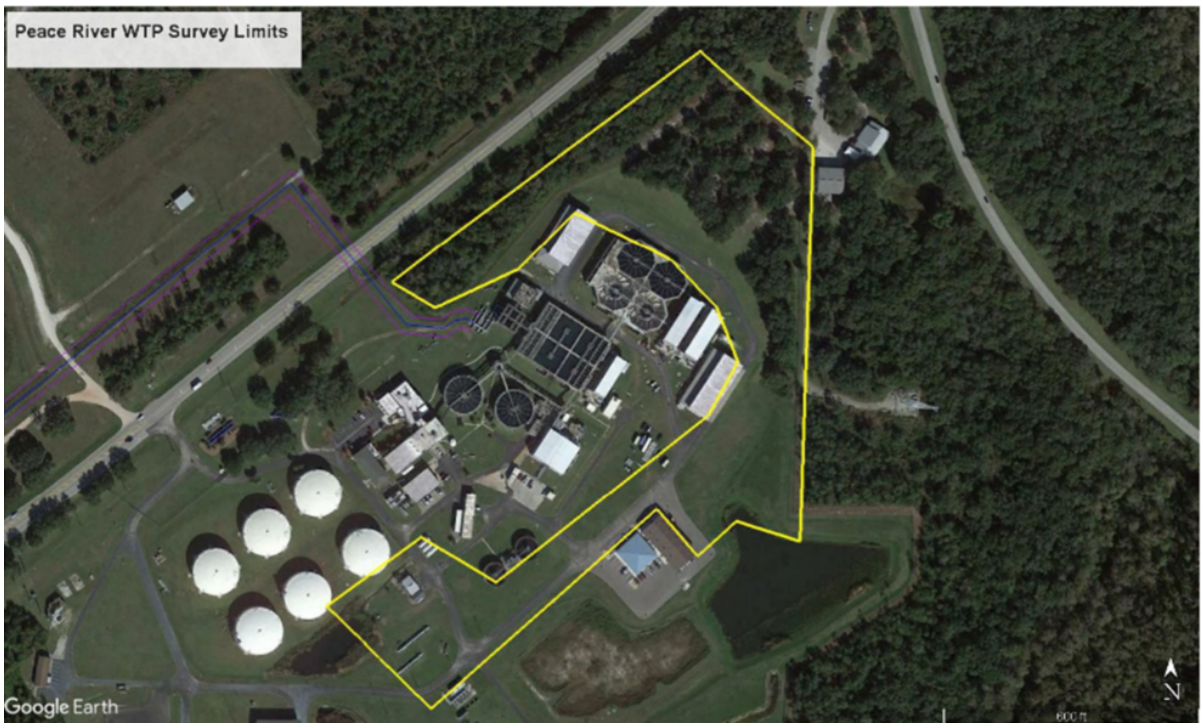


Figure 4-25. Survey Limits

The survey was referenced to grid a projection of the State Plane Coordinate System of Florida West Zone (NAD 83/11) and the North American Vertical Datum (N.A.V.D.-1988). The survey work was performed in accordance with the standards of practice outlined in Chapter 5J-17 (F.A.C. 427.027). The survey was not a boundary survey and did not include subsurface utility location services beyond visible above ground utilities and appurtenances. All underground utilities were graphically depicted in coordination with the visible appurtenances. The wetland limits were based on the field wetland delineation completed.

4.9.6 Topography

Available space on the Peace River Facility site is to the north-east. The undisturbed property is significantly lower than the adjacent developed area, by approximately 10 ft., because fill was imported to elevate and level the site. Suitable fill that will form a base for the proposed structures will need to be imported, and adjustments to area drainage and water quality impacts addressed. Refer to Drawing C-00-100 – SURVEY WITH BORING LOG located in in **Appendix H**.

The Design-Builder shall ensure the design of grading modifications facilitate drainage away from buildings and structures and into drainage control features. Site grading requirements include the following list:

- Maximum grading slope
  - Earth/landscaped slopes: 3:1 (H:V), unless approved otherwise by the Authority
  - Temporary construction slopes: 1.5:1 (cut or fill), unless otherwise noted in geotechnical report

- Minimum grading slope for drainage
  - 2.0 percent over unimproved and gravel surfaces
  - 1.0 percent over asphalt cement pavements
  - 0.5 percent over concrete slabs and pavements
- Finished grade of earth adjacent to structures: minimum 2 inches below the finished floor elevation.
- Finished grade of paved surfaces adjacent to structures: minimum 2 inches below the finished floor except at doorway entrances 0 to 1/4 inch below the finished floor. All doorways exiting to landscaped areas require a concrete stoop outside the doorway.
- Grade away from structures per geotechnical report recommendations; minimum of 6 inches drop in first 5 feet for landscaped areas and two times minimum grading slope for other surfaces.

4.9.7 Proposed Site Plan

To accommodate the proposed new facilities will require general site improvements that will include fill and possible retaining walls to accommodate the topography of the existing conditions, plus roadway improvements including widening areas of the internal roadways to accommodate delivery of chemicals. Internal roadways improvement will be coordinated with a new second entrance constructed as a separate project.

The on-site wastewater treatment and disposal system (OSTDS) was expanded and upgraded in 2011 and is anticipated to be adequate for the staffing level associated with the expansion.

Site design will need to be coordinated with the PR3 Project and new raw water supply lines and flow meters. Refer to Drawing C-00-101 – SITE PLAN located in **Appendix H**.

4.9.8 Yard Piping

These design guidelines apply to buried pipes in yard areas outside the 5-foot building envelope area where mechanical guidelines take precedence. Pipe located 5 feet outside a building/structure is considered yard piping. All other pipes are identified as process pipes. Trenching and bedding for pipelines in yard areas shall be in accordance recommendations from the Preliminary Geotechnical Investigation. Trenching and bedding for pipelines in yard areas shall be in accordance with recommendations from the Preliminary Geotechnical Investigation.

4.9.8.1 Material Selection

Major yard piping improvements will include constructing new raw water pipelines between the flow meters (flow tubes) constructed as components of the PR3 Project and the PAC contact, mixing, flocculation and sedimentation basin. Capacity will need to be 24 MGD MDD equivalent at design conditions.

Settled sludge will be pumped to the new gravity thickener and blending tank entering the tank through the center column are shown in **Figure 4-22**.

The plate settling tanks and will gravity flow to the new filter structure and may be accomplished by elevated stainless-steel piping or buried DIP piping.

Filtered water will gravity flow to the disinfection basin and may be accomplished by elevated stainless-steel piping or buried DIP piping.

The transfer pumping station integral with the disinfection basin will pump finished water to the ground storage tank complex through a buried DIP.

It is recommended that all yard piping be fully restrained or flanged with the exception of elevated piping between basins if used, elevated pipe between structures should be provided with flexibility to accommodate differential settlement.

Pipeline materials considered for the irrigation supply pipeline follow:

- Ductile iron pipe conforming to ANSI/AWWA C151

Pipeline materials considered for the industrial recycled pipeline follow:

- Ductile iron pipe conforming to ANSI/AWWA C151
- Polyvinylchloride (PVC) pipe conforming to ANSI/AWWA C900

4.9.8.2 Pipe Separation

Where practical, separate potable water pipes 10 feet (horizontal clear spacing) from process piping, stormwater, or sewer pipes running parallel as required by FAC 62-555. If maintaining the minimum 10-foot separation is infeasible due to cost or complexity, then abide by the provisions of FAC 62-555 regarding reduced separation.

4.9.8.3 Pipeline Alignment and Profile Design Criteria

The following alignment and profile criteria need to be applied to all alternative alignments developed. Refer to the section entitled “Final Alignment Selection for Analysis.” See the section below for pipe shell design criteria.

4.9.8.4 Pipeline Shell Design Criteria

Ductile iron pipe shall be designed in accordance with ANSI/AWWA C150/A21.50 and the procedures described in AWWA M41.

PVC pipe shall be designed in accordance with the procedures described in AWWA M23

4.9.8.5 Ductile Iron Pipe Shell Design

a. External Loads

External loads on a pipeline include dead loads (i.e., overbearing soil and any improvements constructed above the pipe), live loads (i.e., construction traffic and/or vehicular traffic traveling above the pipe), vacuum pressures, or pressures from groundwater.

Dead loads attributable to the weight of the backfill shall be computed in accordance with Section 4.2.1 of AWWA M41 using the compacted soil weight provided in the geotechnical investigation. Dead loads caused by improvements constructed near or above the pipeline shall be computed by standard geotechnical engineering practices.

Live loads caused by standard highway loadings (H-20) on ductile iron pipelines shall be computed in accordance with Section 4.2.2 of AWWA M41. Special loading conditions on ductile iron pipe shall be evaluated as necessary including truck loads on shallow pipelines (Section 4.3 of AWWA M41) and railroad loads (Section 4.4 of AWWA M41).

b. Internal Loads

The maximum anticipated static pressure plus surge pressure shall be used to evaluate hoop stresses in ductile iron pipe in accordance with Section 4.2.7 of AWWA M41. A surge analysis will be performed by the Engineer of Record.

Field hydrostatic pressure tests of completed ductile iron pipelines shall be conducted as defined in Section 11.6.3 of AWWA M41 and shall be no more than the rated pressure of the valves when the pressure boundary of the test section includes closed valves, resilient-seated gate valves, or rubber-seated butterfly valves.

c. Wall Thickness

The formal design procedure to determine wall thicknesses for ductile iron pipe is described in detail in ANSI/AWWA C150/A21 and AWWA M41. Wall thickness design for ductile iron pipe on supports shall be based on the design procedures described in Section 4.5 of AWWA M41.

d. Thrust Forces Caused by Valves or Changes in Alignment

Longitudinal thrust force shall be calculated by the method described in Chapter 8 of AWWA M41. Bends in the alignment will create forces as shown in Figure 8-3 of AWWA M41.

e. Trench Width

The Engineer of Record shall determine the appropriate trench width for ductile iron pipe, taking into consideration the pipe diameter, depth of cover, type of material to be removed, space required for pipe installation and equipment operation, general construction practices, etc.

4.9.8.6 PVC Pipe Shell Design

PVC pipe shall be designed in accordance with the procedures described in AWWA M23.

a. External Loads

External loads on a pipeline include static earth loads, other dead or static loads, and live loads:

- Static earth loads shall be estimated as the prism load (the weight of soil above the top of the pipe) in accordance with Formula 4-3 of AWWA M23.

- Where applicable, loads from building foundations or other sources that may be superimposed on the pipe shall be analyzed in accordance with Formula 4-5 of AWWA M23.
- Live loads caused by standard highway loadings (H-20) and railroads (E-80) shall be computed in accordance with Table 4-1 of AWWA M23.

b. Internal Pressure

The maximum anticipated static pressure plus surge pressure shall be used as described below to evaluate stresses in PVC pipe in accordance with Section 5 of AWWA M23.

Field hydrostatic pressure tests of the completed pipeline shall be conducted as defined in Section 8 of AWWA M23. A surge analysis will be performed by the Engineer of Record.

c. Wall Thickness

The design procedure to determine wall thicknesses for PVC pipe is described in detail in ANSI/AWWA C905 and AWWA M23.

d. Thrust Forces Caused by Valves or Changes in Alignment

Longitudinal thrust force shall be calculated by the method described in Chapter 4 of AWWA M23. Bends in the alignment will create forces as shown in Figure 4-7 of AWWA M23.

e. Trench Width

The Engineer of Record shall determine the appropriate trench width for PVC pipe, taking into consideration the pipe diameter, depth of cover, type of material to be removed, space required for pipe installation and equipment operation, general construction practices, etc.

4.9.8.7 Pipeline Trenching, Bedding, and Backfill

Trenching shall conform to the applicable standards and permit requirements of the agency with jurisdiction in the area where construction occurs, DeSoto County, or Florida Administrative Code, whichever is more stringent.

For trenches exceeding 5 feet in depth or trenches in unstable soil for any depth, an adequate safety system shall be designed. The safety system shall meet the requirements of applicable local and state construction safety orders and federal requirements. Contract documents shall require that the contractor submit a trench excavation plan showing the design of the shoring, bracing, sloping, or other provisions for worker protection from the hazards of caving ground during construction.

The bedding and backfill design shall conform to the recommendations provided by the geotechnical engineer or the Florida Administrative Code, whichever is more stringent.

4.9.9 Stormwater Management

Modification of the attenuation of stormwater runoff at the site will be required due to new impervious paving and covered structures. This will be accomplished by drain inlets and piping connecting to the

existing system discharging into the existing stormwater wet detention pond. The Authority has indicated that the pond was intentionally oversized in anticipation of further expansion of the Peace River Facility. The Design-Builder shall verify through calculations, and a technical memorandum that the pond sizing is adequate to facilitate the expansion project.

A letter modification to the existing Environmental Resource Permit (ERP) for the Peace River Facility site will be required through SWFWMD. At a minimum the modification will require the Design-Builder to prepare the site grading plan, peak flow and maximum runoff volume calculations, routing calculations, collection and conveyance facility sizing calculations, drainage swale stability calculations, copies of required permits, and discharge agreements, as appropriate.

4.9.10 Erosion and Sediment Control

A Construction General Permit (CGP) is required for new construction disturbing a minimum of one acre. The permit is obtained by completing a Stormwater Pollution Prevention Plan and submitting a CGP Notice of Intent. Prior to submitting a permit application, the permittee must contact the City Erosion and Sediment Control Coordinator. A Specific Construction Site Discharge Control Plan and an Erosion and Sediment Control Plan will be required for all projects completed at the PRF.

4.9.11 Roadway Design

The design parameters for roadways on the PRF site follow:

- Design speed: 25 mph
- Minimum lane width: 14 feet
- No superelevation on curves

4.9.11.1 Roadways and Other Paved Areas

For pavement design, follow the ITD procedures for flexible pavement design outlined in Section 500 of the ITD Materials Manual or the minimum recommendation identified by the Geotechnical Engineer. Minimum pavement section thicknesses for asphalt paved roadways, regardless of the calculated thicknesses, follow:

- Asphalt surfacing: 3 inches
- Aggregate base: 4 inches
- Granular subbase: 4 inches

Match the patch type and configuration to the existing roadway surfacing. Temporary gravel or asphalt patches may be allowed during construction only if the phasing is such that additional work in the vicinity would disturb a permanent patch.

Make concrete sidewalks for pedestrian-only traffic a minimum of 4 feet wide and 6 inches thick, over a minimum of 6 inches of crushed aggregate base. Sidewalks adjacent to roadways should be vertically separated from the road surface by a curb or horizontally separated by 5 feet of landscaped strip between the edge of pavement and the walk.

Dedicated parking facilities are generally not required at the PRF site, except for in the vicinity of the Administration Building.

The color, size, and configuration for striping (if required) and other pavement markings shall be in conformance with the Manual of Uniform Traffic Control Devices, latest edition. Designs will incorporate paint quality that is the same as used by the ITD. Thermoplastic markings may be used with PRF approval.

4.9.11.2 Curbs and Drains

The PRF site generally does not have curbs and gutters for the majority of roadways on the site. Roadways and parking areas near the Administration Building do have curb and gutter sections. Match the existing configuration where existing curb and gutter is run and is disturbed or needs to be extended.

For areas where a design decision is made that a curb section or curb and gutter section is appropriate from a technical and cost perspective, use ISPWC standards for vertical curbs. Where ending a curb section, the terminus will follow the PRF Std Drawing N-707.

For inlets, catch basins, and manholes included in the project designs for roadway drainage use the current ISPWC design standard drawings (SD -500 and SD-600 Series sheets).

4.9.11.3 Landscaping

Landscaping requirements will be met with low maintenance native plants such as sabal palm, southern pine, southern live oak. Saw palmetto is slow growing, zero maintenance and offers deterrent to pedestrian intrusion if that is a concern.

4.9.11.4 Retaining Walls

A perimeter retaining wall may be needed to reduce the amount of fill and eliminate slope maintenance and may be required to obtain a building permit. The Design-Builder shall work with the Building Department to obtain the necessary permit approvals, should retaining walls be included in the expansion.

4.10 Hydraulics

The existing plants have two (2) different hydraulic profiles. The first begins at the river pumping station and includes Reservoir 2, Reservoir 1, and the reservoir pumping station downstream of the river pumping station. The reservoirs and pump station depend on the ongoing progressive design-build projects for the new river pumping station and reservoir 3. The hydraulic profiles were assumed to remain similar, with the new reservoir having higher elevation requirements than the existing reservoirs. The new river pumping station depends on the new reservoir's topography and designed storage elevations. **Figure 4-26** shows the existing water storage hydraulic profile from the river pump station to the reservoir pump station.

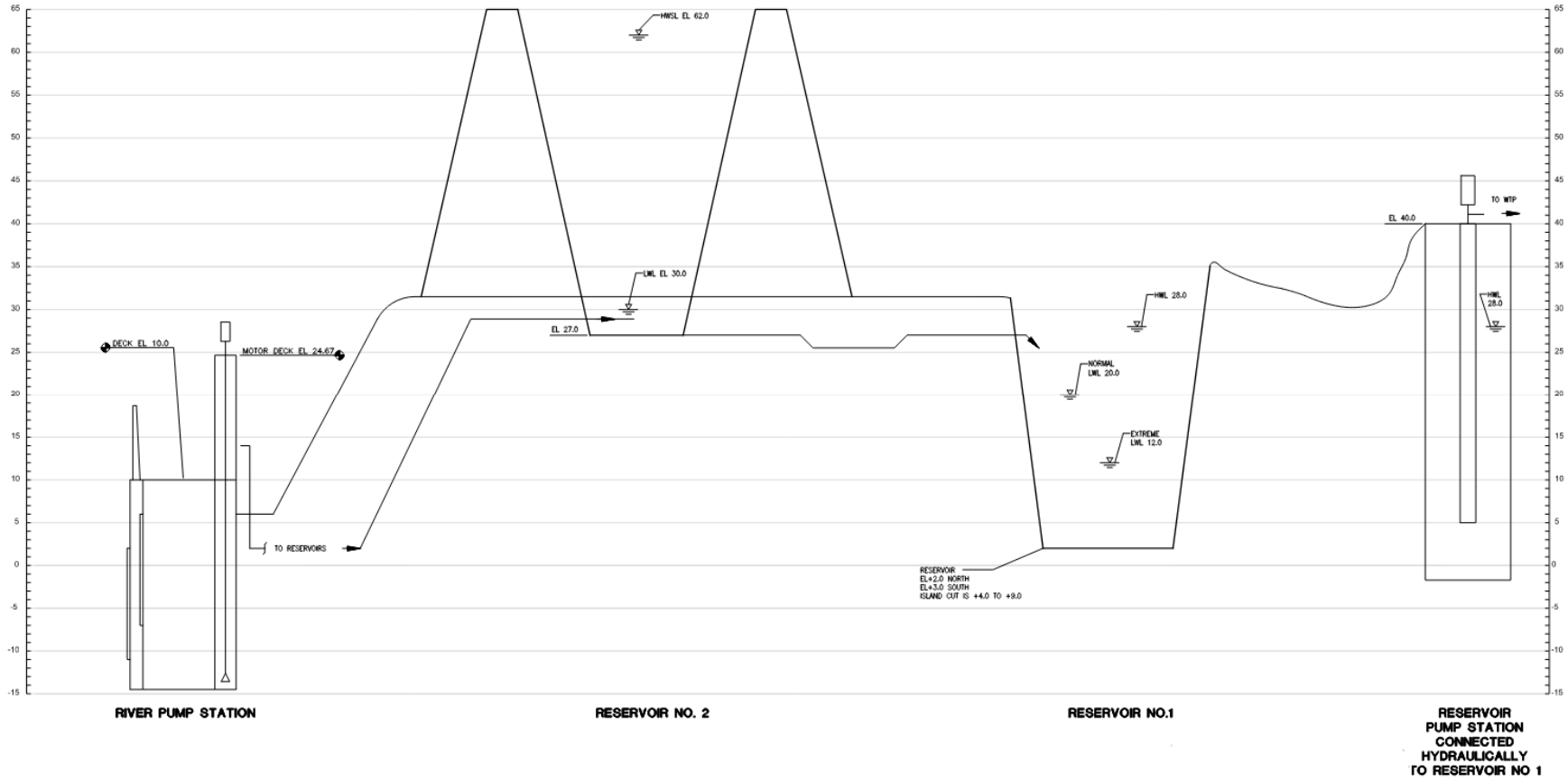


Figure 4-26. Hydraulic Profile – River Pump Station to Reservoir Pump Station

The hydraulic profile for Plant 3 & 4 starts with the PAC contact tanks. The reservoir or river pump station provides the head to convey the water to the PAC contactor. The head provided in the initial river/reservoir pumping is enough to accommodate all downstream processes without requiring additional pumping until the transfer pumps convey water to the ground storage tanks.

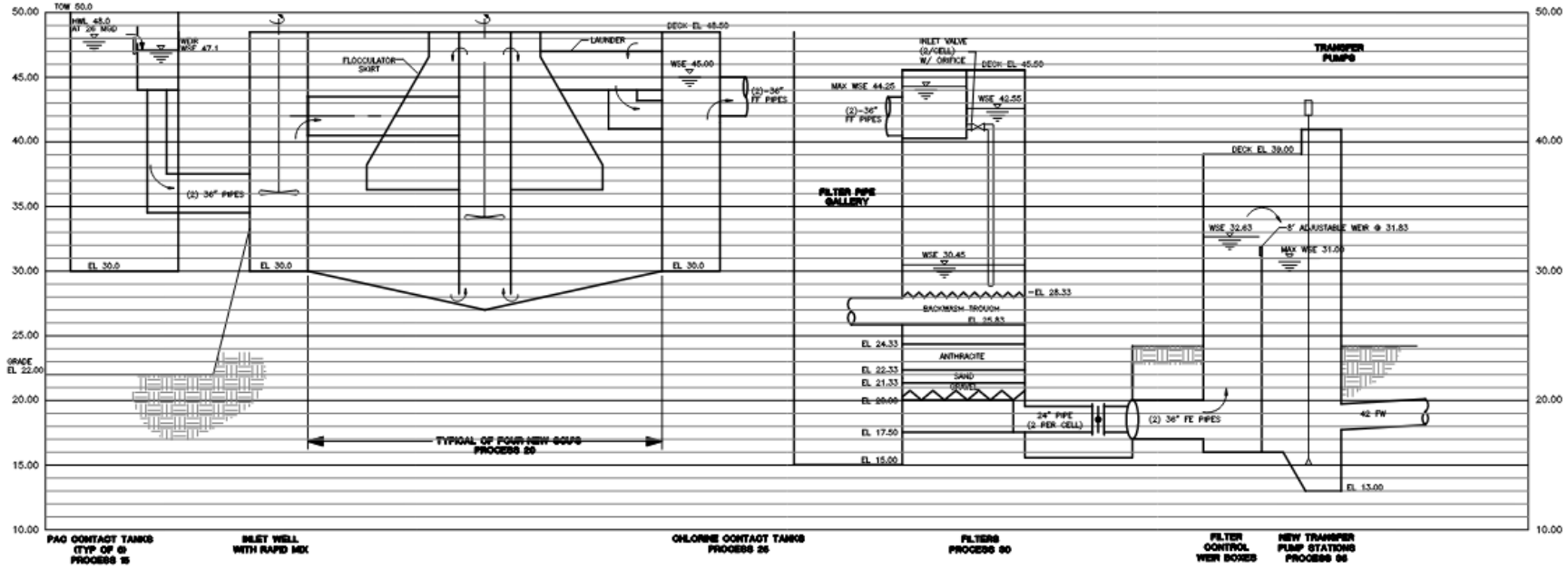


Figure 4-27. Hydraulic Profile – Plants 3 and 4

The new expansion should have a similar hydraulic profile to Plants 3 & 4, though the pretreatment headloss will be different with the proposed unit operations and additional frictional loses throughout the final yard piping configuration. The Design-Builder shall develop the actual hydraulic profile. The assumptions used in preliminary sizing used the existing hydraulic profile as the design basis.

4.11 Preliminary Geotechnical Investigation

A preliminary geotechnical investigation was completed by H2R, Corp. The final report is included as Appendix D. The investigation was completed for informational purposes only. It is the responsibility of the Design-Builder to develop the final design and perform the necessary geotechnical investigations to inform and substantiate its design and approach to construction.

The preliminary geotechnical investigation provides general site characterization by reviewing available existing data, and reviewing the results from shallow and deep borings in borings in the areas most likely to house heavy structures. Additional borings will be required as determined by the Design-Builder and will depend on the final design, including but not limited to sizing and site location of all buildings and tank.

Based on conditions encountered in the preliminary borings, the ground water table was located between 4 and 5 feet below ground surface at the time of the field exploration (March 2023). Note these depths were in the area located approximately 5 – 10 feet lower than the developed portions site. Groundwater was encountered in the developed portions at approximately 7 feet bgs. The historical seasonal ground water table is approximately 0.5 feet to 2.5 feet bgs. The geotechnical investigation identified soft and compressible materials which are anticipated to require attention and additional evaluation by the Design-Builder. These materials, if present beneath proposed structure foundations may require either a deep foundation or ground improvements to support the planned improvements. The Design-Builder shall conduct appropriate geotechnical investigation and foundation evaluations based on final location, depth, loading, and footprint of the improvements.

Shallow foundations may be able to be used for smaller process tanks. However, some larger tanks and buildings, a deep foundation may be required. These recommendations should be considered preliminary and shall be evaluated by the Engineer of Record as part of the final design development.

4.12 Structural Systems

This section presents the design concepts and criteria (including geotechnical considerations) associated with the structural systems for the project.

4.12.1 Applicable Codes and Standards

The following standard codes have application at this site:

- Florida Building Code, Building, 8th Edition (2023) *effective 12/31/23*
- ACI 301 Standard Specifications for Structural Concrete
- ACI 318-19 Building Code Requirements for Structural Concrete
- TMS 402-16 Building Code Requirements for Masonry Structures ACI 530 Building Code Requirements and Specification for Masonry Structures
- ACI Detailing Manual-SP-66
- ASCE 7-22 Minimum Design Loads for Buildings and Other Structures

- Precast and Prestressed Construction (PCI DESIGN MANUAL)
- Aluminum Design Manual 2020 (Aluminum Association)
- Steel Construction manual (AISC)

4.12.2 Structural Basis of Design

Table 4-35 summarizes the proposed structural facilities.

Table 4-35. Structural Basis of Design

Structure Category	Description
Building Structures	Basic non-water-containing structures and above grade construction shall utilize concrete and masonry construction materials to the greatest extent possible. Water-containing below grade structures shall utilize concrete cast in place concrete construction. Use of nonflammable structural materials such as prestressed concrete hollow core roof systems or double tees provide a desirable fire rated system while providing a good sound attenuation layer from the exterior.
Foundation Systems and Slabs on Grade	The building structures within WTP shall primarily be constructed on greenfield space with compacted subgrade and structural fill or auger cast pile foundation based on geotechnical investigation during detailed design.
Mechanical, Electrical and Other Equipment	Mechanical and Electrical Equipment may be supported on housekeeping slabs on top of the concrete floor with or without piles as determined during design. Special equipment such as vibrating machinery will be supported on isolated foundations designed to dampen the vibrations that could otherwise be transmitted to the rest of the structure or to other structures on the site.
Framing Systems	Concrete framing with in-fill concrete masonry walls
Miscellaneous Details	Trenches in buildings, where shown, will generally require stainless steel hardware to support fiberglass grating. Generally, contact between different materials is to be avoided. Where dissimilar materials meet, a masking strip of material or a coating shall be provided to preclude direct contract.

4.12.3Design Loads

4.12.3.1 Design Dead Loads

Design dead loads include weight of construction materials and permanent equipment weights.

4.12.3.2 Design Vertical Loads

Design vertical loads are shown in Table 4-36 below:

Table 4-36. Vertical Loads

Structure	Data
Live Loads	100 pounds per square foot (psf) minimum
Special Equipment	Actual concentrated maximum operational load
Process Structures/Storage-Floor Live Loads	250 psf (minimum)
Process Structures	Floor Live Loads can be greater where required for anticipated movement of heavy equipment on floor
Roof Live Loads	20 psf (minimum) or as required for use as a work area
Building Floor Electrical Room Live Loads	300 psf
Building Floor Live Loads – Offices and SCADA, Stairs and Walkway	100 psf

4.12.3.3 Impact Loads

Impact loads shall be considered in the design of all floor and framing systems. Table 4-37 summarizes the impact load factors that shall be used unless recommendations of the equipment manufacturer will cause a more severe load case.

Table 4-37. Impact Load Factors

Rotating machinery	20% (Fdn. Wt. = Min. 10 times rotating wt. or 3 times gross equipment wt., whichever is greater)
Reciprocating machinery	50% (Fdn. Wt. = Min. 10 times reciprocating wt. or 3 times gross equipment wt., whichever is greater)
Bridge Crane/Hoists	10 T
Vertical	25% of lifted load
Longitudinal	10% of lifted load
Hangers supporting floors and platforms	33% of live and dead load

4.12.3.4 Lateral Loads

Fluid lateral loads are based on a liquid pressure of 62.4 pounds per cubic foot (pcf), while soil lateral loads are based on a saturated soil pressure of 90 pcf typically using coefficient of at-rest soil pressure of 0.50. Since these soil pressures are yet to be defined in the Geotechnical Report, they are to be considered preliminary.

4.12.3.5 Wind Loads

Wind loading is based on the ultimate wind speed of 164 miles per hour (Risk Cat. IV, ASCE 7-22). This site is within a code designated Wind-Borne Debris Region; therefore, the design must be fully compliant with the code mandated criteria. Broward Notice of Acceptances (NOA) or Florida Product Approvals are required for all materials.

4.12.3.6 Foundation Loads

At this time, only a preliminary geotechnical investigation (Section 4.10) has been completed, not a full geotechnical investigation. Once the project specific geotechnical investigation is performed, it shall be used to determine the final foundation design.

4.12.3.7 Flood Loads

At this time, only a preliminary geotechnical investigation (Section 4.10) has been completed, not a full geotechnical investigation. Based upon final geotechnical investigation, flood loads shall be considered if applicable.

4.12.3.8 Seismic Loads

At this time, only a preliminary geotechnical investigation (Section 4.10) has been completed, not a full geotechnical investigation. Based upon final geotechnical investigation, Site class shall be determined.

Based on site class assumption of “D” (Stiff Soil), Seismic parameters are Ss = 0.06, S1 = 0.026, Seismic Design Category “A” (Risk Category III).

4.12.3.9 Load Combinations

All buildings and structures shall be designed to withstand the load combinations as specified in the Florida building code. Where the exclusion of live load, soil load, or impact would cause a more severe load condition for the member under investigation, then the load shall be ignored when evaluating that member.

4.12.4 Materials of Construction

The materials of construction that will be used for the proposed facilitates is shown in Table 4-388.

Table 4-38. Materials of Construction

Material	Data
Concrete (Structures) (Type II)	f'c = 4,500 psi
Concrete (Pre-stressed)	f'c = 5,000 psi
Cement	Type I or II Cement per ASTM C150 or Type IL (MS) per ASTM C595
Reinforcing Steel	(ASTM A 615 GR. 60) Fy = 60,000 psi
Concrete Masonry Units	ASTM C 90
Mortar	ASTM C 270 Type M (2,500 psi)
Masonry Compressive Strength	f'm = 2,000 psi
Masonry Grout	f'c = 2,500 psi
Aluminum	ASTM B 241 Alloy 6061-T6
Structural Steel	ASTM A 36 Fy = 36,000 psi
Structural Steel Shapes (Wide Flanges)	ASTM A 992 Fy = 50,000 psi
Structural Steel Pipe	ASTM A53 TypeE or S Grade B Fy = 46,000 psi
Structural Steel Tube[a]	ASTM A500 Grade B Fy = 46,000 psi
Welded Headed Concrete Anchors	Stud Material ASTM A 103
Non-Shrink, High Strength Grout	f'c = 5,000 psi
Drill and Epoxy Adhesive	HIT-RE 500 V3 by Hilti or equal
Waterstops	Polyvinyl (Solid)

Notes:

1. Structural Steel will also be specified to be galvanized or painted as required.

Table 4-39 summarizes the materials of construction for the proposed structures, which are based on existing construction materials/building methods.

Table 4-39. Building and Structure Materials of Construction		
Building	Process Area	Building Construction
PAC Contactor	015	Cast-in-Place Concrete
Rapid Mix	020	Cast-in-Place Concrete
Plate Settler	020	Cast-in-Place Concrete
Filter Building	030	Cast-in-Place Concrete
Chlorine Contact Chambers	025	Cast-in-Place Concrete
Transfer Pumps	035	Cast-in-Place Concrete
High Service Pump Station	064	Concrete Masonry Unit (CMU) construction with wood truss/metal roof and membrane system.
Sludge Thickener	080	Cast-in-Place Concrete
Alum Building	100	Chemical Tank Area: Precast concrete column with metal roof canopy, shares common wall with Chemical Feed/Polymer Area. Chemical Feed/Polymer Storage Area: Concrete Masonry Unit (CMU) construction with wood truss/metal roof.
PAC Storage Tanks	125	Cast-in-Place Concrete
PAC Chemical Feed Area	125	Combination of CMU construction with cast-in-place concrete walls. wood truss/plywood and shingle roof. Enclosed building over PAC feed pumps.
Hypochlorite Building	145	Chemical Tank Area: Precast concrete column with metal roof canopy, shares common wall with Chemical Feed/Polymer Area. Chemical Feed Area: Concrete Masonry Unit (CMU) construction with wood truss/metal roof.

Alternative building materials are acceptable, with proper coordination with the Authority. There are other types of buildings, such as pre-engineered metal buildings onsite. Other forms of building construction that could be considered are:

- Tilt up wall construction
- Pre-cast concrete buildings
- Pre- or post-stressed concrete tanks
- Wood framed buildings
- Prefabricated metal buildings
- Pre-engineered metal buildings
- Block and cavity

4.13 Electrical Systems

This section presents design concepts and criteria associated with the electrical systems to be designed to support the following processes for the facility expansion:

- Powdered Activated Carbon Contactors
- Rapid Mixing
- Flocculation/Sedimentation
- Filtration
- Disinfection

- High Service Pump Station Electrical Room
- PAC Systems
- Alum System
- Polymer System
- Caustic System
- Sodium Hypochlorite System
- Ammonia Hydroxide System
- Recycle Pump Station
- Transfer Pump Station
- Solids management Systems

Preliminary single line diagram, proposed locations of electrical buildings, rooms and preliminary sizing have been included. Equipment sizing is shown in order to provide conceptual layout only.

This DCR report assumes a new utility primary electrical service will be required, because the additional load requirements in the expansion surpass the existing electrical capacity at PRF. The new service requirements shall be coordinated by the Design-Builder and the Authority.

Additionally, as part of a separate program, the Authority will be developing a facility wide upgrade to the primary electrical service strategy which will include overall facility-wide electrical system strategy, and placement of new utility services.

4.13.1 Codes and Standards

The applicable current Codes and Standards for the design shall be as follows:

- NFPA 70, National Electrical Code
- NFPA 70E, Electrical Safety in the Workplace
- NFPA 101 Life Safety Code
- Florida Building Code (FBC),
- NFPA 780 Standard for Installation of Lightning Protection Systems, latest edition
- IEEE Standard No. 100-1977
- UL 142

4.13.2 Area Classifications

In general, process and outdoor areas shall be considered wet, damp, and corrosive requiring NEMA 4X rated equipment and devices. Indoor conditioned spaces will require NEMA 1 rated equipment and devices. Control panels containing digital devices and controllers shall be specified to be NEMA 12 for additional protection.

4.13.3 Electrical Safety

- The electrical design shall comply with the requirements of NFPA 70 and 70E.
- Arc resistant and/or arc reduction means and methods shall be used to improve safety for personnel and equipment.
- Safety matting shall be included in electrical buildings, rooms in front of large electrical and/or control equipment.

- Kirk-Key interlocking shall be installed where necessary.
- Maintenance switches shall be installed for lower arc flash ratings on distribution-related breakers.
- Kirk-Key interlocking shall be installed where necessary.
- Equipment shall be provided as needed with local disconnect switches or provisions for lockout per NFPA 70.
- New buildings and facilities shall include lightning protection and grounding design in accordance with NFPA 70 and NFPA 780.

4.13.4 New Utility Service and Power Distribution

The proposed 23kV (23,000 V) utility primary service at the facility expansion shall be provided by Florida Power and Light (FPL) Company. A new metering vault is planned for this expansion to house the FPL owned primary metering equipment for the new facility expansion since the underground power distribution at the Plant is at 23kV. The Design-Builder shall coordinate these requirements with the Authority and FPL.

The proposed electrical distribution strategy includes a new utility primary service. It is recommended that the utility provides two primary feeders for redundancy. If a single feeder is ultimately provided, the source should be split into two, in coordination with FPL for redundancy. The feeders shall supply power to new 25kV main distribution switchgear (Main MV SWGR) with Main-Tie-Main (MTM) configuration with automatic throwover control which will distribute power to new loads in the expansion facility and electrically interlocked with standby power switchgear to automatically control the available power sources either from utility power or standby generators. The breaker controls shall be provided by 125Vdc station batteries with battery chargers and distribution panelboards.

A new main electrical distribution building is planned to house the new main electrical distribution equipment for the facility expansion, including main distribution switchgear, standby generators and ancillary equipment, paralleling switchgear, step up unit substation dry-type transformers, distribution switchboard(s) and motor control centers (MCC) as required.

The 23kV Main MV SWGR will distribute power to three (3) new electrical buildings as part of the expansion: High Service Pump Station, North Electrical Building (WTP northwest section), and South Electrical Building (WTP southern section).

Two (2)-4160V generators are planned for the WTP expansion to provide standby power. The two (2) generators will be provided with 4160V switchgear for generator paralleling and controls. The paralleling switchgear will then supply two (2) unit substation transformers to step up from 4160V to 23KV for distribution from the Main MV SWGR to the other three new electrical buildings.

A separate double-contained indoor fuel oil day tank with a tank monitoring system shall provide 2 hr. fuel capacity at full load for each generator. These shall be installed in the main electrical building. Two (2) cylindrical outdoor diesel fuel storage tanks shall be installed to provide 5 days of fuel capacity to the standby power system for continuous operation without refueling. The exact tank sizes and requirement shall be coordinated by the Design-Builder with the Authority.

At the high service pump station, power from Main MV SWGR will feed two (2) unit substation transformers that will be installed outdoors to step down the voltage from 23kV to 480 V. The substation transformers will then feed MTM configured low voltage switchgear (SWGR-1A/1B) installed in an electrical room inside the High Service Pump Station Building. SWGR-1A/1B shall provide power to four (4) 350 HP high service pumps via variable frequency drives (VFDs). New standalone 18 pulse VFDs with phase shift transformers shall be installed for control of the pumps. A power and lighting panelboard shall be installed to provide power to other ancillary building loads at the High Service Pump Station.

At the North Electrical building, power from Main MV SWGR will feed two (2) outdoor unit substation transformers will be installed to step down the voltage from 23kV to 480V. The substation transformers will then feed MTM configured motor control center (MCC-1A/1B) installed in the building. MCC-1A/1B will house motor starters and distribute power for loads in the ALUM storage building, PAC/Plate settler building, and granular media filter building. Power and lighting panelboards shall be installed to provide power to other ancillary loads.

At the South Electrical building, power from Main MV SWGR will feed two (2) outdoor unit substation transformers will be installed to step down the voltage from 23kV to 480V. The substation transformers will then feed a MTM configured 480V switchboard (SWBD-1A/1B) installed in the building. SWBD-1A/1B shall provide power to the four (4) 150 HP transfer pumps via VFD's. New standalone 18 pulse VFDS with phase shift transformers shall be installed for control of the pumps. A power and lighting panelboard shall be installed to provide power to other ancillary building load and loads in the chemical building. **Figure 4-28** shows the proposed power distribution single line diagram for the overall expansion facility.

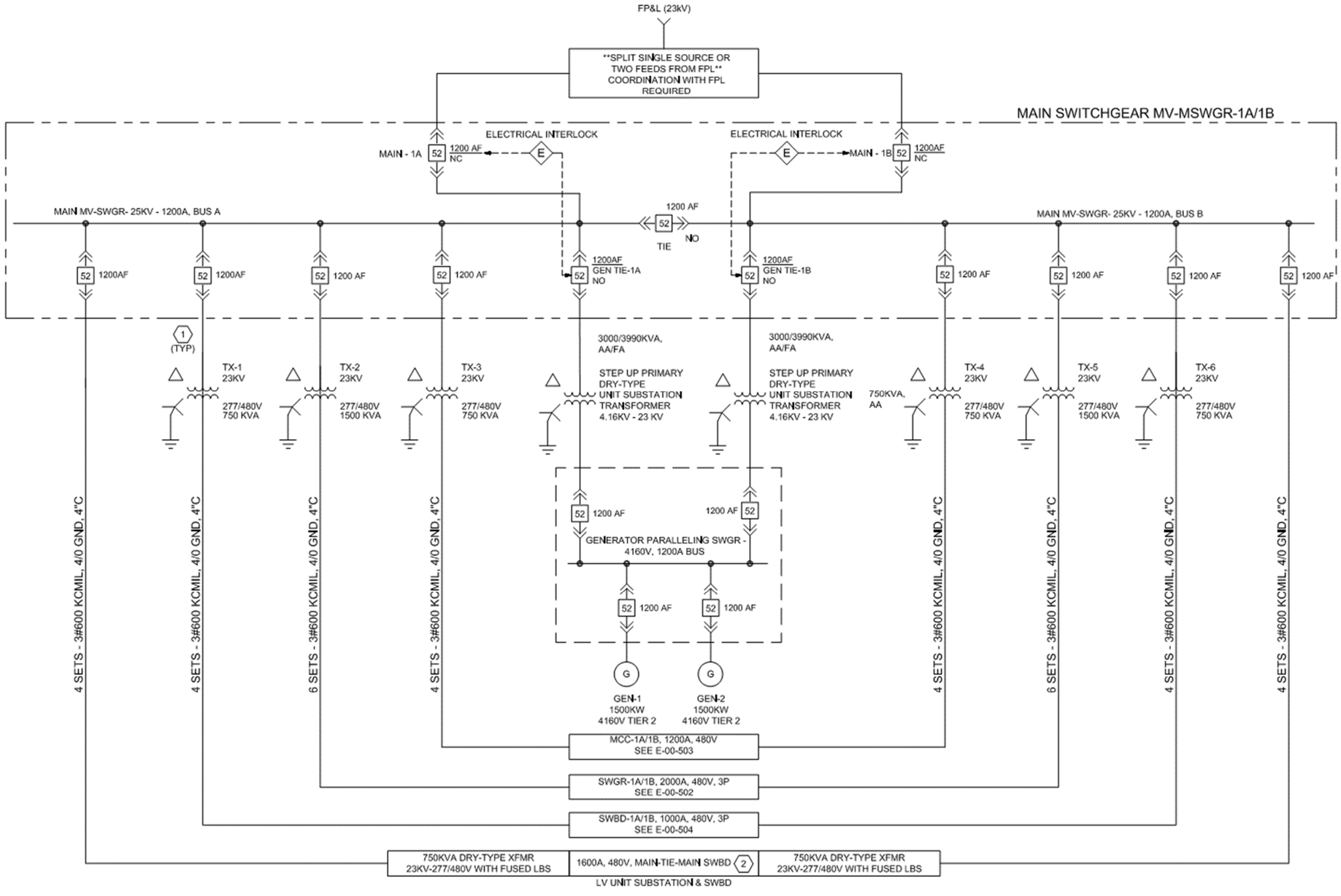


Figure 4-28. Proposed Power Distribution Single Line Diagram

4.13.4.1 Load List

A load list was developed with anticipated major process equipment associated with the expansion. The preliminary selection of mechanical equipment was developed based on existing conditions, previous expansion sizing, manufacturer recommendations, and preliminary sizing calculations. Table 4-40 summarizes these loads for the facility expansion. Refer to Appendix C for the master equipment list.

Table 4-40. Load List

Equipment	Quantity	HP	Voltage	Phase
Sodium Hydroxide Feed Pumps	8	0.33 HP	240V	1
PAC Slurry Mixer	4	10 HP	480V	3
PAC Recirculation Pumps	4	5 HP	480V	3
PAC Tank Mixers	4	25 HP	480V	3
PAC Feed Pumps	5	2 HP	480V	3
Alum Feed Pumps	3	0.75 HP	240V	1
Polymer Aging Mixers	2	0.75 HP	480V	3
Polymer Feed Pumps	5	0.75 HP	240V	1
Polymer Feeder	2	0.25 HP	480V	3
Polymer Blower	2	2.5 HP	480V	3
Rapid Mixers	2	25 HP	480V	3
1st Stage Flocculators	4	3 HP	480V	3
2nd Stage Flocculators	4	3 HP	480V	3
3rd Stage Flocculators	4	3 HP	480V	3
Filter Backwash Pumps	2	200 HP	480V	3
Air Scour Blowers	2	40 HP	480V	3
Sodium Hypochlorite Feed Pumps	5	0..66 HP	480V	3
Ammonium Hydroxide Feed Pumps	3	0.33 HP	480V	3
Transfer Pumps	4	150 HP	480V	3
Sludge Transfer Pumps	2	15 HP	480V	3
Gravity Sludge Thickener Mechanism	1	1.0 HP	480V	3
Supernatant Pumps	2	10 HP	480V	3
Thickened Sludge Pumps	2	7.5 HP	480V	3
Belt Filter Feed Pump	1	25 HP	480V	3
Belt Filter Press	1	7.5 HP	480V	3
Sludge Cake Transfer Pump	1	25 HP	480V	3
Dewatering Polymer Metering Pump	1	0.5 HP	120V	1
Recycle Pump	1	200 HP	480	3
High Service Pumps	4	350 HP	480V	3

4.13.4.2 Electrical Building and Rooms

There are four (4) identified electrical buildings or rooms for the expansion. Preliminary layout of equipment within the electrical buildings and rooms has been developed as described below. The Design-Builder shall include the design of HVAC, lighting (indoor and site lighting), lighting protection, plumbing and any other ancillary system as required.

The main electrical distribution building houses the main distribution electrical equipment required for the expansion which includes the main medium voltage switchgear, two (2) generators with paralleling switchgear, generator protection cubicles and generator controls, step-up unit substation transformers, 125Vdc station batteries, Remote Operator Panels (ROP) and low voltage power distribution equipment. The building shall also include the FPL metering vault to house the utility supplied primary metering equipment, MV switches, and sectionalizers as required. The conceptual layout for the generator room of the main electrical building includes an air intake plenum to prevent rainwater intrusion during major storm and air discharge plenum to mitigate the generator noise from the radiator discharge. **Figure 4-29** and **Figure 4-30** shows the conceptual design for the main electrical building. Specific design requirements shall be coordinated by Design-Builder and the Authority.

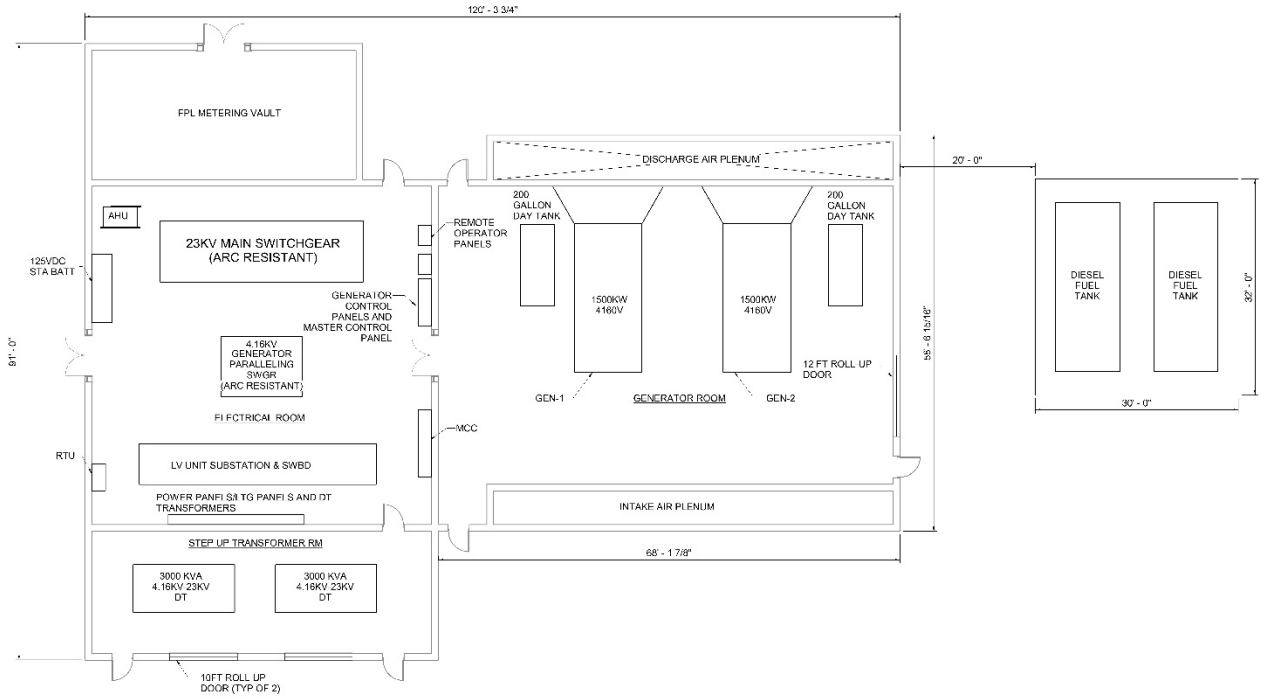


Figure 4-29. Main Electrical Distribution Building Plan

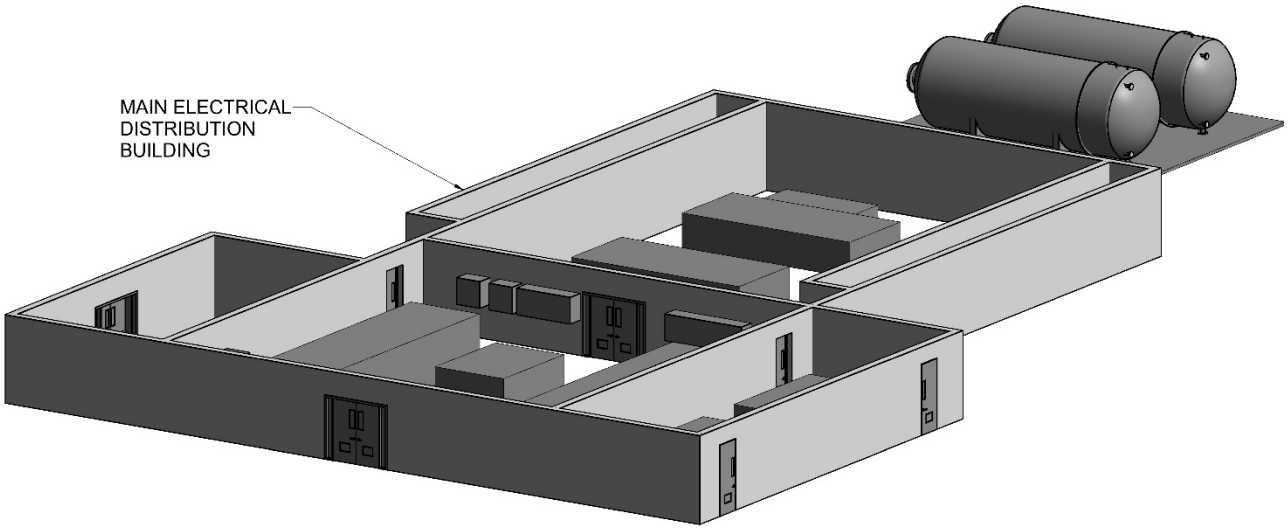


Figure 4-30. Main Electrical Distribution Building 3D View

The electrical room in the high service pump station will house the 480V switchgear along with the standalone VFDs for the high service pumps. Outside of this electrical room will be the two (2) unit substation transformers on slab with oil leak containment curb. Figure 4-31 and Figure 4-32 shows the design basis for the electrical room in the high service pump station:

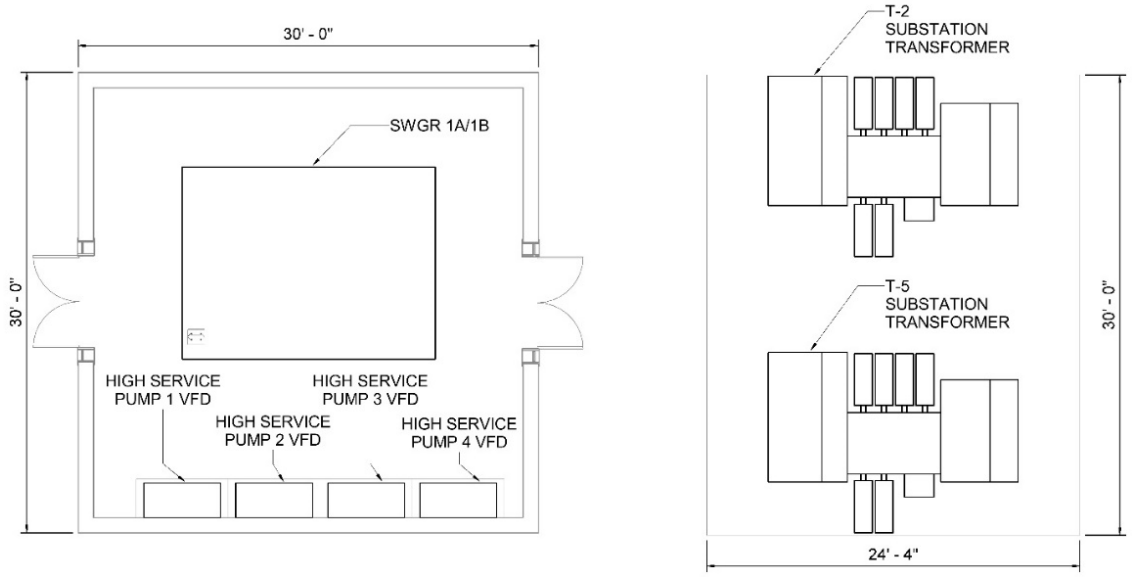


Figure 4-31. High Service Pump Station Electrical Room Plan

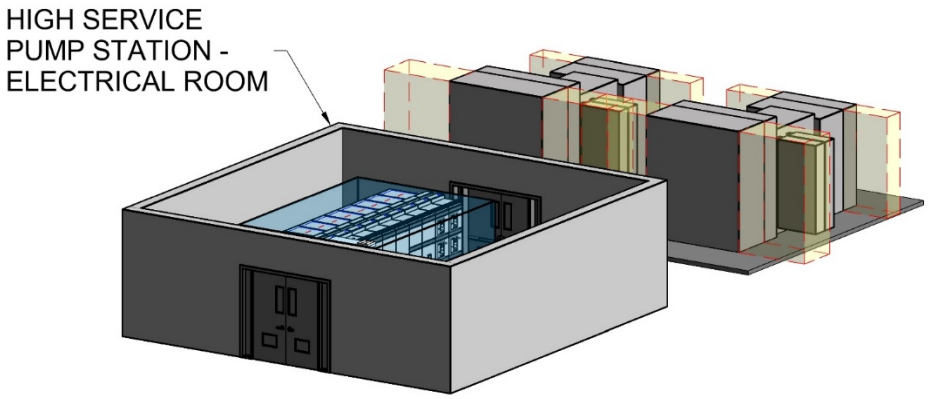


Figure 4-32. High Service Pump Station Electrical Room 3D View

The North electrical building will house the 480V MCC. Outside of this building will be the two (2) unit substation transformers installed on a concrete slab with oil leak containment curb. **Figure 4-33** and **Figure 4-34** shows the design basis for the electrical room in North electrical building.

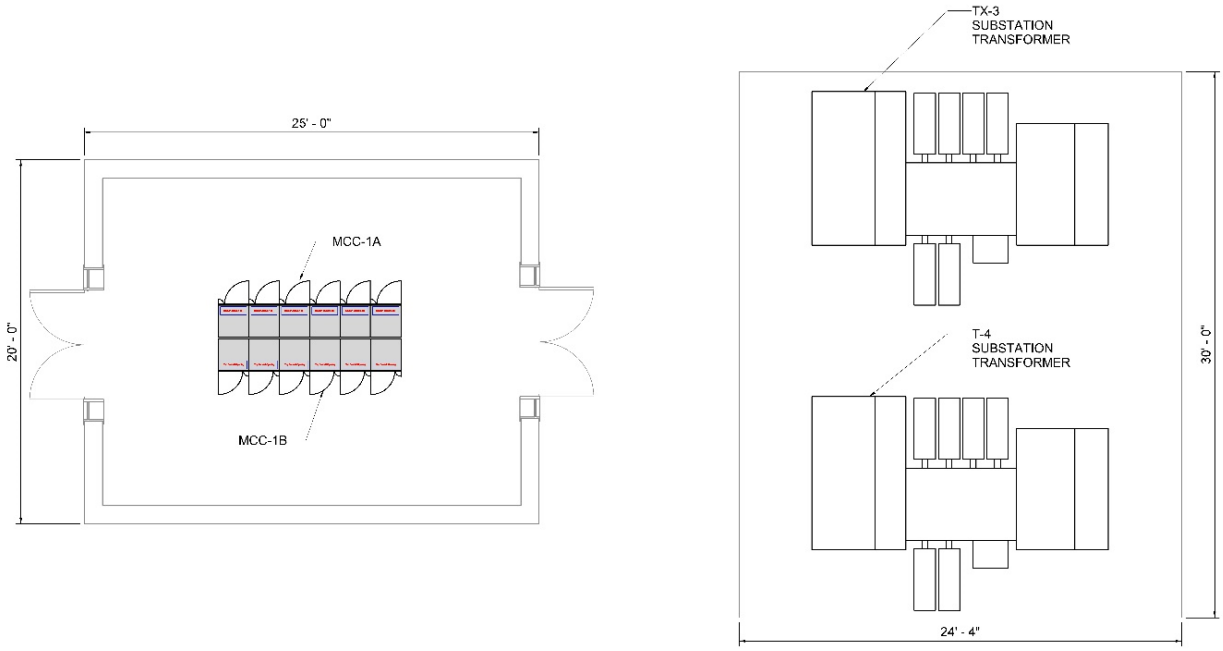


Figure 4-33. North Electrical Building Plan

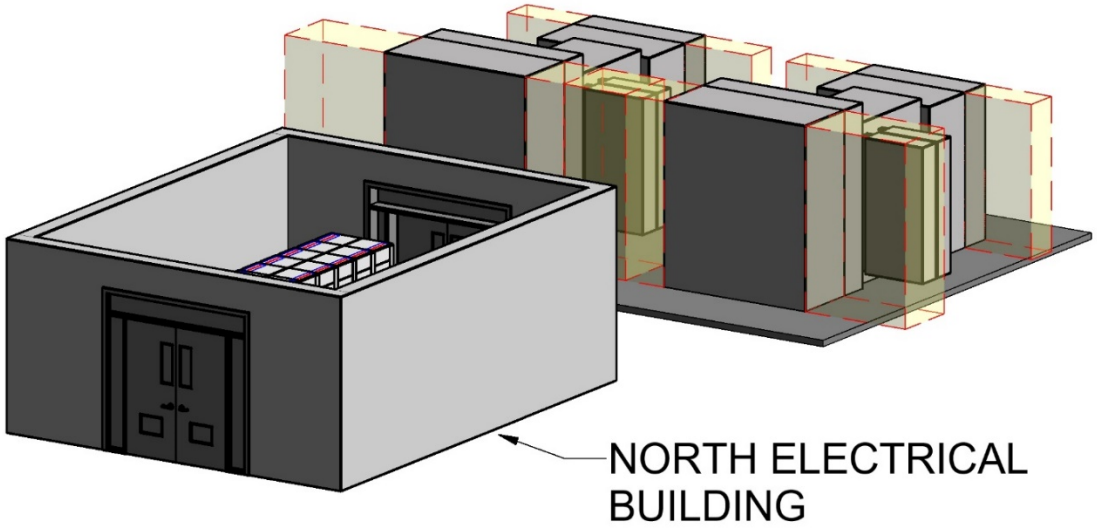


Figure 4-34. North Electrical Building 3D view

The south electrical building will house the 480V switchboard along with the standalone VFDs for the transfer pumps. Outside of this electrical room will be the two (2) unit substation transformers on slab with oil containment curb. The electrical building can be a standalone building or can be constructed as an electrical room that is a part of the chemical building. **Figure 4-35** and **Figure 4-36** shows the design basis for the electrical room.

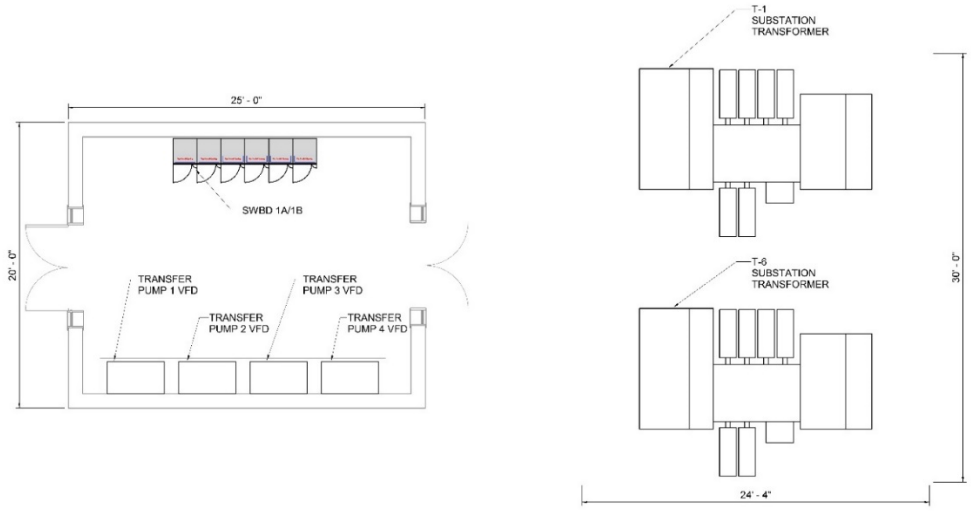


Figure 4-35. South Electrical Building Plan

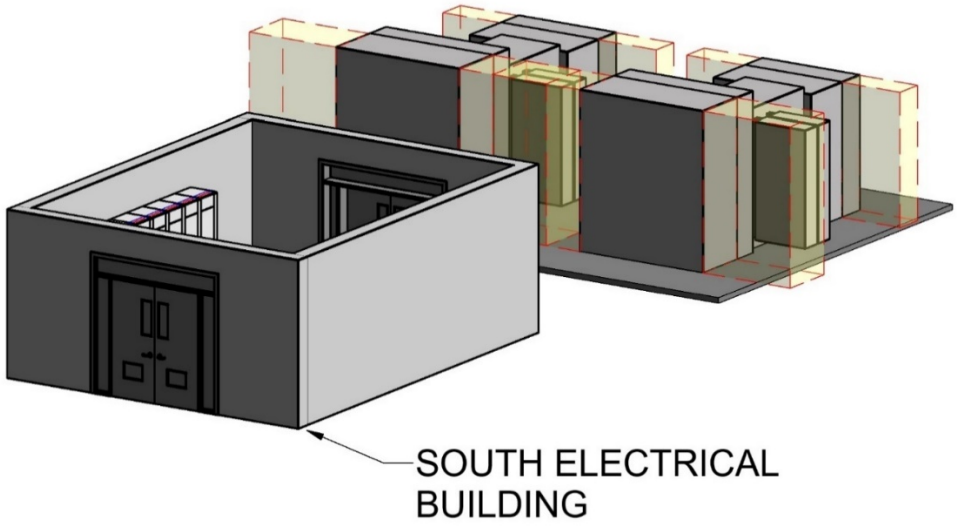


Figure 4-36. South Electrical Building 3D View

4.13.4.3 Ductbank Relocation

The Design-Builder shall be responsible for including the coordination and the relocation of existing ductbanks as part of the design, as required for the expansion.

Figure 4-37 shows the location of an existing ductbank that has conduit routes going to Plants 3 and 4, which includes the alum building (provides polymer and alum), the coagulation, SCU, disinfection structure, and chemical building. The ductbank is in the location of areas where new construction for the expansion will take place; therefore, it will be required to be relocated. Sequencing and temporary power shall be coordinated by the Design-Builder for processes in these areas that cannot be offline.

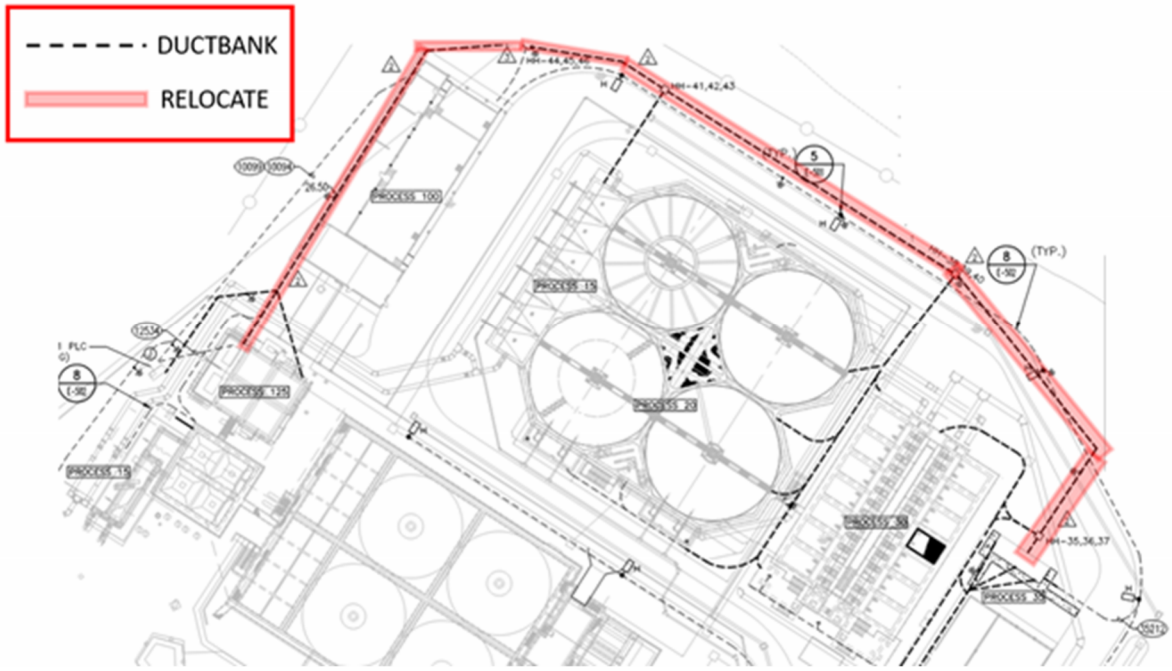


Figure 4-37. Location of Ductbank to be Relocated

4.13.5 General Design Criteria

This section provides the general guidelines for the project electrical design. It provides upfront specifications for the equipment and materials that shall be used in the design. The equipment specifications and materials of construction listed herein are recommended and considered to be commonly used in similar applications in municipal water treatment facilities.

4.13.5.1 Electrical Design – Major Equipment

Table 4-41 summarizes the proposed electrical equipment for the PRF expansion.

Table 4-41. Electrical Equipment Design Criteria

Major Equipment	Description
Medium Voltage Switchgear	23Kilo-Volt, Arc Resistant Switchgear shall conform to ANSI/IEEE C37.20.2, C37.20.7, and all applicable NEMA standards. Switchgear shall be UL 1670 listed, metal-clad, rated at 25kV and 5kV (4.16kV) arc-exhaust plenum on top of the switchgear to direct internal-arcing faults away from operating personnel. Switchgear rating shall be 1200A 500MVA minimum withstand rating. The line side of the main circuit breaker sections will be provided with lightning arresters for surge protection and power monitors (PM). All feeder sections will be provided with lightning arresters at the load side of the breakers. Vacuum and draw-out type circuit breakers. The main sections will be one-high construction while the feeder sections will be of the two-high construction designed with copper buses in a double-ended

Table 4-41. Electrical Equipment Design Criteria

Major Equipment	Description
	configuration with Main-Tie-Main breaker arrangement. Feeder protection relays shall be microprocessor-based type. Switchgear shall include PLC based controller for automatic breaker controls and operator interface.
Medium Voltage Dry-Type Transformers	The Dry-Type Primary Unit Substation Transformers shall conform to NEMA Standard No. 210-1982 and IEEE Standard No. 100-997. These transformers shall be used to step-up the generator voltage from 4.16kV to 23kV level for distribution from the 23kV Main Switchgear. The copper windings of the dry-type power transformers shall be vacuum pressure encapsulated (VPE) with silicon resin which has 220 degree C insulation rating and a 150 degree C temperature rise. Transformer cooling shall be AA/FA. The DT transformer shall be provided with 25kV rated Load Break Switch with current limiting fuses and with 5kV rated air terminal compartment.
Medium Voltage Liquid Filled Transformers	The Liquid Filled Secondary Unit Substation Transformers shall comply with NEMA Standard No. 210 and IEEE Standard No.100 and shall be rated for 23kV primary and 277/480V secondary. The transformer cooling liquid shall be biodegradable FR-13 liquid with 55/65 degree C temperature rise and KNAF cooling. The primary side shall be provided with load break switch with current limiting fuse and the secondary side with air terminal compartment.
Generator Paralleling Switchgear	4160 Volt, Arc Resistant Switchgear shall conform to all applicable ANSI/IEEE standards and the required UL listing. The paralleling switchgear will be provided by the generator vendor as part of the standard generator equipment supply. Each generator will be connected to a dedicated 5kV vacuum draw-out type circuit breaker mounted in one-high construction metal-clad switchgear. Two generator tie breakers will be provided for synchronization with the utility main breakers in the main switchgear for open or closed transition transfer pair. Each generator will utilize a microprocessor-based generator management/protection relay which also provides protection from alternator internal fault, such as winding and bearings over temperature. This relay will also provide protection for engine over speed and over and under frequency conditions.
Standby Generators	4160V/1800 RPM, 4-cycle diesel engine generators with matching alternator rated at 4160V, 60Hz, 80% power factor. The standby diesel engine-generators proposed will be for Tier 2 application. The engine will utilize standard No.2 diesel fuel oil and the alternator will be wye-connected windings (4160/2400V wye), a neutral grounding resistor (NGR) will be installed on each generator to limit fault current. Each generator will have fuel oil day tank with UL 142 double wall label.
Generator Controls	Each generator will be provided with a Generator Control Panel to perform synch check, synchronization, event and data logging, and other related generator controls. An operator interface terminal (OIT) will be provided for monitoring engine status and alarms, metering and other control devices required by the generator manufacturer. The generator system will be provided with a PLC based Generator Master Control Panel which will house a redundant or hot back up PLC that will perform the open or closed transition transfer with paired Generator Tie Breaker and Utility Main Breaker. It will also have a hard-wired back up controls in the event that both PLCs fail. This Control Panel will have an operator interface terminal (OIT) that can show the mimic diagram of the overall electrical system and current conditions. The generator vendor will furnish these control panels as part of the generator supply package.
Low Voltage Switchgear	600 Volt Arc Resistant with top mounted arc-exhaust plenum. The arc- resistant switchgear shall conform to ANSI/IEEE C37.20.7 testing standards. The Type 2B accessibility switchgear will be designed and specified for the project with draw-out type power circuit breakers with electronic trip units. The switchgear will be built in accordance with UL 1558. The main and feeder breakers will be provided with an arc flash reduction maintenance switch. The switchgear will be designed with double-ended configuration and with Main-Tie-Main

Table 4-41. Electrical Equipment Design Criteria	
Major Equipment	**Description**
	breaker arrangement. All LV-switchgear will be provided with internally mounted surge protective devices (SPD) and power monitors (PM) in their main breaker compartments.
Motor Control Center	600 Volt Arc Resistant. The MCC shall conform to UL 845 standard. All motor starters will be NEMA rated, and no IEC components will be used. All incoming sections of the MCC will be provided with internally mounted surge protective device (SPD) and power monitors (PM). Smart MCC construction may be considered by the Authority in coordination with the Design-Builder.
Variable Frequency Drives	600 Volt Rated. The standalone LV (480V) Variable Frequency Drives (LV-VFD) will be provided for variable speed pump motors rated 100HP and larger at 460V, 3-phase input voltage. The VFD will use IGBT power devices with phase–shifting input transformer, line reactors18-pulse inverter, and output filter for clean power and NEMA rated by-pass starters. . The incoming section of the VFD will be provided with internally mounted surge protective device (SPD). Network connections to SCADA for both monitoring and control may be considered by the Authority in coordination with the Design-Builder. Low-voltage VFD rated cables shall be used from the VFD to the motors.
Electric Motors	Electric motors will be squirrel cage type, AC induction, premium efficiency, continuous rated motors in accordance with NEMA MG-1 and ANSI/IEEE -112. All motors will be NEMA Design B with Class B temperature rise over 40 degree C ambient. All motors will have Class H insulation. Motor winding space heaters will be provided for motors 25HP and above. Winding protection will be provided for motors 50HP and above. Thermal switch or thermostats will be provided for LV motors below 300HP, and resistance thermal detectors (RTD) will be provided for motors 300HP and above. LV motors 1/2 HP and above will be rated 460V, 3-phase, and motors below 1/2 HP shall be 1-phase. Inverter duty motors shall be protected from damage from VFDs with insulation design per NEMA MG-1, and the use of insulated bearings and/or grounding rings for bearing protection.
Switchboards	Switchboards will be designed and specified with fixed mounted mains and feeder breakers, and front access only. Conform to UL 891 provisions and NEMA Standards PB-2. The switchboard will utilize insulated-case and molded case circuit breakers and will be group mounted or individually mounted as required. The main and feeder breakers will be provided with an arc flash reduction maintenance switch. The main sections of the switchboards will be provided with internally mounted SPDs and power monitors (PM). Main-Tie-Main configuration provided for Transfer Pump Station as described above.
Batteries and Charging System	125V DC Station. The system will utilize Ni-Cad maintenance free batteries and will be rack mounted with drip pan in corrosion resistant materials. The 24VDC for the PLC power supply will be derived from the 125VDC using DC to DC converters in each PLC compartment. A combination battery charger and 125VDC distribution panel integrated in one unit will be specified to reduce wall space requirements for separate units.
Uninterruptible Power Supply	Uninterruptible power supply (UPS) will be supplied in individual panels requiring UPS power instead of having a centralized UPS with distribution panel. This will require small size UPS with 120V, 1-phase input and output. All workstation hardware, RTU cabinet, and PLCs in the main and generator switchgears will require UPS. The UPS will be supplied by the respective vendor of the switchgears or panels.
General Requirements	Digital power monitoring networked to SCADA; MV and LV switchgear networked to SCADA for monitoring; provide tin plated copper bus for switchgear, switchboards, MCCs and panelboards

Table 4-41. Electrical Equipment Design Criteria	
Major Equipment	**Description**
Lighting Systems	Provide site, area, and interior lighting for the expansion; lighting levels shall be in accordance with IES Standards; lighting shall be LED type industrial grade fixtures; Design-Builder shall coordinate with existing site lighting

4.14 Instrumentation and Controls

4.14.1 Introduction

This section describes new and existing Instrumentation and Control (I&C) systems and modifications for the PRF expansion. The expansion includes the following main process areas which require SCADA and I&C design.

- Pre-Treatment
- Filtration
- Disinfection
- Chemical Storage and Delivery
- Pumping Systems
- Solids Management

The detailed scope of work is discussed in the later sections of this document.

The newly added I&C systems as part of this expansion project will be integrated into the existing SCADA monitoring and control system at their respective process areas.

4.14.2 Instrumentation and Controls Design Standards

The design of the I&C systems for the new process equipment shall conform with, but not be limited to, the latest editions of the applicable Standards and recommended practices of the following organizations:

- ISA (International Society of Automation)
- IEEE (Institute of Electrical and Electronics Engineers)
- ANSI (American National Standards Institute)
- UL (Underwriters Laboratory, Inc.)
- NEMA (National Electrical Manufacturers Association)
- NFPA (National Fire Protection Association)
- NEC (National Electric Code)
- NEMA ICS 1 – General Standards for Industrial Control and Systems
- UL508A/UL698A- Industrial Control Panels

4.14.3 Existing I&C System Overview

The existing I&C system consists of field instruments, a series of PLC panels, remote I/O panels, and VCPs (Vendor Control Panels) at various locations around the PRF. The existing SCADA platform is iFix by General Electric (GE), Historian for trending, and the reporting software is XL Reporter. PRF utilizes Emerson Rx3i (GE phonic compatible) for PLCs using Machine Edition programming software. In addition to the plant SCADA systems, plant ethernet communications network consists of a multimode fiber optic network, which connects each process areas to SCADA using Ethernet Global Data (EGD) communications protocol. Fiber optic patch panels (FOPPs) are located inside the control panels. The process area PLCs, RIOs, vendor packaged PLCs, and workstations are integrated into the fiber-optic Star network via multimode fiber.

Furthermore, the Authority has standardized on the following instrumentation and control elements:

- Flow meters - Endress Hauser Promag Meters
- Turbidity meters - HACH – TU5200 CL10

4.14.4 Integration and Controls (I&C) Approach

The I&C system design will incorporate Authority standards and selections which will be incorporated into the design and specifications. Workstation and PC selections will be coordinated with the IT manager. It is recommended that the Design- Builder confirm the redundancy of the control system, instrument selection, and I&C design requirements with the Authority during design.

I&C scope will include new monitoring and control systems, SCADA graphics for new process areas, graphic screen development and updates, integration, and expanding the SCADA and fiber network to the associated new process areas. Existing PLCs will remain in-place and new Workstations and OITs will be added. The Design-Builder shall coordinate with the Authority to determine specific process area workstation and/or OIT requirements.

Authority would like to standardize control panels as Emerson Rx3i PLC panels, OITs are standardized on iFix for the screens, Historian for trending, and the reporting software as XL Reporter. Authority also confirmed that new control panels should have spare capacity of 10% of each type of I/O s and VFDs can be network connected (currently VFDs are hardwired). The Authority is open to network connections if application is correct. Design-Builder shall provide System Integration, programming of OITs, and SCADA programming. The Design-Builder shall coordinate with the Authority and confirm requirements during detailed design.

4.14.5 General Monitoring and Control Functionality

The following is a list of general monitoring and control functions/equipment to be used as design criteria for this project:

- Vendor Control Panels (VCP) will be located in their respective electrical room or locally at equipment. VCPs that contain PLCs will be networked into the HMI/SCADA system for monitoring

and control of these packaged systems, and include operator interface for local status, control and adjustments for equipment and control systems.

- Local controls, Hand–Off-Auto (HOA) and Start-Stop (SS) switches, will be located at the equipment.
- VFD local controls, manual speed control potentiometers (SC) will be located at the drives.
- Process equipment will be monitored and controlled via the HMI/SCADA, local/area PLCs and/or vendor control panels. HMI/SCADA provides remote monitoring and control for process systems and equipment.
- Design-Builder shall provide field instruments to monitor process operation and to provide equipment protection. Design-Builder shall provide pressure gauge/pressure transmitter on suction and discharge side of each pump, flow meter to measure the flow, Level transmitters and/or float switches for level control and equipment protection. It is recommended that the Design-Builder will consider a comprehensive assessment of these elements as it pertains to each process area and further evaluate during the detailed design phase.
- Field instruments or equipment monitoring, and control shall be hardwired or network connected based on its selection. Equipment monitoring, control will include local and remote status indication. When the HOA selector switch on the equipment or in LCP is at the HAND position, the equipment can be controlled locally by the SS or OPEN-STOP-CLOSE (OSC) switch and Indicating lights shall provide status monitoring. The HOA selector switch on the equipment or at LCP must be placed in the AUTO position to allow remote control from the SCADA system. Design-Builder to evaluate the existing system and the newly added equipment shall meet the same functional requirements as existing system.
- All electrical equipment (Smart MCC, generators, switchgear, power monitors, etc.) shall be monitored, controlled, or both to meet their functional requirements. Electrical gears can be hardwired, or network connected based on the equipment or its control selection.
- Local control panel (LCP) shall be provided for local control and status monitoring of field instruments/equipment in scope.
- Control Mode Descriptions:
  - **Local Manual Control**: Each equipment has an HOA (HAND-OFF-AUTO) switch and shall be located on the equipment or local control panel. When the HOA is placed in the HAND mode the equipment starts. Placing the HOA switch in the OFF position stops the equipment.
  - **Local Auto Control:** With the field panel HOA in the Auto mode, the equipment is started and stopped from the area control panel. When the OIT HOA switch is in the Auto position, the pump is started on automatically by the PLC/SCADA system. The starting and stopping of the pumps shall be controlled by operator adjustable at SCADA setpoints.
  - **SCADA Manual Control:** When the HOA is in the AUTO position, the equipment is controlled via the PLC/SCADA system. When the software HOA switch is in the HAND position, the equipment is started on demand and will continue to run until the switch is placed in the OFF position.
  - **SCADA Auto Control:** When the software HOA switch is in the AUTO position, the equipment is started on automatically by the PLC/SCADA system. The starting and stopping of the equipment shall be controlled by operator-adjustable setpoints at SCADA.

- Design-Builder shall provide field instrumentation, conduit, cable, control panels for monitoring and control of each process. The control panel shall meet Authority requirements and be coordinated during the detailed design. Design-Builder shall design and install field network and SCADA graphics for remote monitoring and control.

4.14.5.1 Proposed I&C Equipment and Systems

I&C system design will be consistent with the existing system, which consists of field instruments, PLC panels, Remote I/O panels, and VCPs in each process area. This equipment and devices are network connected to the SCADA system, which provides remote monitoring and control from any SCADA node in the WTP.

Process and outdoor areas will be considered wet, damp and corrosive requiring NEMA 4X rated equipment and devices. Indoor conditioned spaces will require NEMA 1 rated equipment and devices. Control panels containing digital devices and controllers will be specified to be NEMA 12 for additional protection.

Each process area will include a process area PLC or RIO and a workstation or HMI for local SCADA viewing, control and monitoring. A LCP will be provided in these areas to house the PLC or RIO and workstation.

The following is a list of major I&C equipment that shall be included in the upgrade. The Design-Builder can use the existing spare I/O capacity and network devices with prior approval from the Authority Emerson automation and control system PLCs and Remote I/O shall be standardized.

- Ethernet Switches
- Workstations (Server Class Desktop PCs)
- Panel mounted operator workstation.
- UPS (provide in PLC, LCPs)
- FOPPs (Fiber Optic Patch Panel)

4.14.6 Process Area Control Descriptions

The following process control descriptions are provided for reference in this Design Criteria document to generally outline anticipated control and monitoring in process areas. Design-Builder shall reference Section 4 process areas and electrical systems to coordinate with proposed systems to provide monitoring and control of equipment, electrical, controls and instrumentation systems described in this document. Refer to Appendix G for a typical Input-Output (I/O) list that includes information for the existing process systems (i.e. PAC contact, rapid mix, filtration, disinfection, pump stations, chemical feed systems) that shall be finalized by the Design-Builder and System Integrator (SI) during design.

4.14.6.1 Pretreatment

Pretreatment refers to the processes used before the primary water treatment. This can include chemical addition, PAC contactors, adding aluminum sulfate, rapid mixing, and plate settlers.

a. PAC Contact Tanks and Rapid Mixing

Raw water from the reservoir is directed to PAC contact tanks and then to rapid mixing tanks. The PAC contact tanks and mixing system consist of the following I&C scope to match with the existing system:

- Flow meters, monitoring and control of raw water to PAC contact tanks;
- Flow control valves and its monitoring and control located on raw water lines to PAC contact tanks;
- Level Switches, LSH, and its monitoring located in PAC tank discharge channels;
- Monitoring and control of mixers.

The flow meters measure the raw water flow to the tanks and the flow can be controlled by associated flow control valves. The operator adjusts the raw water set point to control the flow to PAC contact tanks.

When the HOA selector switch on the valve actuator is in the HAND position the valve can be controlled from the valve actuator. The valve actuator has the HOA switch, an OPEN-STOP-CLOSE (OSC) switch and indicating lights for status monitoring.

The HOA selector switch on the valve must be placed in the AUTO position to allow remote control from the SCADA system. Design-Builder to evaluate the existing system and the newly added trains shall meet the same functional requirements as existing.

I&C scope includes monitoring and control of mixers in PAC contact tanks and for rapid mixing tanks. PAC contact tank mixers are controlled by constant speed motor starters while rapid mixers are controlled using VFDs. The monitoring and control of the mixers shall match the existing systems functionality.

b. Flocculation/Sedimentation

The PRF expansion project consists of four vendor, Mega Settler, provided plate settlers. Plate settler unit has a vendor provided flocculator control panel and a sludge collector control panel. Each flocculator control panel has three VFDs and the required hardware for monitoring and control. The control panel provides VFD speed indication (4 to 20mA) and accepts speed control signal (4 to 20mA) for each VFDs from the plant control system. The project should have a total of four flocculator control panels. The Design-Builder shall coordinate I/O assignment, conduit, and cable requirements with the vendor during detailed design.

In addition to flocculator control panels, the vendor will provide a sludge collector control panel with each plate settler unit. This panel controls one sludge collector drive and its associated sludge valve. The control of the sludge collector is determined by a Local-Off-Remote selector switch located in the control panel. When the selector switch is in the Local position, the sludge collector speed, forward/reverse selections, and associated sludge valve are controlled from the Operator Interface Screen (OIS). When the selector switch is in the Remote position, the sludge collector and associated sludge valve can be controlled by the SCADA system.

Mega Settler sludge collector control panel includes a Allen-Bradley CompactLogix PLC, I/O modules, UPS, redundant power supply, and a managed Ethernet switch. It also consists of a Powerflex VFD drive and a PanelView Plus HMI. The managed switch provides network connection to the VFD and fiber

connectivity to the SCADA system. The Design-Builder shall provide required field instrumentation, cable, conduit, and field wiring. The Design-Builder shall design and install field network and SCADA graphics for remote monitoring and control of IPS systems. Workstation and SCADA graphics requirements need to be coordinated with vendor and Authority during detailed design.

4.14.6.2 Filtration

I&C scope includes monitoring of inlet, outlet channel levels, pH, each filter cell turbidity and level. Also, the scope covers flow control valves for influent flow, filtered water flow, filter rinse valve, and recycle valve for each filter cell. There are also blowers and blower air supply flow control valves for each filter cell. Each of these control valves will be monitored and controlled from SCADA. Pneumatic actuators are used for existing filter system. Design-Builder shall evaluate the existing system and shall coordinate with the Authority on requirements and/or recommendations during detailed design.

4.14.6.3 Disinfection

The PRF expansion scope consists of sodium hypochlorite injection prior to granular media filters for disinfection. I&C scope covers monitoring of chlorine levels at contact tanks. Existing chlorine contact chambers have CL_2 and pH analyzers. Design-Builder shall provide and monitor Cl_2 and pH analyzers located in the new contact chambers.

4.14.6.4 Chemical Systems

a. PAC Systems

PAC system expansion includes new storage tanks and field equipment consistent with the existing PAC system. This project adds 4 storage tanks, tank mixers, control valves, transfer pumps, and metering pumps to supply PAC to PAC contact tanks.

I&C scope includes level transmitters on PAC storage tanks for monitoring and control. The low tank level is interlocked with the mixer controls for its safe operation. Each tank has its own mixer, which is controlled by a motor starter in the MCC to monitor and control each mixer.

The panel has a HOA selector switch and START/STOP pushbuttons. The mixer will run in field/local control when the HOA switch is placed in the HAND position and START hand switch is pressed. The mixer will stop when the STOP pushbutton is pressed or when the HOA is out of the HAND position. The mixer will be in remote operation when the HOA switch is in the AUTO position.

The mixer can run in SCADA Manual allowing operator to start, stop from SCADA or SCADA controlled mode to allow remote control from the SCADA system. Design-Builder to evaluate the existing PAC tank mixer operation and design to match the existing functionality.

PRF expansion project includes PAC recirculation pumps and control valves to transfer PAC slurry either between the four new tanks, or from any of the four new tanks over to the existing tanks. I&C scope includes monitoring and control of recirculation pumps and motor operated valves. The required number of control valves shall be finalized during detailed design. There shall be motor starter in MCC to monitor and control the transfer pump with HOA selector switch and START/STOP hand switches. The operation

of HOA and START/STOP switches will be the same as mixers explained above. There shall be PSH (pressure switch high) and PSL (pressure switch low) pressure switches on the discharge line of the transfer pump and are interlocked with pump control panel. The operation of the control valve shall match with the existing system.

Metering pumps will be used to feed PAC to PAC contact tanks. There will be three pumps total one per raw water feed header to and one standby. PAC vendor will provide control panels for metering pumps, but Design-Builder shall provide required field network, cable, conduits, and network equipment to connect vendor control panel to SCADA system. Workstation and SCADA graphics requirements need to coordinate with vendor and Authority during detailed design.

b. Alum System

Alum system scope includes storage tanks and monitoring the tank levels. The Low-Low tank level will be interlocked with metering pump. Design-Builder is responsible for required field instrumentation, monitoring, and control of chemical system in coordination with the Authority and chemical vendor.

The pump control panel will be provided by the vendor, but Design-Builder shall provide required field network, cable, conduits, and network equipment to connect vendor control panels to SCADA system. Workstation and SCADA graphics requirement need to be coordinated with vendor and the Authority during detailed design.

c. Polymer System

Polymer system includes polymer feed hopper, aging tank, polymer feed tank, and to monitor the tank levels. The Low tank levels will be interlocked with metering pumps. Vendor will provide polymer generation skid control panel and polymer feed pumps control panels. Design-Builder is responsible for required field instrumentation, monitoring, and control of chemical system in coordination with Authority and polymer feed system vendor.

Design-Builder shall provide required field network, cable, conduits, and network equipment to connect vendor control panels to SCADA system. Workstation and SCADA graphics requirements need to be coordinated with vendor and Authority during detailed design.

d. Caustic System

Caustic system includes storage tanks and to monitor the tank levels. The Low-Low tank level will be interlocked with metering pumps. Design-Builder is responsible for required field instrumentation, monitoring, and control of chemical system in coordination with the Authority and chemical vendor during design.

The pump control panel will be provided by the vendor, but Design-Builder shall provide required field network, cable, conduits, and network equipment to connect vendor control panel to SCADA system. Workstation and SCADA graphics requirements need to be coordinated with vendor and the Authority during detailed design.

e. Sodium Hypochlorite System

Sodium hypochlorite chlorite scope includes storage tanks and to monitor the tank levels. The Low-Low tank level will be interlocked with metering pumps. Design-Builder is responsible for required field instrumentation, monitoring, and control of chemical system in coordination with the Authority and chemical vendor during design.

The pump control panel will be provided by the vendor, but Design-Builder shall provide required field network, cable, conduits, and network equipment to connect vendor control panel to SCADA system. Workstation and SCADA graphics requirements need to be coordinated with vendor and Authority during detailed design.

f. Ammonium Hydroxide System

Ammonium hydroxide system scope includes storage tanks and one vapor scrubber tank. Storage tank levels will be monitored and the Low-Low tank level interlocked with metering pumps. Design-Builder is responsible for required field instrumentation, monitoring, and control of chemical system in coordination with the Authority and chemical vendor.

The pump control panel will be provided by the vendor, but Design-Builder shall provide required field network, cable, conduits, and network equipment to connect vendor control panel to SCADA system. Workstation and SCADA graphics requirements need to be coordinated with vendor and the Authority during detailed design.

4.14.6.5 Pumping Systems

a. High Service Pump System

The current SRHSPS and NRHSPS control strategy is to maintain a distribution system pressure setpoint of around 71 – 73 psi. I&C scope includes monitoring and control of the high service pump station consisting of three duty pumps and one standby.

Each pump at the high service pump station(s) shall be monitored and VFD controlled with I/O requirements listed in **Appendix G** for the existing system. The Design-Builder shall provide required field instrumentation to monitor suction pressure, discharge pressure, discharge flow, and control valves.

Individual pump protection will include pressure switch high (PSH), pressure switch low (PSL), and valve open status monitoring on the discharge, interlocked with respective pump control. Contractor shall monitor pump high temperature alarms and be interlocked with pump VFD control. Contractor shall field very existing Ground Storage Tank level transmitter/level switch and interlock with pump control. The Design-Builder to verify the existing HSPS control scheme and design shall follow the same functional requirements.

The Design-Build contractor shall design and provide control panel for monitoring and control of the High Service Pump Station(s).

b. Recycle Pump Station

There are five existing recycle pumps and their associated VFDs for control. The newly added recycle pump(s) will have the same functional requirements as existing pumps. I&C scope includes monitoring and control of VFD controlled pump(s). Design-Builder shall provide required field instrumentation, control panel (if needed based on existing spare I/O), cable, and conduit for field wiring. . .

c. Transfer Pumps

I&C scope includes monitoring and control of a new transfer pump station using VFD controlled pumps, monitoring of level transmitter, redundant float switches and its interlock with pump VFD panel. Float switches are used for redundant control. The Design-Builder is responsible for required field instrumentation, conduit, cabling, and field wiring. Contractor shall evaluate the existing transfer pump system and the new design should match with the existing system functional requirements. Also, I&C scope includes design and install of field network and SCADA graphics for remote monitoring and control.

4.14.6.6 Solids Management Systems

a. Sludge Thickening System

PRF expansion project will include two settled sludge transfer pumps, sludge thickening unit, and two thickened sludge pumps. I&C scope includes monitoring of redundant thickener tank level transmitters, float switches, monitoring and control of starter-controlled tank drive mechanism and transfer pumps. The low-level tank alarms shall be interlocked with sludge pumps. Thickened sludge pump scope is covered in the below paragraph. The tank drive mechanism high torque is interlocked in starter panel and status lights shall be available. Design-Builder to evaluate the existing system and the newly added unit should follow the same functional requirements as the existing system. There are sludge thickener flow control valves, to control sludge flow to dewatering system and other thickener tanks, and that need to be monitored and controlled. Polymer shall feed to discharge sludge line from the thickener and scope includes to monitor and control of polymer feed system. Polymer mixing water line solenoid valve shall be interlocked with sludge thickener valve status. Refer to **Appendix G** for a typical I/O list. Design-Builder shall design and provide control panels for monitoring and control of this process. The control panel shall meet Authority requirements and be coordinated during the detailed design. The contractor shall design and install field network and SCADA graphics for remote monitoring and control.

I&C scope also includes monitoring and control of two each starter-controlled sludge transfer pumps and thickened sludge pumps. The sludge pump controls are interlocked with low level tank alarms, motor high temperature, and discharge valve open status.

b. Sludge Dewatering System

PRF expansion project scope includes one Belt Filter Press (BFP), its feed pump, and one cake discharge pump. I&C scope includes monitoring and control of the BFP feed pump, BFP belt wash booster pump, and sludge cake discharge pump. BFP system I/O will be monitored and controlled by vendor control panel. Sludge flow to BFP shall be monitored. Design-Builder shall provide field instrumentation,

conduit, and cable for field wiring. Contractor shall design field network to connect vendor provided panel and create SCADA graphics for remote monitoring and control. Design-Builder to evaluate the existing system and the design to meet all the functional requirements of the existing system. Polymer tank and feed pump skid shall be provided by the vendor and include a vendor control panel.

Section 5

Opinion of Probable Construction Costs

5.1 OPCC Methodology

With the planned progressive design-build procurement, significant details shall be developed by the Design-Builder. The DCR provides sufficient information for a Design-Builder to propose and implement innovative, value engineered, and practical design concepts in collaboration with the Authority.

The OPCC was prepared using several information sources, including manufacturer price quotations, current construction cost database information from multiple industry sources, and where applicable developing quantity takeoffs from selected PRF record drawings for similar proposed new facilities. facilities. An initial site plan and general arrangement drawings were used to identify the general process and building placement. Supplemental information was either obtained through vendor proposals or conceptual design. Table 5-1 summarizes the basis of cost for the process and whether any adjustments were made to the basis.

Table 5-1. Summary of Basis of Cost and Adjustments

Process Area	Process Name	Basis of Cost	Adjustments
015	Influent Header/Meter	2011 Expansion	Assumed header pipes were 24-inch diameter instead of 30-inch
015	PAC Contact Tanks	2011 Expansion/Conceptual Layout	Assumed same detention time but modified the configuration from 6 PAC contact tanks to 4. This modified the number of mixers and piping required.
020	Rapid Mixer	Conceptual Layout	Used a previous design that was similar size that was based on detention time. A conceptual drawing was developed and previously introduced in Section 4.
020	Plate Settler	Conceptual Layout/Quotations	The basis of cost used a manufacturer supplied layout that was integrated with the conceptual design.
030	Media Filter Building	2011 Expansion	Assumed the building was same size, similar construction, and had the same number of cells. Additional costs were allocated for supplemental back wash pumps and a pipeline that would run from the proposed HSPS to the filter building.
025	Disinfection	Conceptual Layout	A conceptual layout was developed and introduced in Section 4.
030	Transfer Pumps	2011 Expansion	Assumed that the geometry required for the transfer pumps and size of transfer pumps were similar.
064	Proposed HSPS	2011 Expansion	Assumed the layout would be similar to the NRHSPS.
080	Sludge Thickener	2011 Expansion	Assumed same configuration.
090	Dewatering	2011 Expansion	2011 had provisions for future equipment.

Table 5-1. Summary of Basis of Cost and Adjustments			
Process Area	Process Name	Basis of Cost	Adjustments
097	Recycle Pump Station	2011 Expansion	2011 had provisions for future equipment.
100	Alum Building	2011 Expansion	Assumed same configuration and building construction. However, sizing determined that 1 less tank would be required so sizing was adjusted accordingly.
125	PAC Storage Tanks and Feed System	2011 Expansion	Assumed the same configuration. The previous expansion storage was intended for more flow, however, the 2-week PAC delivery period causes larger tanks to be constructed. Therefore 4 tanks that were constructed in 2011 assumed to be required for this expansion.
145	Hypochlorite Building	2011 Expansion	Assumed same configuration and building construction. However, sizing determined that two sodium hypochlorite and two caustic tank would be required in lieu of the three that are located in the existing building per feed system with sizing adjustments was building dimensions would modified accordingly.

An equipment list was developed that listed anticipated mechanical equipment and preliminary sizes, and manufacturer quotes were obtained. The cost basis was formed to be consistent with existing PRF design and operations. The estimate includes an I/O count for instrumentation and an assumed cost per required addition I/O, considered industry-standard practice at a preliminary development stage.

The OPCC basis package in **Appendix E** includes detail for a Class 4 cost opinion. The OPCC includes direct labor costs and anticipated productivity adjustments to labor and equipment. The methodology calculated construction labor crew and equipment hours from production rates contained in documents and electronic databases published by R.S. Means, Mechanical Contractors Association (MCA), National Electrical Contractors Association (NECA), and Rental Rate Blue Book for Construction Equipment (Blue Book).

This OPCC was prepared using BC's estimating system, which consists of the SAGE estimating software engine using RS Means database, historical project data, the latest vendor and material cost information, and other costs specific to the project location.

5.2 Class of Estimate

Per the Association for the Advancement of Cost Engineering International (AACE) criteria, the OPCC is considered a 4 estimate. A Class 4 estimate is defined as a Planning Level or Design Technical Feasibility Estimate. Typically, engineering is from 1 to 15 percent complete. Class 4 estimates are used to prepare planning level cost scopes or to evaluate alternatives in design conditions and form the base work for the Class 3 Project Budget or Funding Estimate.

5.3 OPCC Summary

The following section serves as the OPCC summary the actual OPCC is shown as **Appendix E** but due to the length of the report, is not included within the body of the text. **Table 5-2** summarizes the OPCC. The amounts in the summary are rounded to the nearest $10,000 and include only loaded costs. See **Appendix E** for additional breakdowns, quantity takeoffs, vendor quotes, and multipliers.

Table 5-2. OPCC Summary			
Process Area	Process Name	Loaded Cost	Includes
010	Site Work	$43,130,000	All fill, site clearing, excavation, and large diameter yard piping
015	PAC Contact Tanks	$5,210,000	PAC contactor concrete, aluminum grating, mixers, pumps, electrical and instrumentation
020	Coagulation, Flocculation, and Settling Basins	$11,320,000	Rapid mix, distribution channels, and plate settler concrete, mixers, flocculators, and plate settler equipment, electrical and instrumentation
030	Media Filter Building	$28,610,000	Media filter building concrete, under drains and supports, filter media, filter stainless steel piping,
025	Disinfection	$2,200,000	Chlorine contact tank concrete, weirs, electrical and instrumentation.
035	Transfer Pumps	$10,120,000	Transfer pump stations concrete, baffles, pumps, metal stairs, handrail and guardrails, aluminum grating, dewatering, shoring, and electrical and instrumentation.
064	Proposed HSPS	$9,200,000	HSPS building concrete, roof, HVAC, high service pumps, filter supplemental backwash pumps, electrical and instrumentation.
080	Sludge Thickener	$2,900,000	Concrete tank, sludge thickener, thickened sludge pumps, supernatant sludge pumps, electrical and instrumentation.
090	Dewatering	$2,280,000	Belt filter press, cake pump, piping, polymer system, sludge feed pump, electrical, and instrumentation
097	Recycle Pump Station	$810,000	A 6th pump identical to existing 200 HP pumps with associated electrical and instrumentation.
100	Alum Building	$5,850,000	Building concrete, roof, HVAC, chemical tanks, chemical metering equipment, secondary containment, fire sprinklers, polymer mixing systems, electrical and instrumentation
125	PAC Storage Tanks and Feed System	$2,200,000	Building and tank concrete, roof, pumps, mixers, electrical and instrumentation
145	Hypochlorite Building	$5,930,000	Building concrete, roof, HVAC, chemical tanks, chemical metering equipment, secondary containment, fire sprinklers, electrical and instrumentation
190	Electrical Buildings	$27,900,000	Building concrete, MCCs, VFD control panels
Total		$157,700,000	

5.3 Cost Opinion Range

Expected accuracy for Class 4 estimates typically ranges from -30 to +50 percent, depending on the technological complexity of the project, appropriate reference information, and the inclusion of the appropriatecontingency. Table 5-3 summarizes the project's cost opinion range.

Table 5-3. Estimated Probable Cost Range		
Low Accuracy (-30%)	Base Cost	High Cost (+50%)
$110,400,000	$157,700,000	$236,500,000

Section 6

Construction Details

6.1 Procurement Method

Progressive Design-Build delivery was selected for the following benefits:

- Price certainty at the guaranteed maximum price (GMP)
- Schedule reduction,
- Owner collaboration in the design process
- Ability to evaluate procurement based on priorities and schedule.

Refer to the Funding Bridging Documents (**Appendix A**) for additional detail.

6.2 Maintenance of Plant Operations/Sequence of Construction

The expansion project will be constructed primarily within undeveloped areas of the plant property. The Design-Builder will perform separate geotechnical investigations based on expanding the concepts listed within the DCR. Should the soils show settlement potential, the Design-Builder may consider soil pre-consolidation or deep foundations. If pre-consolidation is selected, this would be the first activity after mobilization. A large ductbank also impacts the currently proposed footprint that would require relocation. **Figure 6-1** shows the location of the large ductbank on the site plan.

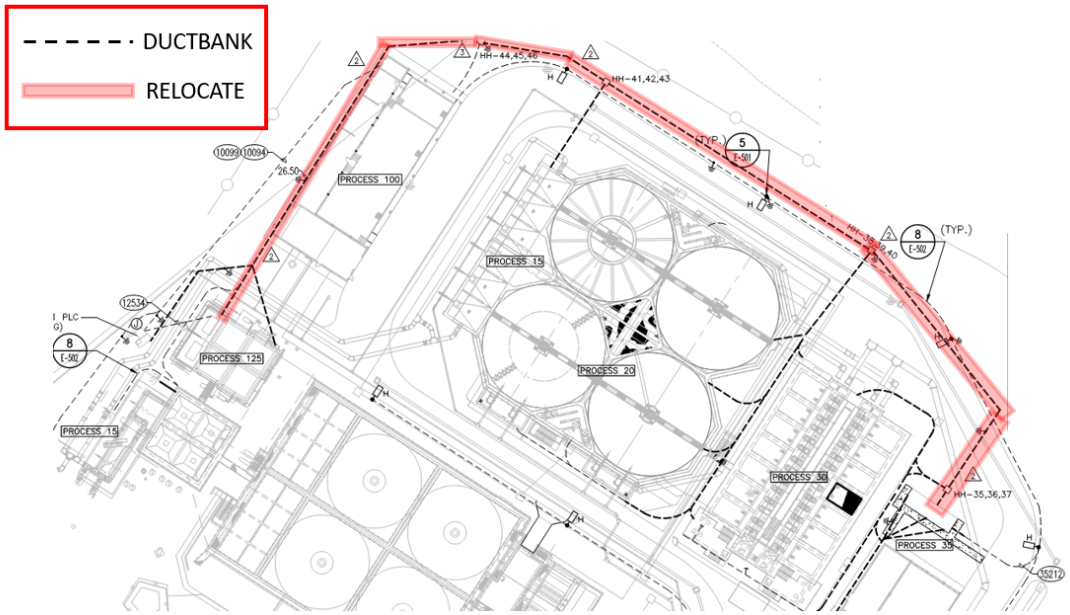


Figure 6-1. Location of Ductbank to be Relocated

Following those activities, the main construction activities are anticipated to be able to begin. The tie-ins to the current infrastructure will require a maintenance of operation plan, and potentially a bypass depending on the final configuration tie-ins. During construction, the existing facility shall be allowed to operate normally. There would need to be consideration for laydown, staging, delivery, and trailer locations. However, these can likely be located away from activities that would impact current plant activities.

The other aspect for constructability is the new high service pump station. Sufficient space shall be provided to avoid conflicts north of the ground storage tanks. However, true utility placement will require a subsurface utility investigation in the area, as this is in an older part of the site and some undocumented utilities may exist. There is a 12-inch diameter ASR pipeline that will require relocation.

6.2 Permitting

Required permits were identified during the development of the Funding Bridging Documents and should be reviewed for details. The following permits were identified:

- DeSoto County
  - Building Permit
- Florida Department of Environmental Protection
  - NPDES – Notice of Intent to Use General Permit for Stormwater Discharge and Large and Small Construction Activities
  - Public Water System – Major Modification
  - Environmental Resource Permit (ERP), if wetland impacts are necessary, the Army Corps of Engineers will review as a Section 404 Permit.
  - Dewatering Permit
  - Stormwater Pollution
- Florida Power and Light
  - New Service
- Florida Fish and Wildlife Conservation Commission (FWC)
  - Conservation Permit (Gopher Tortoise)

6.3 Schedule

The PRF expansion is anticipated to be advertised for Design-Build proposals in mid-2024, and a notice to proceed for construction occurring on or before September 1, 2025. **Table 6-1** summarizes the significant milestones within the schedule with a detailed breakdown of specific items to be constructed for the project outlined in **Appendix F**. The preliminary schedule is based on construction of major structures based on the DCR drawings and information presented herein. The schedule assumes a 5-day workweek and published national holidays over 40 months. Concrete building and tank construction, along with assembly of structural steel and CMU buildings construction would likely occur concurrently. Deviation from concurrent construction of buildings and tanks would necessitate an extension of the

schedule to approximately five (5) years, as opposed to the 40-month projection presented herein. An additional electrical service is proposed that would cause rerouting to an existing duct this would likely need to occur at the forefront of construction in order to accommodate electrical feed to the proposed structures.

Table 6-1. Peace River Facility Expansion DCP Construction Schedule

Task Name	Duration	Start	Finish
Notice to Proceed (NTP)	0 days	Mon 9/1/2025	Mon 9/1/2025
Submittal Review & Approval	4 months	Mon 9/1/2025	Wed 12/24/2025
Equipment Procurement	1 month	Fri 12/26/2025	Mon 1/26/2026
Site Work (i.e. Clearing, Borrow and Fill, Installation of D.I. Pipe)	101 days	Fri 12/26/2025	Wed 5/20/2026
PAC Contact Tanks (i.e. F/P/C Slabs and Walls, Install Grating, Install Pumps)	89 days	Thu 3/13/2026	Mon 3/17/2026
Rapid Mixing Tanks (i.e. F/P/C Slabs and Walls, Install Mixer)	124 days	Mon 6/22/2026	Thu 12/17/2026
Media Filtration Building (i.e. F/P/C Slabs and Walls, Install D.I. Pipe, Pumps, Underdrains, HVAC and Electrical)	201 days	Fri 12/4/2026	Wed 9/22/2027
Transfer Pump Station (i.e. F/P/C Slabs and Walls, Install D.I. Pipe, Pumps, Underdrains, HVAC and Electrical)	232 days	Tue 2/23/2027	Tue 1/25/2028
Chlorine Contact Chamber (i.e. F/P/C Concrete Slabs and Walls)	81 days	Tue 7/21/2026	Thu 1/12/2026
High Service Pump Station (i.e. F/P/C Slabs and Walls, Install D.I. Pipe, Pumps, Underdrains, HVAC and Electrical)	102 days	Fri 11/13/2026	Tue 4/13/2027
Sludge Thickener (i.e. F/P/C Slabs and Walls, Install D.I. Pipe, Electrical and Instrumentation)	62 days	Thu 5/21/2026	Wed 8/19/2026
Dewatering Building (i.e. F/P/C Slabs and Walls, Install Belt Filter Press, Chemical Pumps, Open Hopper Sludge Pump, Electrical and Instrumentation)	27 days	Wed 4/14/2027	Thu 5/20/2027
Recycle Pump Station (i.e. Install pumps)	5 days	Fri 5/21/2027	Thu 5/27/2027
Alum Building (i.e. F/P/C Slabs and Walls, Install CMU Walls, Install Chemical Tanks and Pump Skids)	192 days	Thu 1/14/2027	Mon 10/18/2027
PAC Storage Building (i.e. F/P/C Slabs and Walls, Install CMU Walls and Metal Roofing, Install HCAV)	163 days	Fri 6/25/2027	Thu 2/17/2028
Hypochlorite Building (i.e. F/P/C Slabs and Walls, Install CMU Walls, Install Chemical Tanks and Pump Skids)	219 days	Thu 1/13/2028	Mon 11/27/2028
Electric Building (i.e. F/P/C Slabs and Walls, Install CMU Walls and Metal Roofing, Install HCAV)	103 days	Fri 12/18/2026	Mon 5/17/2027

6.4 Schedule Optimization

Schedule compression may consist of options such as issuing early procurement bids on long lead time items, such as customized equipment or pumps. This could be accomplished at preliminary milestones where the scope for the piece of manufactured equipment is defined and a GMP for that specific item is developed. The Authority could then release the approval for that item to allow fabrication during the remaining portion of design.

Section 7

Limitations

This document was prepared solely for Peace River Manasota Regional Water Supply Authority in accordance with professional standards at the time the services were performed and in accordance with the contract between Peace River Manasota Regional Water Supply Authority and Brown and Caldwell dated June 21, 2022. This document is governed by the specific scope of work authorized by Peace River Manasota Regional Water Supply Authority; it is not intended to be relied upon by any other party except for regulatory authorities and funding agencies contemplated by the scope of work. We have relied on information or instructions provided by Peace River Manasota Regional Water Supply Authority and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.

This document sets forth the results of certain services performed by Brown and Caldwell with respect to the property or facilities described therein (the Property). Peace River Manasota Regional Water Supply Authority recognizes and acknowledges that these services were provided within various limitations, including budget and time constraints. These services were not designed or intended to determine the existence and nature of all possible environmental risks (which term shall include the presence or suspected or potential presence of any hazardous waste or hazardous substance, as defined under any applicable law or regulation, or any other actual or potential environmental problems or liabilities) affecting the Property. The nature of environmental risks is such that no amount of additional inspection and testing could determine as a matter of certainty that all environmental risks affecting the Property had been identified. Accordingly, THIS DOCUMENT DOES NOT PURPORT TO DESCRIBE ALL ENVIRONMENTAL RISKS AFFECTING THE PROPERTY, NOR WILL ANY ADDITIONAL TESTING OR INSPECTION RECOMMENDED OR OTHERWISE REFERRED TO IN THIS DOCUMENT NECESSARILY IDENTIFY ALL ENVIRONMENTAL RISKS AFFECTING THE PROPERTY.

Further, Brown and Caldwell makes no warranties, express or implied, with respect to this document, except for those, if any, contained in the agreement pursuant to which the document was prepared. All data, drawings, documents, or information contained this report have been prepared exclusively for the person or entity to whom it was addressed and may not be relied upon by any other person or entity without the prior written consent of Brown and Caldwell unless otherwise provided by the Agreement pursuant to which these services were provided.

Appendix A: Funding Bridging Documents

DRAFT

Peace River Facility (PRF)
24 Million Gallon Per Day (MGD) Expansion
Funding Bridging Documents

Prepared for
Peace River Manasota Regional Water Supply Authority
Arcadia, FL
July 2023

Brown AND Caldwell
6151 Lake Osprey Drive, 3rd Floor
Sarasota, Florida 34240

Table of Contents

List of Figures

List of Tables

List of Abbreviations

AAD	Average Annual Demand
ADD	Average Day Demand
ARPA	American Rescue Plan Act
ASR	Aquifer Storage and Recovery
Authority	Peace River Manasota Regional Water Supply Authority
BC	Brown and Caldwell
BEBR	Bureau of Economic and Business Research
BODR	Basis of Design Report
CECs	Contaminants of Emerging Concern
CIP	Capital Improvement Plan
CFI	Cooperative Funding Initiative
CMAR	Construction Management-At-Risk
COP	Community of Practice
COVID	Coronavirus Disease
CT	Contact time
DCP	Design Criteria Package
DB	Design Build
DBB	Design Bid Build
DBO	Design-Build-Operate
DD	Double Diaphragm
DUNS	Data Universal Number System
DWSRF	Drinking Water State Revolving Fund
EPA	Environmental Protection Agency
ERP	Environmental Resource Permit
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FPDB	Fixed Price Design-Build
FPL	Florida Power and Light
FWC	Florida Fish and Wildlife Conservation Commission
FY	Fiscal Year
GAC	Granular Activated Carbon
GMF	Granular Media Filtration
GMP	Guaranteed Maximum Price
GPH	Gallons Per Hour
PDB	Progressive Design-Build
PFAS	Per- and Polyfluoroalkyl Substances
PRF	Peace River Facility
PRMRWSA	Peace River Manasota Regional Water Supply Authority
MD	Maximum Day
MDD	Maximum Day Demand
MF	Membrane Filtration
MGD	Million Gallons Per Day
MIB	2-Methyl-Isoborneol
NPDES	National Pollutant Discharge Elimination System
NPV	Net Present Value
O&M	Operations and Maintenance
PAC	Powder Activated Carbon
PC	Progressive Cavity
PDB	Progressive Design-Build
PRF	Peace River Facility
PWS	Public Water System
RAI	Request for Additional Information
RFP	Request for Proposals
RFQ	Request for Qualifications
RLF	Revolving Loan Fund
SAM	System for Award Management
SCU	Solids Contact Units
SWFWMD	Southwest Florida Water Management District
SWIFIA	State Infrastructure Financing Authority
SWPPP	Stormwater Pollution Prevention Plan
TDH	Total Dynamic Head
TPR	Third-Party Review
UF	Ultrafiltration
USDA	United States Department of Agriculture
WDBC	Water Collaborative Delivery Association
WIFIA	Water Infrastructure Finance and Innovation Act
WTP	Water Treatment Plant
WUP	Water Use Permit

Section 1

Introduction

The Peace River Manasota Regional Water Supply Authority (Authority) owns and operates the Peace River Facility (PRF) surface water treatment plant in southwest DeSoto County (located at 8998 SW County Rd 769 in Arcadia, FL). The PRF has a current finished water treatment capacity of 51 million gallons per day (MGD). Based on an analysis of projected future water demands, the Authority identified that a 24 MGD expansion of the PRF would be required to meet its finished water delivery obligations to its four member and single customer over the current planning horizon. The Authority retained Brown and Caldwell (BC) to conduct a treatment technology feasibility analysis, a treatment technology pilot study, and this Funding Bridging Document report that will support preparation of a Design Criteria Package (DCP) for the PRF expansion. This Bridging Document report and DCP were needed to meet the requirements of the Cooperative Funding Initiative (CFI) process as prescribed by the Southwest Florida Water Management District (SWFWMD).

1.1 Project Scope

1.1.1 Overall Project

To meet SWFWMD documentation requirements and comply with its CFI application and approval process to receive grant funding for the capital costs, a DCP with sufficient detail, must be submitted on or before October 3, 2023, to maintain the current project schedule.

This PRF 24 MGD Expansion Funding Bridging Documents have been developed concurrently with the technology pilot testing. The pilot testing is being performed to confirm and inform the finalization of the Funding Bridging Documents and support the technology selection that will be used as the basis of design for the DCP. The DCP will be developed in parallel with finalizing the Funding Bridging Documents.

1.1.2 Funding Bridging Documents

This document will address potential gaps between CFI Application requirements and the DCP. The intent of this document is a higher-level evaluation. The DCP will form the basis for a progressive design-build solicitation package. Schedule demands to meet CFI funding process deadline require that this document will present, analyze, and evaluate required items per the CFI Application instructions, independent of the final technology selection, and will streamline the DCP delivery schedule.

The CFI Application requires the following general information:

- Location description of the project with a map (Section 2)
- Size of property (Section 2)
- Owner of the project site (Section 2)
- Demonstration of need (Section 2)
- Base supply (Section 2)
- Purpose of the project (Section 2)
- Primary uses of the water (Section 2)

- The current level of project readiness (Section 2)
- Identification of the water source and the quantity and quality (Section 2 and 4)
- Level of permitting discussions already completed or in process (Section 9)
- Description of proposed upgrades (Section 6)
- Description of proposed project delivery method, schedule, and costs (Section 2, 7 and 10)
- Cost information will include:
  - Project cost per funding year activities (Section 7)
- Any consultant agreements to conduct project, if already selected and executed (Not applicable at this time)
- Level of permitting discussions already completed or in process (Section 9)
- Written statement from RWSA indicating that the project is not inconsistent with regional planning. (**Appendix E**)

1.2 Review of Existing Information

Pertinent PRF information, including record drawings, previous studies, and three years of process monitoring and monthly operating report data were reviewed in the preparation of this report. Existing information provided by the Authority and reviewed by BC includes:

Record Drawings

- Plant 1 Record Drawings
- Peace River 1991 Facility Rebuild Project
- 2011 Peace River Option Contract 3 Peace River Facility/ASR Expansion
- 2016 Regional Expansion Program PRF Expansion Contract 2 WTP Expansion

Previous Studies

- 2020 Integrated Regional Water Supply Plan
- 2020 Water Quality Master Plan
- 2022 PRF Facility Capacity Optimization Study

Process Data

- Monthly Operating Reports (January 2017 – May 2022)
- Monthly Process Workbooks (January 2017 – May 2022)
- Individual Filter Turbidity Spreadsheets
- Sludge Handling Information
- Chemical Safety Data Sheets
- Existing Chemical Cost Information

Standards

- Recommended Standards for Water Works, 2018 Edition (Ten State Standards)
- Florida Administrative Code (FAC) Requirements

Section 2

General Information

This section presents the following CFI funding requirements:

- The current facility location, size, and owner,
- Facility's background,
- Property description,
- Project drivers,
- A description of the project's primary uses of water and provides the purpose of the proposed project,
- Base supply conditions,
- Demonstration of need, and
- The current level of project readiness.

2.1 Property Description

2.1.1 Facility Location

The PRF is located southwest of DeSoto County at 8998 SW County Rd 769, Arcadia, FL and is shown in Figure 2-1.

Figure 2-1. Aerial View of Peace River Facility

2.1.2 Property Size

The PRF property consists of approximately 125 acres as shown in **Figure 2-2**. Currently, approximately 60 acres are developed, and about 65 acres are undeveloped. The PRF expansion project is estimated to develop approximately 5 acres of the 65 undeveloped acres.

Figure 2-2. Aerial of Peace River Facility Water Treatment Plant

2.1.3 Owner of Project Site

The Peace River Manasota Regional Water Supply Authority owns and operates the PRF. The Authority is an independent special district formed under the Florida statue and is governed by a Governing Board and supported by a professional staff of approximately 52 operators, technicians, engineers, and scientists. The Authority is a regional water supplier comprising four (4) member counties formed through and Interlocal Agreement in 1991 and serves smaller cities and localities. **Figure 2-3** shows the four member counties that include Charlotte, DeSoto, Manatee, and Sarasota, each with an elected representative. The City of North Port is a customer to the Authority with no Board representation.

Figure 2-3. Member Governments of the Peace River Manasota Regional Water Supply Authority

2.1.4 Primary Users of Water

The Authority provides drinking water to more than 1 million residents and visitors across the service area. In addition to its members and customers the Authority maintains connections to the City of Punta Gorda, and the Edgewood Water District.

2.1.5 Purpose of Project

This project was developed as part of an ongoing 5-year Capital Improvements Planning (CIP) process, where member and customer demand projections provided by these entities in accordance with the Master Water Supply Contract, as amended, which identified the need to expand finished water production by 24 MGD.

2.1.6 Population and Population Projections

Historic population estimates were obtained from the University of Florida's Bureau of Economic and Business Research (BEBR) for the years of 1990-2020. BEBR was established in the 1970's and provides useful population projections to support decision making and planning for local and state governments. Population projections were obtained from the *Integrated Regional Water Supply 2020 Update* (Master Plan) utilizing data from 2020 to 2050.

Table 2-1 lists the historical population by county from 1990-2020 along with annualized growth rates. Table 2-2 shows a summary of the BEBR low, medium, and high population projections for the member counties from April 1, 2022, to April 1, 2050.

Table 2-1. Historical Population Estimates 1990-2020					
Fiscal Year	Charlotte County	Desoto County	Manatee County	Sarasota County	Total Region
	Population	Population	Population	Population	Population
1990	110,975	23,865	211,707	277,776	624,323
1995	128,896	27,820	235,729	299,108	691,553
2000	141,627	32,209	264,002	325,961	763,799
2005	153,274	33,364	303,729	364,650	855,017
2010	159,978	34,862	322,833	379,448	897,121
2015	167,141	34,777	349,334	392,090	943,342
2020	186,847	33,976	399,710	434,006	1,054,539
Time Interval	Annualized Growth Rate				
1990 - 2020	2.3%	1.4%	3.0%	2.1%	2.4%
2000 - 2020	1.6%	0.3%	2.6%	2.2%	2.1%
2015 - 2020	2.4%	-0.5%	2.9%	6.3%	3.9%

Table 2-2. Regional Population Projections 2022-2050							
Current Estimates	Projections, April 1						
April 1, 2022	Projection	2025	2030	2035	2040	2045	2050
Charlotte County							
196,742	Low	192,100	195,500	195,600	193,400	190,200	186,900
	Medium	206,600	220,900	232,100	241,000	248,700	256,000
	High	221,100	246,300	268,700	288,600	307,100	325,100
Desoto County							
34,748	Low	33,400	32,600	31,700	30,900	30,100	29,300
	Medium	35,100	35,600	35,900	36,200	36,500	36,700
	High	36,900	38,600	40,200	41,600	42,900	44,000
Manatee County							
421,768	Low	420,900	437,700	446,200	448,100	447,000	445,100
	Medium	447,800	486,300	517,300	541,600	562,300	581,800
	High	474,600	534,900	588,500	635,000	677,600	718,500
Sarasota County							
452,378	Low	444,300	451,100	452,300	449,400	444,400	438,800
	Medium	472,600	501,200	524,400	543,100	559,000	573,600
	High	501,000	551,300	596,500	636,800	673,600	708,400
Total Region							
1,105,636	Low	1,090,700	1,116,900	1,125,800	1,121,800	1,111,700	1,100,100
	Medium	1,162,100	1,244,000	1,309,700	1,361,900	1,406,500	1,448,100
	High	1,233,600	1,371,100	1,493,900	1,602,000	1,701,200	1,796,000

Figure 2-4 graphs the medium trendlines for the population projection from April 1, 2022, to April 1, 2050, which is sourced from the Master Plan's population projections.

Figure 2-4. Population Projections by County for 2022 – 2050

2.1.7 Water Source

The PRF treats water from the Peace River, which originates in Polk County, flows through Winter Haven, and discharges to the Charlotte Harbor in Punta Gorda. The river is approximately 120 miles long and has a 2,000 square mile drainage basin. Water withdrawn from the river is directed to the 6.0-billion-gallon Reservoir 2 then flows by gravity to the 0.5 billion gallon Reservoir 1 before being pumped to the PRF.

2.1.8 Base Supply

The base supply is required by SWFWMD FY 24 CFI Application Guidelines and used for PRF expansion sizing. The base supply is identified by the Authority and is the water supply made available upon the completion of the project. Water withdrawals from the Peace River are regulated under WUP No. 20010240.010 (issued February 22, 2019) which authorizes the Authority to supply the region with an AAD quantity of up to 80 MGD reflecting a projected 29 MGD increase in treatment capacity under future conditions. This expansion project will increase the total facility capacity an additional 12 MGD ADD and 24 MGD MDD for a total facility ADD of 59 MGD.

2.1.9 Regional Capacity Demands

The *Integrated Regional Water Supply 2020 Update* (Master Plan) provided demand projection updates for the long-term water supply planning. Flow projection data is created directly from the member government estimates. Each year, each customer provides the Authority with seven (7) and twenty (20) year water demand projections. These projections serve as the Authority's base water supply required. The seven (7) year projections contractually obligate the member/customer to purchase the amount projected. The twenty-year demand projections are used for the Authority's

Capital Needs Assessment planning purposes. The Master Plan documented seven (7) methodologies to estimate a most probable range of demands, which estimated 2040 regional water supply average day demands (ADD) at 115 MGD and 185 MGD by 2070, which includes the Authority's 17% reserve capacity standard.

Table 2-3 from the Master Plan summarizes the total finished water capacity required to meet the "Most Probable Demand" projection that was identified in the Master Plan. Figure 2-5 shows the total finished capacity required for "Most Probable Demand Scenario", including the 17% reserve capacity standard that was presented in the Master Plan.

Table 2-3. Total Finished Regional Capacity Required for Most Probable Demands

Fiscal Year	Projected Demand (ADD)	17% Reserve Capacity Standard	Total Finished Capacity Required (ADD)
	MGD	MGD	MGD
2020	71.83	11.92	83.75
2025	77.76	12.91	90.67
2030	84.19	13.97	96.16
2035	91.14	15.13	106.27
2040	98.67	16.38	115.05
2045	106.82	17.73	124.55
2050	115.64	19.20	134.84
2055	125.19	20.78	145.97
2060	135.54	22.50	158.04
2065	146.73	24.36	171.09
2070	158.85	26.37	185.22
Time Interval	Total Increase		
2020-2040	26.84	4.46	31.29
2020-2070	87.02	14.45	101.47

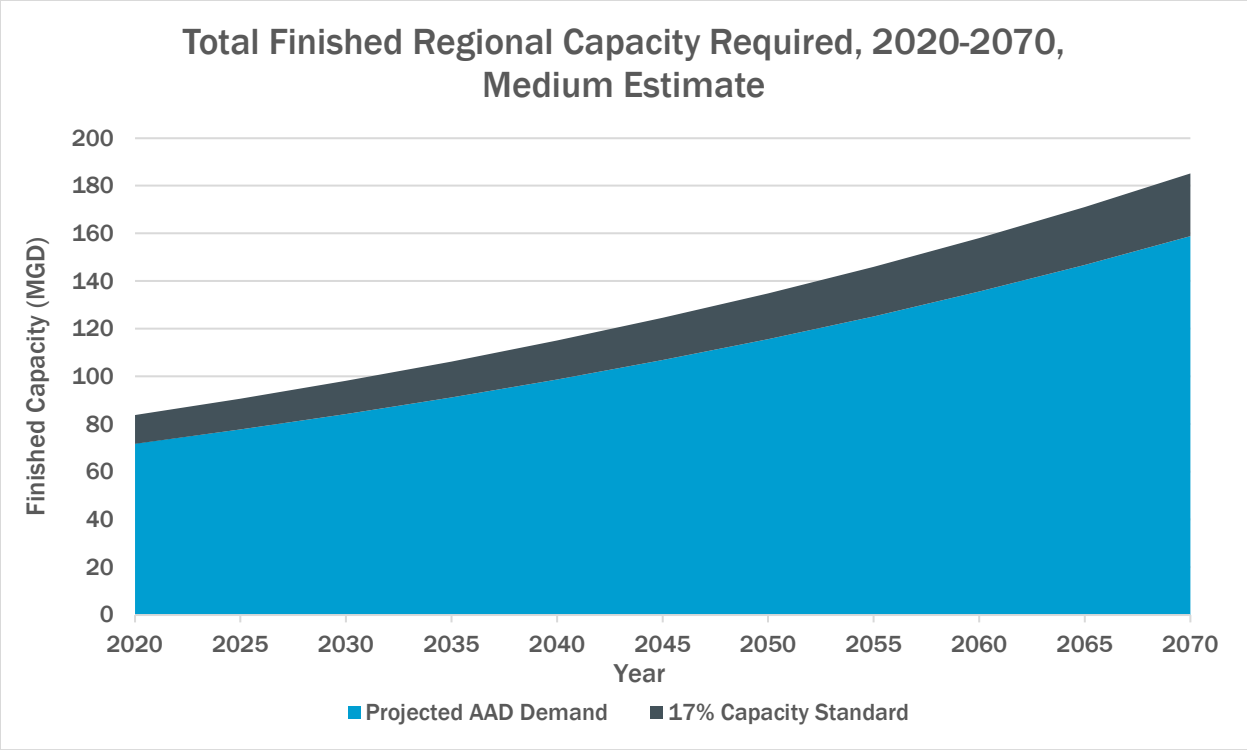


Figure 2-5. Total Finished Capacity Required for 2020 - 2070

2.1.10 Demonstration of Need

The Ardurra Group, Inc. (Ardurra) recently completed a PRF capacity optimization study for various treatment configuration options. The intent of the study was to evaluate potential treatment expansion options to yield sufficient capacity to meet the future regional water demands. The top-ranked option involved a stand-alone treatment plant which would run concurrently with the existing process trains (i.e., Plants 1 – 4). The option included inclined plate settlers, ultrafiltration (UF) membranes and granular media filters as options for the facility expansion (Ardurra, May 2022). The recommended option is discussed in the following sections, and its selection was based on providing adequate capacity, with the ability to quickly adjust finished water production rates, available land area and staffing considerations at the lowest capital cost.

2.1.11Project Description

The intent of the Funding Bridging Documents is to analyze different alternatives for the PRF expansion using capital costs, operational costs, life-cycle considerations, as well as non-cost factors that are further informed by results from and expanded treatment technology evaluation and pilot testing results.

The following improvements were evaluated to facilitate the 24 MGD (max day) expansion:

- High-rate inclined plate settlers followed by UF membrane filtration
- New chemical feed systems for:
  - 48% Alum – three (3) pumps (150 gallons per hour [gph] each) with eight (8) 20,000-gallon storage tanks
  - 50% Caustic (sodium hydroxide) – eight (8) pumps (60 gph each) with two (2) 15,000-gallon storage tanks

  - 12.5% Sodium Hypochlorite – six (6) pumps (100 gph each) with two (2) 20,000-gallon storage tanks
  - 19% Ammonium Hydroxide – three (3) pumps (20 gph each) with one (1) 7,500-gallon storage tank
  - Polymer (Liquid Stream) – six (6) pumps (200 gph each) with two dry mix polymer systems
  - 90% Powdered Activated Carbon (PAC) – three (3) pumps (200 gph each) with one (1) 115,000-gallon storage tank
  - Polymer (Dewatering) – one pump with one liquid emulsion polymer system
- One gravity thickener – 60-foot diameter circular tank
- Two (2) progressing cavity (PC) or double diaphragm (DD) thickened sludge pumps (130 gpm @ 76 feet TDH each)
- One (1) belt filter press – no new building is proposed
- One (1) sludge cake transfer PC pump (15 gpm @ 50 feet TDH)
- Recycle pump station (duplex configuration) submersible pumps (311 gpm @ 50 feet TDH each)
- New high service finished water pump station – 4 pumps at 7.65 MGD each (3 duty – 1 standby)

The DCP will be developed following this report to provide information needed for a progressive design-build solicitation.

2.1.12 Project Level Readiness

Currently, a pilot study is being performed concurrently with the development of the Funding Bridging Documents. Both are anticipated to be finalized in July 2023. The DCP is anticipated to be completed in August for third-party review (TPR) and submitted for the CFI application process in October 2023. Refer to **Figure 2-6** for the overall estimated project timeline.

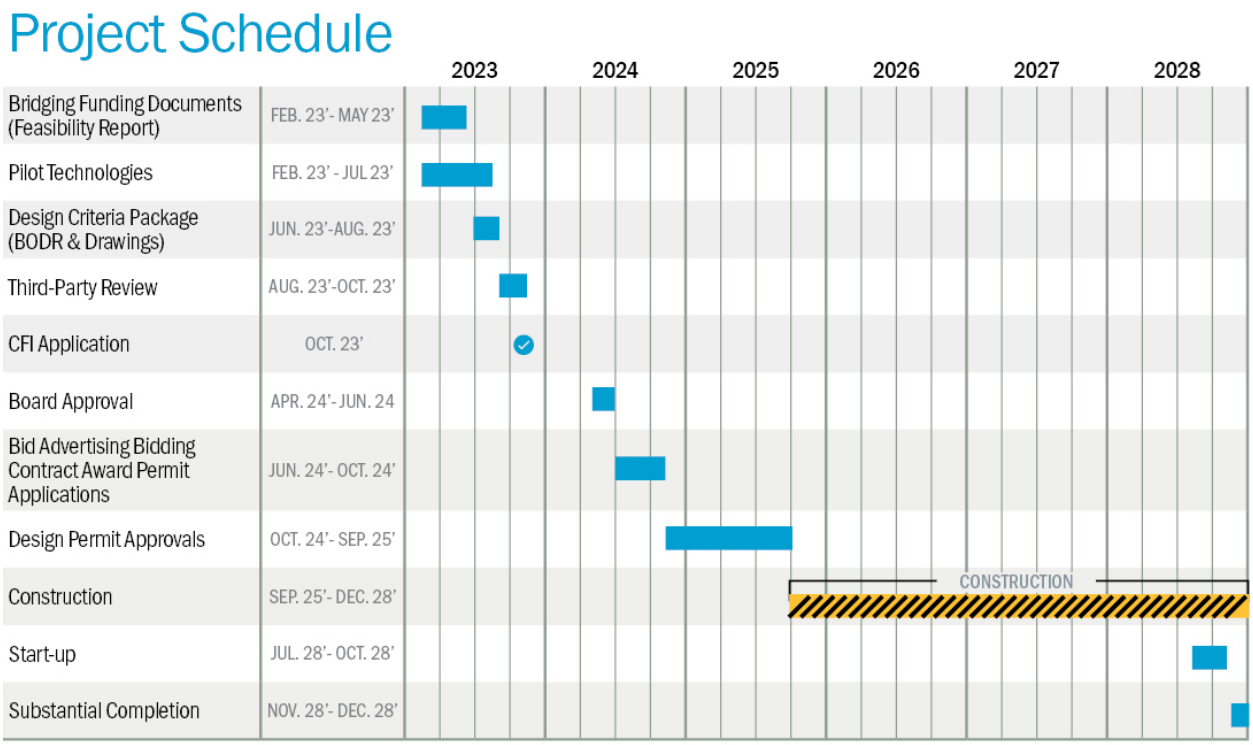


Figure 2-6. Peace River Facility Expansion Project Schedule

Section 3

Existing Facilities

The PRF is a conventional treatment plant that treats reservoir water supplied from the Peace River. The facility currently has a maximum rated capacity of 51 MGD and currently supplies on average 29.7 million gallons daily. The following sections provide a description of each of the four existing plants that comprise the PRF.

3.1 History of the Facilities

The PRF is a water treatment plant located in Arcadia, FL, that treats water from the Peace River for use as potable drinking water. Plant 1 was constructed in the late 1970s, with several subsequent expansions over the years.

Plants 1, 3, and 4 utilize solids contact units (SCU) for primary treatment, while Plant 2 uses conventional rapid mix, flocculation, and sedimentation unit processes. All plants use the following treatment processes:

- Powdered activated carbon (PAC) for taste and odor control
- Aluminum sulfate (alum) coagulation and polymer flocculation for color, dissolved organics, and solids removal
- Sedimentation
- Primary disinfection with chlorine and residual disinfection with ammonium hydroxide
- Filtration
- pH stabilization with caustic addition

While all plants implement the same basic physical treatment processes, they differ in their configurations. The following subsections provide detailed descriptions of each of the existing plants and the historical plant flows.

3.1.1 Plant Descriptions

3.1.1.1 Plant 1

Plant 1 was originally constructed with a rated capacity of 12 MGD and consists of two (2) PAC contact tanks that operate in series, a flow distribution box, two (2) SCUs, two (2) chlorine contact chambers, and six (6) dual media filters. Plant 1 underwent rehabilitation and a rerating to a capacity of 15 MGD in 2015.

3.1.1.2 Plant 2

With a capacity of 12 MGD, Plant 2 was constructed in 2001 and remains rated for its initial capacity. The plant employs two (2) PAC contact tanks, two (2) rapid mix basins, sixteen (16) flocculation basins, four (4) sedimentation basins, two (2) chlorine contact chambers, and six (6) dual-media filters. Plants 1 and 2 share a common set of PAC contactors.

3.1.1.3 Plant 3 and Plant 4

The latest additions to the treatment plant are Plants 3 and 4, each rated at a capacity of 12 MGD. Plant 3 was constructed in 2009 and retains its initial capacity rating, 12 MGD. Plant 3

comprises two (2) PAC contact tanks operating in series, a rapid mix chamber, two (2) SCUs, a chlorine contact chamber, seven (7) dual media filters, and a transfer pump station. Plant 3 also was constructed with a common wall shared with Plant 4. Plant 4 was constructed simultaneously with Plant 3 and features an identical design and capacity. Plants 3 and 4 also share a common set of PAC contactors.

3.1.2 Plant Capacity

BC reviewed 5 years of monthly operating reports (MORs) to document the historical plant flows. Table 3-1 summarizes the overall flow statistics for the existing facility. The current annual average daily flow is 29.7 MGD, with a maximum day flow of 41.9 MGD, which occurred November 4, 2019, current rated maximum flow for the facility is 51.0 MGD.

Table 3-1. Water Treatment Plant Capacity

Average plant finished flow rate, MGD	29.7
Maximum plant finished flow rate, MGD	41.9 (2019)
Highest monthly average plant flow, MGD	37.6 (2020)
Current Rated Maximum Capacity, MGD	51.0
Future Plant Maximum Capacity, MGD	75.0
Additional Needed Average Flow, MGD	12.0

Table 3-2 shows a summary by month of the average and maximum flows. Flows tend to be the highest flows in September through December and March through April.

Table 3-2. Historical Plant Flows by Month

Month	Average Flow (MGD)	Maximum Flow (MGD)
January	28.6	33.0
February	29.5	35.7
March	31.9	41.3
April	31.0	40.4
May	29.4	37.8
June	26.7	34.4
July	26.6	33.9
August	29.0	34.8
September	29.3	40.4
October	34.2	41.7
November	30.9	42.0
December	29.1	41.7

Today, the Peace River Facility has a rated capacity of 51 MGD, however, given the aging infrastructure and the increasing demand for water, it is necessary to evaluate the existing system to identify areas for optimization and improvement. The existing plant was evaluated to identify areas for process or hydraulic optimization using available information such as record drawings, previous studies and three years of process monitoring and MOR data to establish a benchmark for the existing treatment process operation and performance characteristics.

Later sections of this report present preliminary findings from the data review and analysis, which summarize potential hydraulic and process deficiencies and bottlenecks identified in the existing system. A list of alternatives was evaluated along with pertinent design considerations for the subsequent assessment as outlined in Section 6.

Section 4

Water Quality and Treatment Goals

4.1 Historical Water Quality Data

The PRF withdraws surface water from the Peace River and pumps raw water to the 6-billion-gallon Reservoir 2. Water flows by gravity to the 0.5-billion-gallon Reservoir 1 and is pumped to the PRF for treatment. Additionally, the Authority operates a 6.5 billion gallon ASR system to store fully treated PRF water.

BC reviewed five (5) years of monthly operating reports (MORs), daily tracking spreadsheets, and SCADA data to assess the river, reservoir and settled historical and current water quality to evaluate the suitability of various treatment technologies presented in *Section 5 – Potential Treatment Technologies* of this report. The below subsections describe the statistical water quality and treatment goals. Additional water quality data is detailed in Appendix A. The tables and data presented below serve as an overall water quality summary.

4.1.1 Peace River Water Quality

Table 4-1 includes a summary of the existing raw water quality parameters as measured at the river. Data is summarized based on the maximum, average, minimum, 95th and 5th percentiles.

Table 4-1. Overview of Historical River Water Quality

Parameter	Minimum	5th Percentile	Average	95th Percentile	Maximum
Alkalinity Total (mg/L)	9.0	38.0	71.8	103.0	146.0
Color (color units)	0.9	56.0	139.6	281.0	760.0
Total Hardness (mg/L)	34.0	76.6	157.2	246.0	1,264.0
pH	6.2	6.9	7.6	8.1	8.9
Temperature (deg. C)	2.0	19.0	24.9	29.0	77.0
Turbidity (NTU)	1.2	2.5	5.1	9.2	20.3
Iron (mg/L)	0.04	-	0.09	-	0.14
Manganese (mg/L)	0.01	-	4.4	-	14.0

4.1.2 Reservoir 1 Water Quality

Table 4-2 includes a summary of the existing raw water quality totals as measured at the Authority Reservoir 2. Data is summarized based on the maximum, average, minimum, 95th and 5th percentiles.

Table 4-2. Overview of Historical Reservoir Water Quality

Parameter	Minimum	5th Percentile	Average	95th Percentile	Maximum
Alkalinity Total (mg/L)	38.0	46.0	61.4	75.0	96.0
Color (color units)	18.0	44.0	80.6	130.0	203.0
Total Hardness (mg/L)	64.0	90.6	121.7	160.0	257.0
MIB (ng/L)	0.0	0.0	10.7	59.1	169.0
Geosmin (ng/L)	0.0	0.0	40.8	199.9	1,300
pH	7.0	7.3	7.7	8.0	8.6
Temperature (deg. C)	17.0	20.0	25.4	30.0	32.0
Turbidity (NTU)	1.0	2.0	3.5	5.6	15.0
TDS (mg/L)	145.5	186.0	233.1	308.0	399.2

4.1.3 Settled Water Quality

Table 4-3 includes a summary of the existing settled water quality data from the solids contact clarifiers based on the maximum, average, minimum, 95th and 5th percentiles.

Table 4-3. Overview of Historical Settled Water Quality

Parameter	Minimum	5th Percentile	Average	95th Percentile	Maximum
Alkalinity Total (mg/L)	0.0	8.0	11.9	16.0	56.0
Color (color units)	0.0	3.0	4.1	6.0	36.0
Total Hardness (mg/L)	0.0	92.0	119.8	158.0	237.0
pH	5.27	5.57	5.76	5.94	6.78
Temperature (deg. C)	0.0	19.0	24.8	29.0	32.0
Turbidity (NTU)	0.0	0.3	0.6	1.0	3.2
TDS (mg/L)	169.6	223.6	266.3	331.8	380.1

4.2 Treatment Requirements

4.2.1 Taste and Odor

Taste and odor parameters are typically more aesthetic in nature rather than of a public health concern often impacted by 2-Methylisoborneol (MIB) and geosmin, which are produced by certain types of algae present in the Authority's above-ground raw water reservoirs. These are naturally occurring compounds that are not harmful in drinking water, but can produce an undesirable musty, earthy smell and taste that can cause aesthetic water quality concerns. The seasonally influenced events significantly impact the magnitude of MIB and geosmin. The seasonal trends most often occur during summer months coinciding with the start of the rainy season. Figure 4-1 shows the historical geosmin concentrations

and corresponding PAC dosages to control these compounds. The blue shaded regions in the figure indicate these seasonal trends of increased magnitude of these parameters.

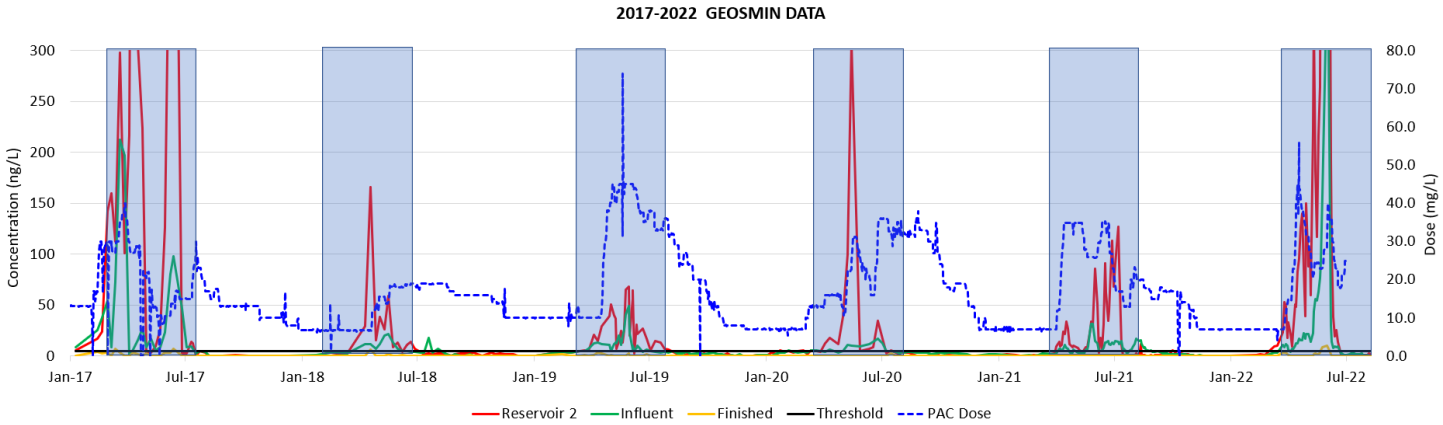


Figure 4-1. Geosmin Concentrations and Corresponding PAC Dosages for 2017 - 2022

Figure 4-2 shows the historical MIB and PAC dosing of the reservoirs and raw water, which shows similar trends to the geosmin. The PAC dose ramps up with the geosmin and MIB trend, which is effective treatment for both geosmin and MIB. There is a clear seasonality trend present as shown with the blue shaded regions in the figure, with slightly higher levels of geosmin and MIB in the reservoir, when compared to the plant influent. The PAC dosing significantly increases seasonally from 8.0 mg/L – 45.0 mg/L as a result.

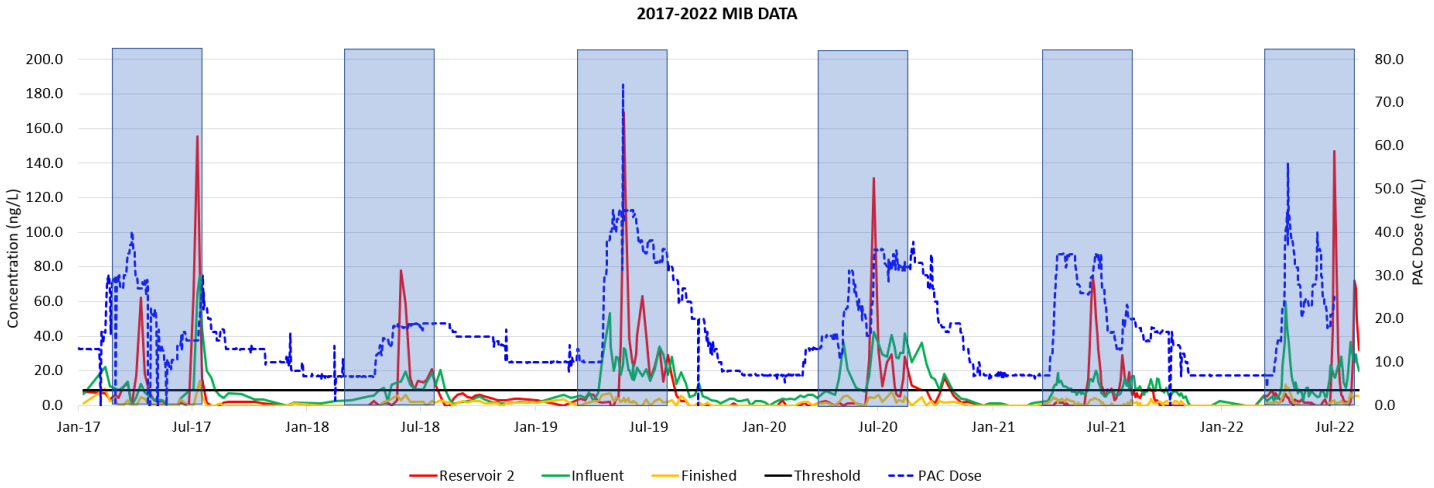


Figure 4-2. MIB Concentrations and Corresponding PAC Dosages for 2017 - 2022

4.2.2 Algae Challenges

MIB and geosmin have been a persistent water quality challenge and algal blooms within the reservoir system are also experienced. The Authority doses copper sulfate into the Reservoir 2 open channel to Reservoir 1, as well as spot treatments in both reservoirs using watercraft to reduce algae concentrations reaching the PRF. The Authority is currently characterizing the algae species present to establish a baseline understanding of the reservoir water quality and algal ecology, with the intention to enhance the algal control strategy. Such improvements could result in significant chemical

and PAC cost savings, improved overall water quality, and reduced maintenance and operational efforts.

4.2.3 Organics and DBP Precursors

Under the EPA's Stage 1 and 2 Disinfectants and Disinfection Byproducts Rule, systems that use conventional filtration treatment are required to remove specific percentages of organic materials measured as total organic carbon (TOC). **Table 4-4** shows the removal requirements based on alkalinity and corresponding TOC concentrations in the source water (shown further below). Based on the reservoir alkalinity and TOC levels, the proposed PRF expansion must provide at least 50% TOC removal. However, the Authority has established a goal of 70% removal for TOC for the PRF expansion.

Table 4-4. TOC Removal Requirements

Source Water TOC (mg/L)	Source Water Alkalinity (mg/L as $CaCO_3$)		
	0-60	>60-120	>120
>2.0-4.0	35%	25%	15%
>4.0-8.0	45%	35%	25%
>8.0	50%	40%	30%

Figure 4-3 shows the historical total raw water alkalinity concentrations in the reservoir system. The alkalinity ranges between 48.0 – 76.0 mg/L

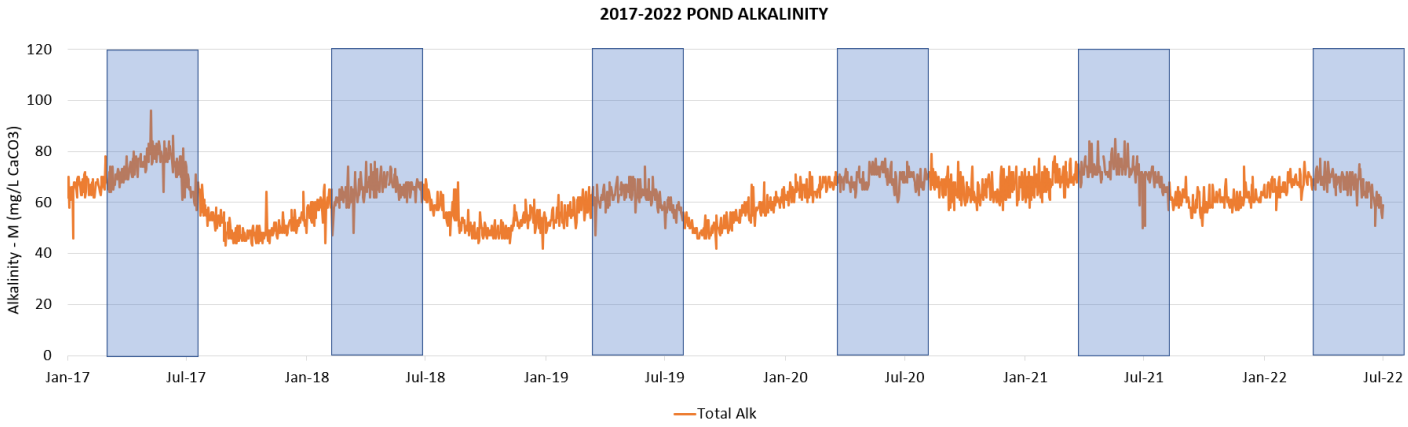


Figure 4-3. Reservoir Alkalinity Concentrations for 2017 - 2022

Figure 4-4 shows the historical raw water TOC levels in the reservoir which are high and fluctuate around 11.3 – 18.6 mg/L with no apparent correlation with high taste and odor events or seasonality to the trend.

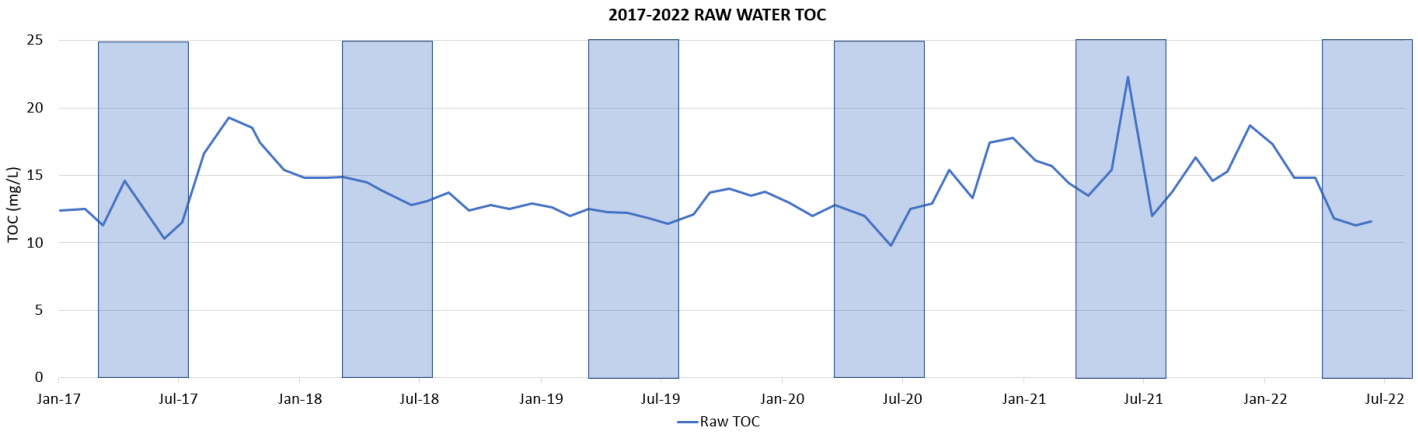


Figure 4-4. Reservoir System TOC Concentrations for 2017 - 2022

4.2.4 Turbidity

Figure 4-5 shows the historical settled water turbidity. The settled water is consistently below 1 NTU, and frequently below 0.5 NTU. January through March have shown some consistent periods with higher numbers, which could be due to cooler temperatures.

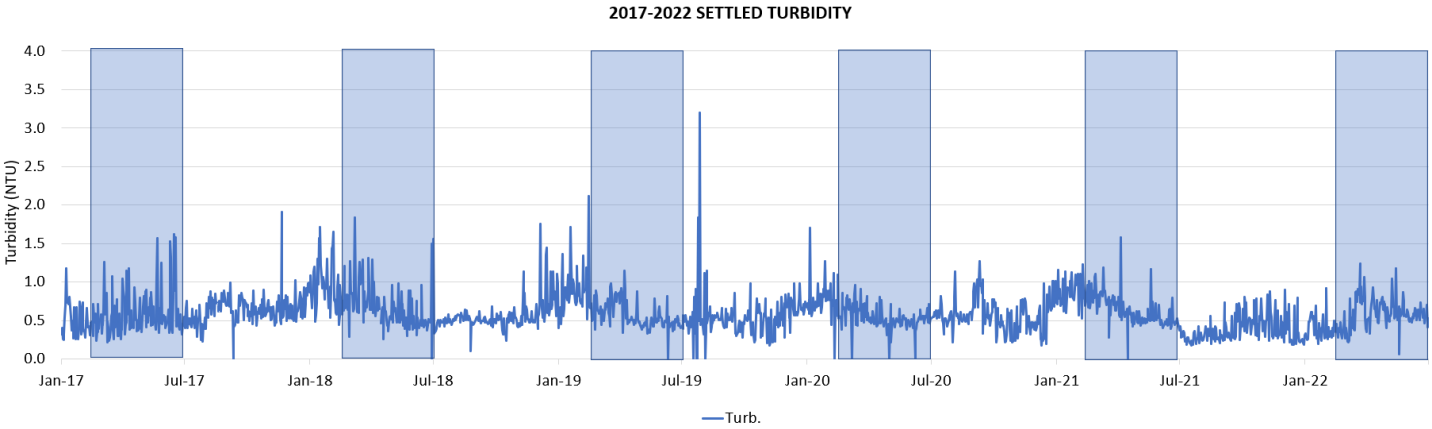


Figure 4-5. Settled Turbidity Concentrations for 2017 - 2022

4.2.5 Color

Figure 4-6 shows the historical color levels in the reservoir. The color ranges between 40 - 120 color units (CU). There is a clear seasonal trend aligned with the dry season (opposite of the geosmin and MIB trend).

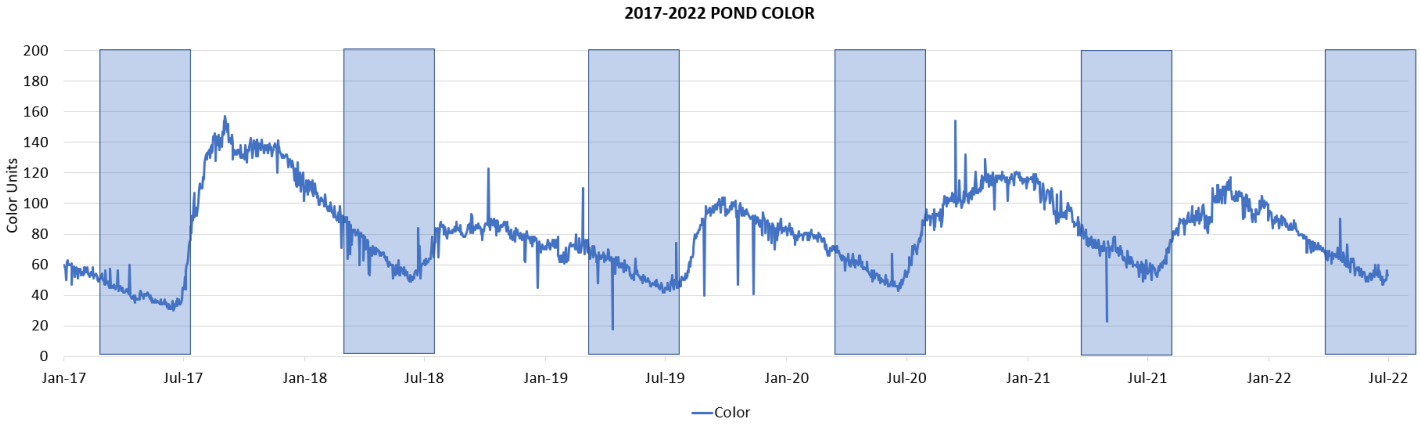


Figure 4-6. Reservoir System Color Concentrations for 2017 - 2022

4.2.6 Water Quality Objectives

The proposed water quality objects established for the Peace River Facility expansion are as follows:

- TOC Removal = greater than 70% removal raw to finished
- Turbidity
  - Settled = less than 1.0 NTU
  - Finished = less than 0.1 NTU
- Finished Color = less than 3.0 color units
- Finished MIB = less than 9.0 ng/L
- Finished Geosmin = less than 5.0 ng/L
- Finished pH – 8.0 - 8.3
- Finished Alkalinity – greater than 40 mg/L

Section 5

Potential Treatment Technologies

This Section provides an overview of the various options initially considered. Options that were selected for further consideration and piloting became alternatives and are described further in *Section 6 – Treatment Alternatives* of this report.

5.1 Authority Treatment Requirements

After the historical data review, Brown and Caldwell facilitated a Treatment Technology Workshop with the Authority on September 14, 2022. Treatment performance objectives were identified, and a short-list of potential treatment technologies was developed. **Table 5-1** summarizes treatment performance objectives and the priority level required for the PRF expansion project.

Table 5-1. Treatment Review Summary

	Ability to Ramp Flow	Particle Removal	High Turbidity Events > 100 NTU	TOC Removal	Iron/Manganese	Algae/Taste and Odor
PRMRWSA Need	High	Moderate	Low	High	Low	Periodically High

5.2 Methodology

Potential treatment solutions for the PRF expansion focused on water quality goals, familiarity with technology, life cycle costs, the proprietary nature of the technology, and other key considerations identified by the Authority. The process enabled the project team to interact with subject matter experts who provide insight and facilitated the discussion with Authority stakeholders. This technique allows an inclusive a comprehensive survey of potential treatment technologies to best serve the Authority and its rate payers. The result was a shortlist of treatment technologies to pilot.

5.3 Pretreatment

Pretreatment refers to the processes used before the primary water treatment process. This can include chemical addition, flocculation, coagulation, sedimentation, and screening. The intent of pretreatment is to treat the raw water to protect and improve the performance of the downstream main water treatment process that can mitigate conditions such as adverse membrane fouling, reducing filter backwashing, and extend filtration equipment's overall service life.

Figure 5-1 summarizes pretreatment technologies considered and compares general capabilities of the technologies with the Authority's needs. The first row states the priority of each design consideration or treatment goal. The subsequent rows indicate the different technologies considered and their ability to meet these design considerations.

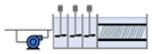
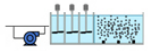
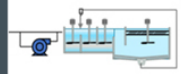
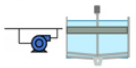
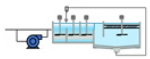
	Process	Description	Utility to Ramp Flow	Particle Removal	High Tubidity Events >100 NTU	TOC Removal	Iron/ Maganese	Algae/ Taste Odor	Notes
PRETREATMENT PROCESS	PRMRWSA Need 	– The Authority is highly interested in the ability to ramp the proposed treatment plant up and down. There is a moderate need for particulate removal in the influent water. The facility does not experience significantly high turbidity events greater than 100 NTU, with the average raw water concentration around 3 – 5 NTU. There is a high need for Total Organic Carbon (TOC) removal with the goal of 70% removal from raw to finished water. The iron and manganese concentrations in the raw water are lower than the secondary Maximum Containment Level (MCL) resulting in a lower need for removal of these constituents. The facility experiences seasonal fluctuations in taste and odor compounds with higher peaks during the summer months resulting in a high need for removal of these constituents	High	Moderate	Low	High	Low	Periodically High	
	Inclined Plate Settlers 	– Mechanically simple and less energy intensive to operate than ballasted flocculation or dissolved air flotation – System reacts quickly to rapid changes in raw water turbidity and flow – Suitable to handle large turbidity events up to 500 NTU or higher	Excellent	Excellent	Excellent	Moderate	Excellent	Moderate	Potential Fit
	Dissolved Air Floatation 	– Utilize air to float solids in flocculated water – Effective at removing material that tends to float (e.g., algae) – Would need to pilot PAC to see if it will come out in float – More compact than conventional flocculation/sedimentation – Unable to handle higher turbidity loads (e.g., turbidities > 20 NTU) – Mechanically complex and energy intensive to operate	Excellent	Excellent	Poor	Moderate	Excellent	Algae Excellent T&O Compounds Poor	Can be installed as pre-roughing filter (Manatee County BTU)
	Ballasted Flocculation 	– Utilization of coagulated coated sand particles to enhance solids flocculation and settleability – Smallest footprint as compared to conventional flocculation/sedimentation or dissolved air flotation – More mechanically complex and requires microsand addition and recovery system – Moderate at removing material that tends to float (e.g., algae) and ACTI-Carb can be used for TOC reduction and to reduce T&O Compounds – Issue with microsand use prior to membranes – causes membrane wear	Excellent	Excellent	Excellent	Moderate Excellent w/ACarb	Excellent	Moderate Excellent w /ACarb	Not considered further due to proprietary nature, sand and potential impacts to membranes, and added operational complexity.
	Upflow Clarifiers 	– Can be used for softening for reduction of calcium, magnesium and other metal cations (TDS in process water, typically through the addition of lime or lime-soda ash) – Long period of time to generate stable operation – Does not handle flow changes well	Poor	Moderate	Moderate	Excellent	Excellent	Moderate	Not considered further due to long startup period and challenges with flow variations.
	MIEX® 	– MIEX resin is designed to be used in a continuous ion exchange process for organics removal – Coagulation still required as a separate unit process – Limited installations worldwide	Excellent	Poor	Poor	Excellent	Poor	Poor	Not considered further due to proprietary nature, added operational complexity, and limited installs.

Figure 5-1. Pretreatment Process Technologies Evaluated

5.4 Filtration

The primary goal of filtration is to remove particles and bacteria by passing water through a porous media. Filtration is typically achieved through multimedia granular filtration (e.g., sand, anthracite, gravel, etc.) or with membrane filtration systems.

Figure 5-2 summarizes the filtration technologies considered for the application and compares the general capabilities of the technologies with the Authority's needs. The first row states the priority of each design consideration or treatment removal goal. The subsequent rows indicate the different technologies considered and their ability to meet these design considerations.

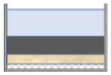
	Process	Description	Particle Removal	High Tubidity Events > 100 NTU	TOC Removal	CECs	T&O Removal	Notes
FILTRATION PROCESS	PRMRWSA Need 	– The Authority is highly interested in particle removal using filtration processes. The facility does not experience significantly high turbidity events greater than 100 NTU, with the average raw water concentration around 3 – 5 NTU. There is low need for TOC removal for the filtration processes and a low need for Contaminants of Emerging Concern (CECs) (e.g. PFAS). The facility experiences seasonal fluctuations in taste and odor compounds with higher peaks during the summer months resulting in a high need for removal of these constituents.	High	Low	Low	Low	Periodically High	Potential Fit
	Filtration 	– Proven technology with a long track record of use at facilities worldwide – Most accepted form or filtration, especially for particulate removal – Performance functions are well understood and can be optimized easily – Minimal benefits to enhanced organics removal	Excellent	Excellent	Poor	Poor	Poor	Potential Fit
	Biological Filtration 	– Can be installed as pre-roughing filter (Manatee County BTU) – Provides opportunity to support biological activity on filter media for improved organics removal and distribution biostability – Can be coupled with ozone to enhance removal of contaminants – Loading rates similar to conventional filtration when installed in filtration mode, pre-filters can hive high loading (10 gpm/sf) – Efficiency varies with temperature and raw water concentrations of organics and nutrients – Potential for more operational challenges as compared to conventional filtration	Excellent	Moderate	Moderate	Moderate	Excellent	Not considered further due to temperature variation, acclimation period, potential process complexities (i.e., ozone and new processes), and operational challenges
	Membrane Filtration 	– Relies on a barrier material with a pore size smaller than the smallest particle it is designed to filter out – Pressure driven system –can be pressure vessels or submerged – could oversize pumps to eliminate separate transfer pumps – Utilized for particulate removal only and cannot remove other constituents – Iron and Manganese needs to be reviewed – Smaller footprint as compared to conventional filtration	Excellent	Poor	Poor	Poor	Poor	Potential Fit

Figure 5-2. Filtration Process Treatment Technologies Evaluated

5.5 Taste and Odor Control

Taste and odor treatment is required to provide water quality that meets the level of service expected by customers. The Authority currently uses powder activated carbon to meet the taste and odor control requirements.

Figure 5-3 summarizes the taste and odor treatment technologies considered for the application and compares the general capabilities of the technologies with the Authority's needs. The first row states the priority of each design consideration or treatment removal goal. The subsequent rows indicate the different technologies considered and their ability to meet these design considerations.

TASTE AND ODOR CONTROL PROCESS

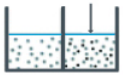
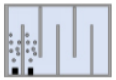
Process	Description	T&O/Algae	Organics Removal	TDS Reduction	CECs	Notes
PRMRWSA Need 	– The facility experiences seasonal fluctuations in taste and odor compounds with higher peaks during the summer months resulting in a high need for removal of these constituents. There is a low need for organics removal, total dissolved solids reduction, and CEC reduction with the primary need being removal of taste and odor compounds MIB and geosmin.	Periodically High	Low	Low	Low	Potential Fit
PAC 	– PRMRWSA has used PAC for seasonal T&O spikes successfully in existing plants – Variety of PAC types and performance varies, Performance also varies with contact time – Removed in solids stream – Unlike GAC, PAC is not seen to be suitable for PFAS reduction	Excellent	Excellent	Poor	Poor	Potential Fit
Granular Activated Carbon (GAC) 	– GAC can be utilized as an absorbent bed for the removal of T&O, TOC, EDCs, SOCs (e.g., PFAS) and VOCs – Extent of removal for each target varies – Compound removal depends on type of GAC, physical properties of GAC, source water properties – GAC service life depends on treatment objectives – High cost for regeneration	Excellent	Excellent	Poor	Excellent	Potential fit
OZONE 	– Reduces DBP formation potential by oxidizing organic carbon – Provides additional barrier for microorganisms and cyanotoxins Byproduct formation important to assess (e.g., Bromate – Provides potential for reduces coagulant dose, improves settled/filtered water quality and filter performance – Facilitates biofiltration, further reducing T&O, DBPs and CECs – Oxidizes Iron and Manganese, provides high level of color removal	Excellent	Excellent	Poor	Moderate	Not considered further due to potential byproduct formation, unfamiliar process, and operational complexities.

Figure 5-3. Taste and Odor Control Process Technologies Evaluated

5.6 Summary

Table 5-2 shows the technologies that were considered a potential fit for the PRF expansion. These technologies were either piloted to determine performance or technologies the Authority currently utilizes, from which performance can be predicted from historical operating data.

Table 5-2. Potential Treatment Technology Summary

Pretreatment	Filtration	Taste & Odor
Inclined Plate Settlers	Membranes	PAC
Solids Contact Clarifiers	Granular Media Filters	GAC

Section 6

Treatment Alternatives

Selection of four (4) alternatives for the facility expansion occurred based on the evaluations discussed in *Section 5 – Potential Treatment Technologies*. This section describes the four (4) alternative treatment trains based on hydraulic modeling, preliminary sizing, proposed PRF modifications required, and details the advantages, disadvantages, and challenges of each of these Alternatives. Note that these Alternatives were either piloted or the Authority currently utilizes them, and performance could be predicted from historical data or data obtained from piloting.

6.1 Common Elements

Several alternatives included the same elements. This section discusses significant assumptions and/or processes that were used for all the alternative evaluations.

6.1.1 Raw Water Feed

Currently, the Authority has begun design work for two (2) other significant regional projects at their facilities occurring in parallel with the PRF expansion. The PR3 Program consists of a third off-stream reservoir and a new river intake pump station. These systems will also serve to support the PRF expansion project which will provide expanded raw water pumping and storage capacity associated with the expanded treatment train. During development of PRF expansion cost estimates, no separate cost considerations were made for raw water pump stations, and it is assumed that a minimal amount of yard piping will be needed for the expansion. The flow split to the proposed Plant 5 from the existing 48-inch diameter raw water header from Reservoir 1 is assumed to be accomplished with a flow meter and flow control valve. This assumption will be further developed in the DCP.

6.1.2 Rapid Mix

Both the solids contact clarifier and the inclined plate settler require rapid mixing for the alum. The rapid mixing, for this report, assumes two (2) concrete tanks with weir splits from the coagulated water channel to flocculation trains. This configuration provides redundancy, but there may be more cost-effective solutions that will be further developed in the DCP.

6.1.3 Chemical Storage

Each alternative utilizes and stores alum, caustic, polymer, sodium hypochlorite, and ammonium hydroxide. It was assumed that these chemicals would be housed within a chemical building, separated by internal walls and that include secondary containment. The Authority currently utilizes individual flow meters instead of day tanks for controlling and monitoring daily volumes of chemical usage. The DCP will further evaluate whether expanding existing buildings is feasible to minimize the number of different delivery locations for chemical vendors. The chemical skid, pumps, and control configurations considered will mirror current configurations due to familiarity and practicality. Note that for the membrane technology evaluated, additional chemical systems would be required for cleaning, which could potentially include calcium thiosulfate or sodium bisulfite, sulfuric acid and citric acid. These systems are specific to the membrane technology.

6.1.4 Recycle Pump Station

The recycle pump station sends backwash from Plants 1 – 4 back to the reservoirs. The existing recycle pump station consists of five (5) vertical turbine pumps (two (2) different sizes) configured in a single rectangular wet well. The wet well accepts flow from the gravity thickeners, drains from PAC contact tanks, residuals from solids contact clarifier, and backwash from the existing filters. Authority staff indicated that the current recycle pump station has limited capacity. The source of the capacity restriction is unknown, as available SCADA data shows only 2 pumps are currently operational. For this document, it was assumed that a new the recycle pump station will be required for the new treatment train. The evaluation for capacity will be performed in the DCP.

6.1.5 Finished Water Storage

The previous report as prepared by Ardurra stated no additional finished storage tanks would be required. There are currently six (6) ground storage tanks with 12 million gallons of total storage capacity onsite. Florida Administrative Code (FAC) 62-555-320(19) refers to the required capacity of finished storage facilities, which requires 25% of the system's maximum-day water demand storage capacity. However, FAC also states that a demonstration consistent with Section 10.6.3 in Water Distribution Handbook showing that the water system's total useful finished-water storage capacity is sufficient for operational equalization could lower the requirement. Table 6-1 shows the Water Distribution Handbook's requirement for equalization volume needed as a fraction of maximum daily demand. Since variable speed pumps are used for equalization, there are no statutory requirements for additional finished water storage at the treatment facility and the existing six (6) storage tanks provide sufficient capacity.

Table 6-1. Equalization Storage Requirements

Type of Operation	Equalization Volume Needed as a fraction of Maximum daily Demand
Constant Pumping	0.10-0.25
Follow demand (constant speed)	0.05-0.15
Off peak pumping	0.25-0.50
Variable Speed Pumps	0

6.1.6 Disinfection

It was assumed that each alternative will have two (2) serpentine configured chlorine contact tank, consistent with Plants 1 – 4, utilizing sodium hypochlorite followed by ammonium hydroxide. The chlorine contact time (CT) will be further evaluated in the DCP to identify the sizing and configuration of a chlorine contact chamber.

6.1.7 High Service Pump Station

The previous study had indicated that a new high service pump station would be required. However, after discussion with the Authority, upsizing the existing pumps at the two (2) high service pump stations may be feasible and more cost effective. A detailed analysis is being completed to identify whether a pump upsizing option is feasible. For this report, it was conservatively assumed that a new high service pump station is required for the new treatment train.

6.1.8 Solids Handling

The existing solids handling strategy directs solids from the solids contact clarifiers to a gravity thickener. The thickener underflow is then fed to two (2) belt filter presses, and then the cake is conveyed by transfer pumps to a distribution pile, where third-party haulers collect the residuals for proper off-site disposal. The previous report assumed that the solids handling treatment would be handled in a similar manner and required a new gravity thickener, transfer pumps, and belt filter presses. However, this evaluation indicated that the existing solids handling process experiences intermittent and problematic gravity blow downs that clogging and inconsistent flow. For this evaluation it was assumed that the solids handling upgrades would include a new 60-foot diameter gravity thickener, an additional sludge transfer pump, an additional cake transfer pump, and a belt filter press to be located in the existing filter press building. The DCP will further evaluate additional methods for solids handling.

6.1.9 Electrical Feed Strategy

As part of the PR3 Program the Authority will be developing a facility wide upgrade to the electrical feed strategy. While the PRF expansion will outline its specific electrical strategy and power requirements in the DCP, the overall facility-wide electrical strategy, including total load analysis and the placement of new utility services, is being developed separately by the PR3 design engineer. General allowances percent of total construction costs are provided for cost estimation purposes, as well as an estimate for the new electrical building's anticipated footprint.

The assumed electrical strategy includes a new utility distribution service. A 25 kilovolt (kV) utility service will supply power to a new medium voltage distribution switchgear, which will distribute power to the expansion facility. New unit substation transformers will be installed to step down the voltage from 23kV to 480 volt (V) and powered from the medium voltage switchgear. The power distribution will be set up in a Main -Tie -Main configuration, allowing downstream loads to be powered from a two-unit substation for redundancy. The substations will supply power to a low voltage, 480V distribution switchgear.

New 480V motor control centers will be installed to house motor starters and distribute power to process and auxiliary equipment. Each motor control center will also follow a Main -Tie -Main configuration. Dedicated feeders from the 480V low voltage switchgear will supply power to each end of the motor control centers. To ensure safety, a Kirk key interlock system will be implemented to prevent the closure of the tie circuit breaker when both main circuit breakers are closed and online. The motor control centers will house some starters for process equipment, supply power to distribution panelboards and step-down transformers to power other process and miscellaneous loads.

Preliminary sizing for generators will be performed during DCP phase. Standby generators and the option of a separate Utility feed will be reviewed and discussed with the owner for backup power options.

A new 480V paralleling switchgear is planned for connection from new 480V standby generators. Standby Power will be supplied to the low voltage switchgear via the paralleling from the generators.

A new electrical building will be included in the design for this expansion. This building will house all the switchgears, motor control centers, and generators. Preliminary layout and sizing of equipment within the electrical building will be identified during DCP phase. Coordination with Florida Power & Light will also take place during this phase, to evaluate what electrical equipment will be provided by the electric company.

The PRF expansion's electrical strategy includes the installation of new utility services, switchgears, transformers, motor control centers, panelboards, generators, and associated distribution equipment. The DCP will provide more specific details regarding the implementation of this strategy.

6.2 Pretreatment Technologies

6.2.1 Solids Contact Clarifiers

Solids contact clarifiers are currently used at the PRF. The clarifiers are used to achieve reduce turbidity, color, and total organic carbon through a sedimentation process in circular tanks. Prior to entering the solids contact clarifier, water is conditioned with caustic and alum. Water enters through the bottom of the concrete tank, and up through the centerwell flocculator. Impellers are top deck mounted for flocculation before the water enters the flocculation zone, which is encapsulated by a large flocculation cone. As solids settle, a scraper arm located at the bottom of the tank directs solids to a central solids hopper, where they are conveyed to the gravity thickeners. Treated water exits through the radial launders. Water then is conveyed to the granular media filters. Figure 6-1 shows a typical section view of a solids contact clarifier.

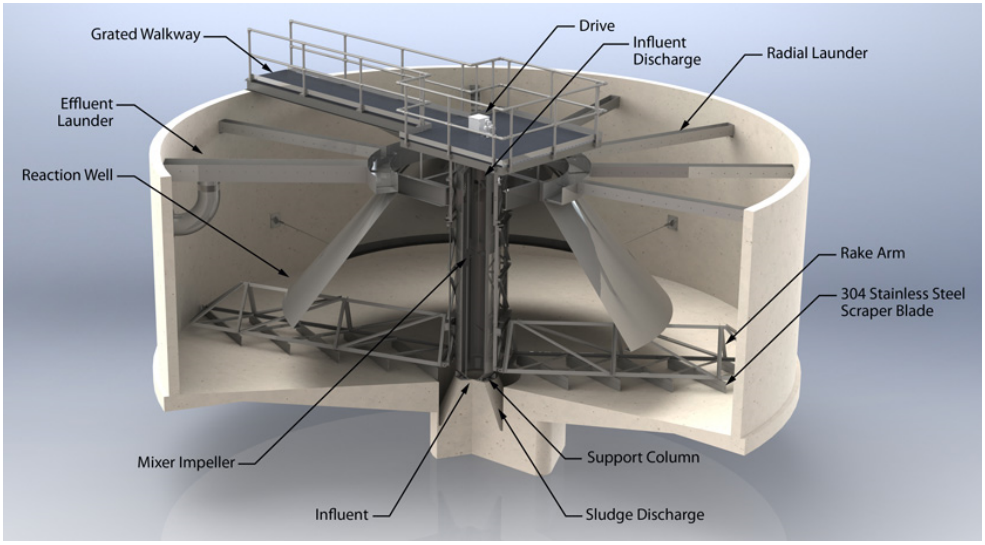


Figure 6-1. Typical Solids Contact Clarifier Diagram

Source: Monroe Environmental

The current facility achieves a settled turbidity frequently between 0.3 and 0.5 NTU and color between 5 and 7 CU. Authority staff is satisfied with the performance of the equipment. However, the ability to quickly either reduce or increase process flow rates has been difficult with respect to acceptable settled water quality. Design of solids contact clarifiers is focused on detention time required for settling to occur.

6.2.2 Inclined Plate Settlers

Inclined plate settlers are a series of parallel rectangular plates, spaced inches apart, all set at an angle to reduce settling time as compared to the conventional solids contact units. The opposite theory is used in plate settling when compared to solids contact clarifying, which is that settling depends on settling area rather than detention time. The net result is equivalent treatment performance in a smaller footprint.

Prior to entering the plate settlers, water is conditioned with caustic and alum. Flow enters the basin through an inlet diffuser, which is designed to reduce velocities and allow the incoming flow to enter

the basin homogenously. Flow aligns with the feed channels located between the plate rows and travels through the feed channels and downward until it reaches the inlet orifices located at the bottom sides of the plate settlers. The flow then enters the inlet orifices and travels upward through the plate settlers at a further reduced velocity to ensure floc settles out. Since the plate settlers are all set at an incline of 45 to 55 degrees, the maximum distance a particle must settle is a few inches. Flow then exits the plate settlers by flowing through orifices located in the top tubes and discharged into the effluent troughs. The flow path to the plate settlers is shown in **Figure 6-2** which depicts flow between the plates with clean water discharging to the troughs and sludge settling out.

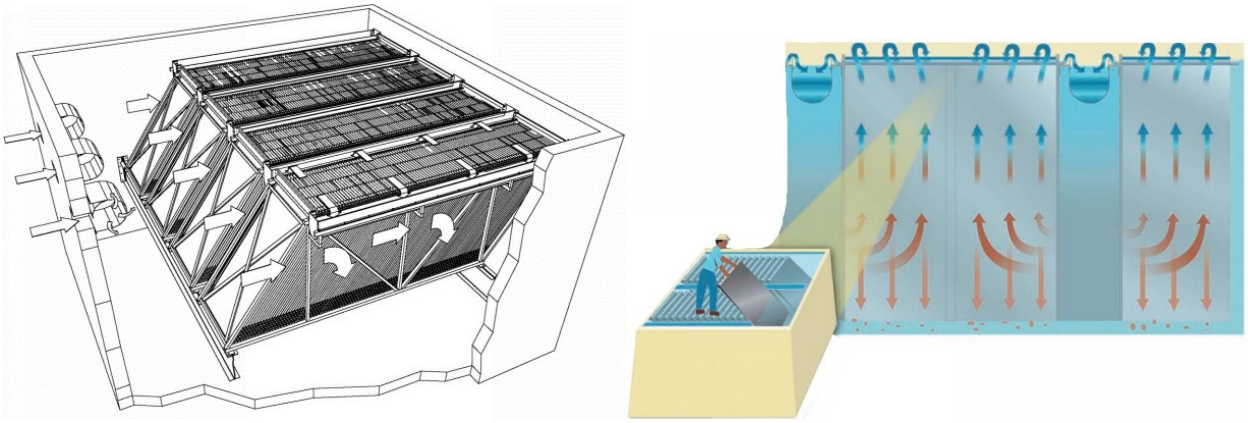


Figure 6-2. Flow Path to and Between Plate Settlers

Source: Meurer Research Incorporated

The advantage of utilizing a plate settler is that they achieve sedimentation in a compact footprint, which is a significant advantage due to space limitations at the PRF. The smaller footprint also yields cost savings with less concrete that is required to construct the tank.

6.3 Filtration Technologies

Filtration is a process used for removing particulate matter from water. Most surface water plants have some form of filtration to remove algae, sediment, organics, microorganisms, and other particulates.

6.3.1 Granular Media Filters

Granular media filters are currently operating at the PRF. This method utilizes dual media granular filters configured in rectangular tanks. A common configuration is shown in **Figure 6-3.** Water enters above the media and is forced downward through the media, which filters the water, to the underdrains. The particles are typically removed in the top part of the media bed. The water level is typically maintained several feet above the media, which controls the head and the filtration rate. The head is controlled by valves upstream or downstream of the filters. Granular filters operate in two modes, either filtration or backwash. The backwash cycle conveys water in the opposite direction (upward), to expand the media bed and remove collected particles.

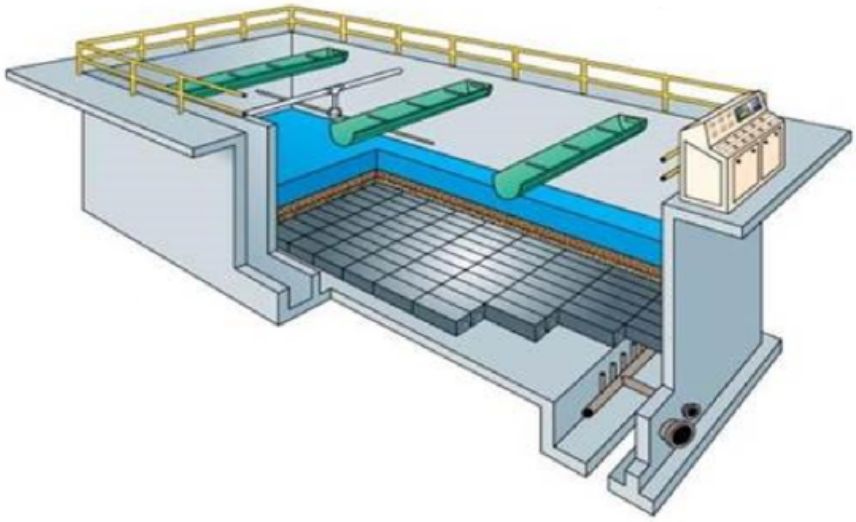


Figure 6-3. Typical Granular Media Filter Diagram

Source: Leopold Filtration Equipment

Depending on filter system design and operation, turbidity spikes can occur with granular filter media following backwashing. Granular media filters will also have a larger footprint than membrane systems. PRF staff have indicated that aeration and chlorine (chlorine is fed upstream of the filters) have led to corrosion issues with the current configuration. A supplemental backwash and adding additional ladders could be an improvement when compared to current configurations. The underdrain system in the current granular media filters has also been problematic.

6.3.2 Membranes

Membrane filtration typically consists of a single layer of material such as woven fibers, ceramics, polymeric or metallic materials. Water passes through the layer, removing a significant portion of suspended solids. Membranes are classified by the size of particle they can filter out. Two membrane filters are discussed below and are being piloted. However, the intent of the pilot study that is being performed is technology validation, not specific selection. The membranes described below are considered the same alternative for this document.

6.3.2.1 Polymeric Membranes

Low-pressure polymeric membranes are the more common membrane filtration technology used in reuse and drinking water treatment plants in the United States. There are several manufacturers that offer polymeric membranes and several types of these membranes. The more common type is hollow fiber that filters water in either an out-in or in-out filtration path. Fibers are commonly manufactured of polyvinylidene fluoride (PVDF) and polyether sulfone (PES). Hollow fibers are contained in modules or cassettes that are grouped together to form a unit. The membrane filtration system is typically made of several units. Polymeric membrane filtration systems can also vary in filtration driving force and be either pressurized (higher pressure) or submerged (low-pressure).

The polymeric membrane system considered and piloted was a submerged low-pressure system. The membranes consist of cassettes, which are thousands of horizontally oriented hollow fibers (enclosed by shrouds) mounted between two vertical plastic headers. Pretreated water flows by gravity in the membrane tank. A permeate pump draws water through the out-in membrane hollow fiber via vacuum.

Figure 6-4 shows the process in which water enters the membrane. The hydraulic level of the tank is maintained at a typical steady state where the influent pretreated water flow rate matches the permeate flow rate. Permeate (filtrate) water backwashes are performed periodically to remove solids from the surface of the membranes and tank drains are performed to remove suspended solids from the tank. More detail regarding maintenance and recovery cleans are detailed in sections 6.4.1.3 and 6.4.1.4.

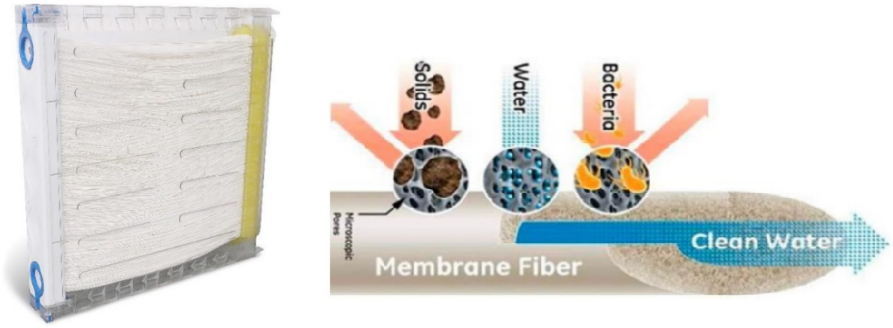


Figure 6-4. Typical Polymeric Membrane Cassette and Flow

Source: Veolia Water Technologies

6.3.2.2 Ceramic Membranes

Low-pressure ceramic membranes currently have limited installations in the United States. The technology was developed in the European market but does offer some advantages over polymeric membranes, such as higher flux rates, smaller footprints, less stringent screening requirements, more cleaning alternatives, and longer useful life. The ceramic membrane considered and piloted was a submerged system. A silicon carbide plate with hollow tubes forms the ceramic membrane sheet. The tank consists of several membrane cassettes as shown in Figure 6-5. The configuration is like the polymeric in the sense that a tank is filled with pretreated water and a vacuum is applied to the internal side of the ceramic membrane, which pulls water through the membrane. Figure 6-5 shows the process in which water enters the membrane. The ceramic membrane filters out particles too large to pass through the pores. Similar backwashes and cleanings are required to the polymeric membrane.

Figure 6-5. Typical Ceramic Membrane Cassette and Flow

Source: Ovivo Water Treatment

6.3.2.3 Maintenance Clean (MC)

Maintenance Cleans (MCs) are used to prolong the interval between more intensive Recovery Cleans (RCs) (described in the next section) by managing solids accumulation and membrane fouling. Maintenance cleaning frequency may vary from once a day to once a week based on feed water quality. Sodium hypochlorite is used to remove organic fouling, and citric acid maintenance cleans remove inorganic fouling. Maintenance cleans are typically not heated. This short duration cleaning event

typically requires approximately 40 minutes to complete and consists of soaking the membranes in a chemical solution following a backwash.

The cleaning procedure begins with the transfer of permeate stored in the CIP tank to the membrane tank using the CIP pump while injecting chemical in-line to prepare the cleaning solution in the membrane tank. Once the membrane tank is filled with the chemical solution, the membranes are allowed to soak for a period of 15 minutes. After the soak, the membranes are backwashed using permeate water. The chemical solution is then transferred back to the CIP tank. Additional flushing of the membrane tank and piping is also performed, with the flush water being pumped by the CIP pump to the CIP tank. The chemical cleaning waste in the CIP tank can then be neutralized and disposed of.

6.3.2.4 Recovery Clean (RC)

Recovery cleans are an intensive method for cleaning the membranes and are performed according to the design schedule which is typically once every 30 days per chemical. A recovery clean typically requires approximately 6 hours to complete. It consists of an alternation of circulation and soak cycles in a heated chemical solution and ends with a backwash that flushes the chemical solution from the membrane. These cleans are different from maintenance cleans, as they consist of longer soaking periods, use circulation and permeation, use hot water, and are performed at higher chemical concentrations and higher pH. Two (2) separate chemicals are used in two (2) different soaks; sodium hypochlorite, to remove organic fouling, and citric acid, to remove inorganic fouling.

6.4 Taste and Odor Technologies

Source water can contain taste and odor from dissolved substances. These are typically considered aesthetic characteristics because they do not pose a threat to public health. However, taste and odor are a very important aspect to the level of service and directly linked to complaints. The causes can be linked to but are not limited to chemicals caused by algae, lack of oxygen, salinity, and sulfides. The Authority has specific challenges surrounding MIB and Geosmin, which are caused by algae in the wet season.

6.4.1 Powdered Activated Carbon

PAC is a type of carbon that can be used seasonally to treat taste and odor. PAC is injected into the raw water stream and conveyed to a settling tank. The dissolved substance within the raw water is indiscriminately absorbed into the carbon, meaning, other compounds are removed from the water at the same time. PAC is typically more convenient to employ than GAC due to lower capital costs. However, PAC typically has a higher operational cost because PAC is not regenerated or reused.

6.4.2 Granular Activated Carbon

Granular activated carbon (GAC) is a common method used in drinking water treatment to remove impurities and contaminants from water. GAC is a form of activated carbon that is made up of small granules, which have a very large surface area and are highly porous. This allows GAC to trap and remove a wide range of contaminants, including organic compounds, chlorine and volatile solids. GAC is used in vessels called contacts. GAC is typically used in two main stages of the water treatment process: pre-treatment and post-treatment stages. Post-treatment GAC is typically near the end of treatment and water can be conveyed through pressurized vessels. Once the carbon is spent (no more absorption capacity), the carbon can be recycled and regenerated for future use. The plant would call a GAC supplier to replace the carbon with recycled carbon, which does have a requirement of 10% virgin carbon. The regenerated GAC is more cost-effective than PAC and has more absorption potential. There are also configurations that can effectively treat polyfluorinated substances (PFAS), which is a

newly regulated compound and topic of interest. Note that GAC can strip chlorine residual so chlorine will need to be added after water flows through the GAC contactors.

6.5 Alternatives

The following sections present the proposed treatment train alternatives, a master equipment list summarizing the equipment for each alternative is included in Appendix C.

6.5.1 Alternative 1: PAC / Plate Settlers / Membranes

Alternative 1 includes PAC contactors, plate settlers, fine screens, either polymeric or ceramic membranes (the specific type of membrane will be selected by the design-builder), chlorine contact chambers, transfer pumps, a high service pump station, a chemical building, 60-foot diameter gravity thickener, solids pumps and a belt filter press.

In addition to the new components, the alternative also utilizes existing infrastructure. This includes the reservoir and river pumping stations, the recycle pump station and the finished ground storage pumps and existing high service pump stations. Figure 6-6 shows the process flow diagram for the alternative.

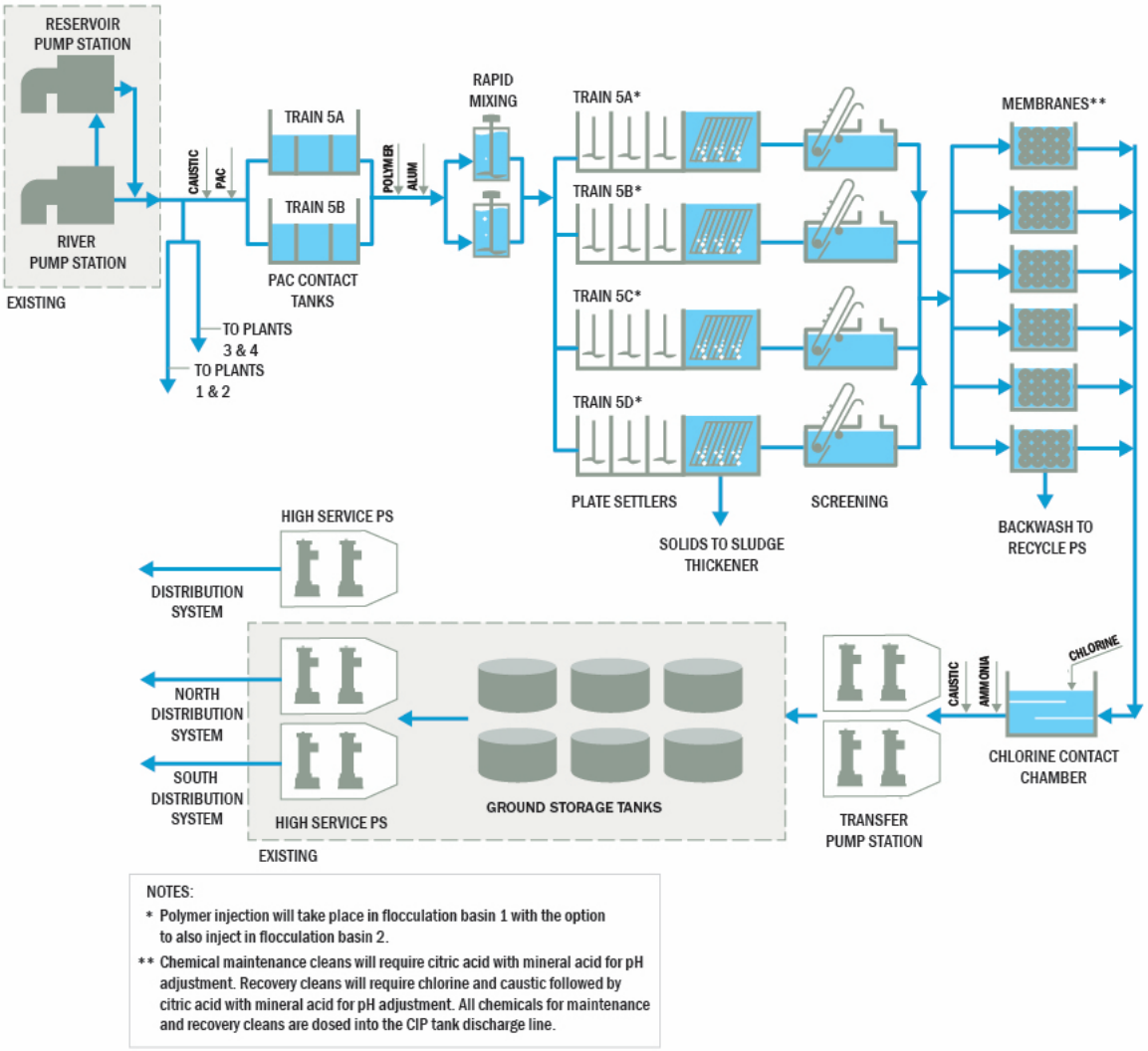


Figure 6-6. Alternative 1 Process Flow Diagram

6.5.2 Alternative 2: PAC / Plate Settlers / Granular Media Filters

Alternative 2 includes PAC contactors, plate settlers, dual media filters, chlorine contact chambers, transfer pumps, a high service pump station, a chemical building, 60-foot diameter gravity thickener, solids pumps and a belt filter press.

The alternative will utilize existing infrastructure. This includes the reservoir and river pumping stations, the recycle pump station and the finished ground storage pumps and existing high service pump stations. Figure 6-7 shows the process flow diagram for the alternative.

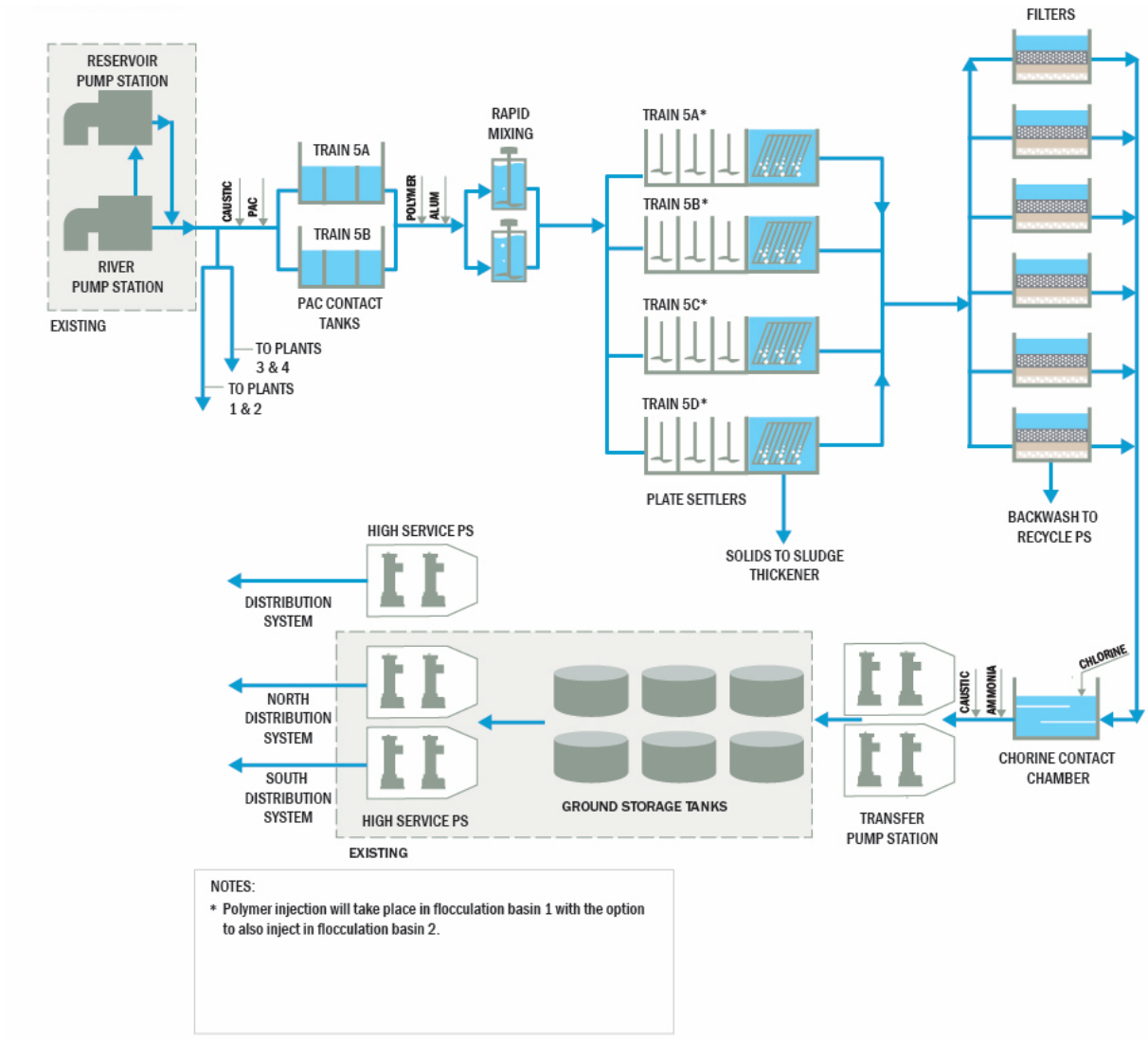


Figure 6-7. Alternative 2 Process Flow Diagram

6.5.3 Alternative 3: Plate Settlers / Membranes / GAC

Alternative 3 includes plate settlers, either polymeric or ceramic membranes (the specific type of membrane will be selected by the design-builder), granular activated carbon vessels, chlorine contact chambers, transfer pumps, a high service pump station, a chemical building, 60-foot diameter gravity thickener, solids pumps and a belt filter press.

The alternative will utilize existing infrastructure. This includes the reservoir and river pumping stations, the recycle pump station and the finished ground storage pumps and existing high service pump stations. Figure 6-8 shows the process flow diagram for the alternative.

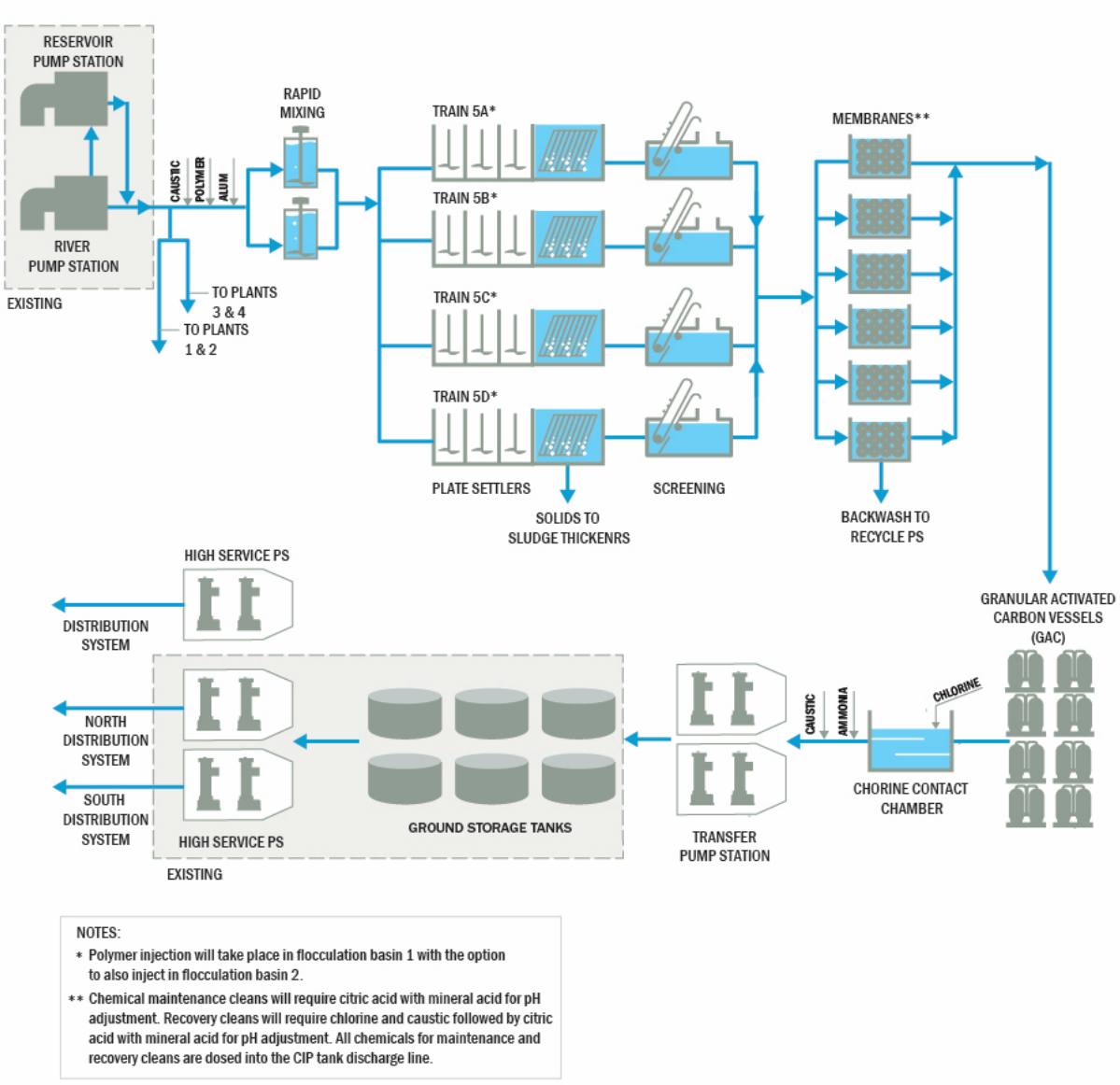


Figure 6-8. Alternative 3 Process Flow Diagram

6.5.4 Alternative 4: PAC / Solids Contact Clarifiers / Granular Media Filters

Alternative 4 includes PAC contactors, solids contact clarifiers, granular media filters, chlorine contact chambers, transfer pumps, a high service pump station, a chemical building, 60-foot diameter gravity thickener, solids pumps and a belt filter press.

The alternative will utilize existing infrastructure. This includes the reservoir and river pumping stations, the recycle pump station and the finished ground storage pumps and existing high service pump stations. Figure 6-9 shows the process flow diagram for the alternative.

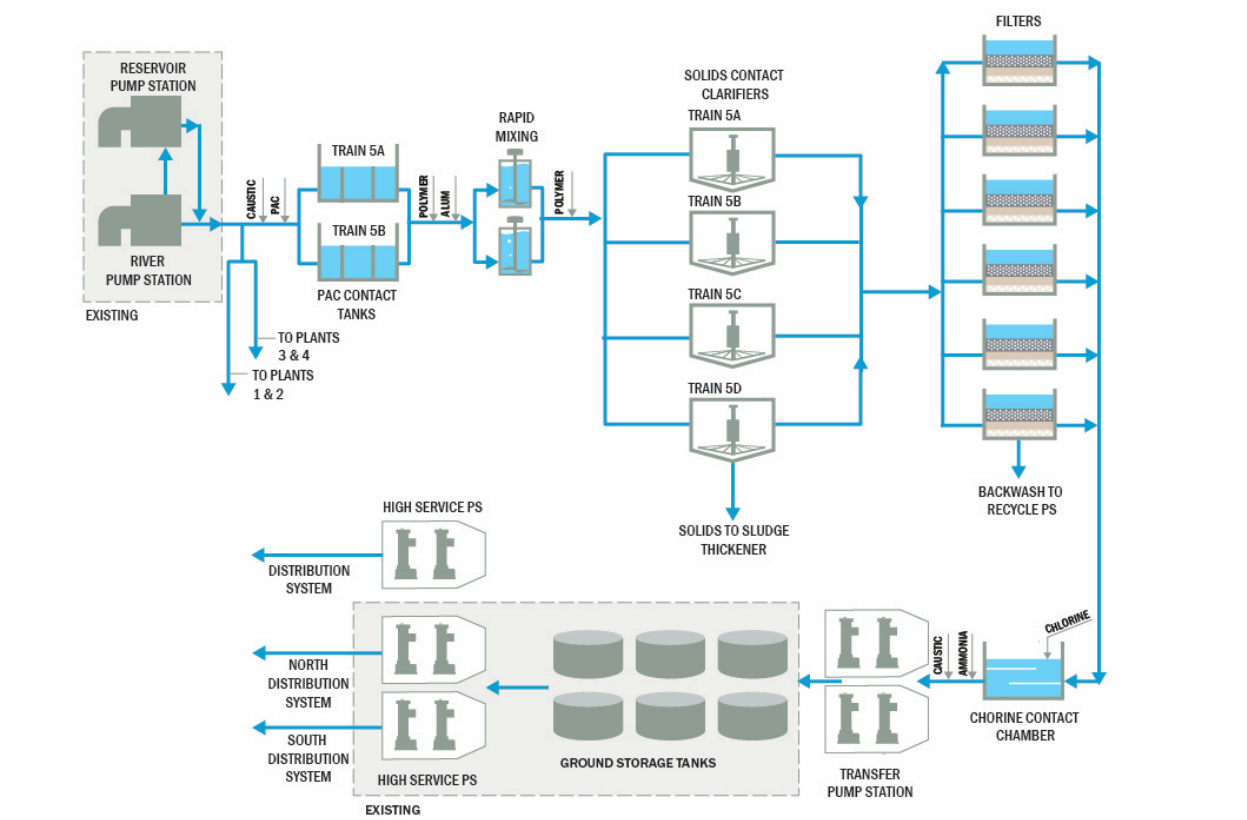


Figure 6-9. Alternative 4 Process Flow Diagram

Section 7

Economic Analysis

This section includes discussion and quantification of financial, operational, and maintenance impacts associated with the alternatives. Cost summaries and a net present value (NPV) analysis were provided.

7.1 Capital Improvement Summaries

The opinion of probable construction cost (OPCC) includes line-item equipment costs for readily identifiable items, as well as fixed percentage markups for various cost items for general conditions, mechanical systems, startup, taxes, equipment installation, piping, building services, yard improvements, service utilities, electrical, and instrumentation and controls. These estimates were prepared using quantity take-offs, vendor quotes and actual equipment pricing. Equipment pricing where quotes were unavailable was supplemented by BC's historical cost database.

Installation of purchased equipment and supply and installation of instrumentation and controls (I&C), electrical components, piping, yard improvements and service utility connections are included in the conceptual cost estimate as a percent markup applied to the purchased equipment delivered subtotal cost. The percent markup ranges are based on Peters et al. (2002) and are summed to the estimates total direct cost. Total indirect costs are based on percentage markups on the total direct cost for items such as Contractor's Fee, Contractor's General Conditions and Legal Fees. The project contingency is applied to the summation of total direct and indirect costs. Engineering and Supervision costs were estimated to be approximately 15%, consistent with other recent progressive design build (Section 10).

7.1.1 Class of Estimate

In accordance with the Association for the Advancement of Cost Engineering International (AACE) criteria, this is a Class 5 estimate, defined as a concept screening methodology. Typically, engineering is from 0 to 2 percent complete with several alternatives. Class 5 estimates are prepared with comparatively limited information that relies on assumptions such as geotechnical information and general building construction. Class 5 estimates rely on readily available information.

Expected accuracy for Class 5 estimates typically range from -50 to +100 percent, depending on project complexity, appropriate reference information, and contingencies.

7.1.2 Opinions of Probable Construction Costs

The following sections summarize opinions of probable construction cost (OPCC) for each alternative to identify the relative capital cots. Table 7-1 serves as an estimated cost summary for the capital requirements of the Alternatives.

Table 7-1. Opinion of Probable Capital Construction Costs								
Alternative No.	1		2		3		4	
Project Description	PAC Inclined Plate Settlers Membranes		PAC Inclined Plate Settlers Granular Media Filters		Inclined Plate Settlers Membranes GAC		PAC Solids Contact Clarifiers Granular Media Filters	
Direct Costs	**Selected %**	**Cost**	**Selected %**	**Cost**	**Selected %**	**Cost**	**Selected %**	**Cost**
Purchased Equipment Cost (PEC)	-	$15,500,000	-	$13,000,000	-	$22,700,000	-	$14,900,000
Freight	10%	$400,000	10%	$840,000	10%	$340,000	10%	$840,000
Purchased Equipment Delivered (PEC-D) Subtotal	**$15,900,000**		**$13,840,000**		**$23,040,000**		**$15,740,000**	
Purchased Equipment Installation	25%	$4,000,000	25%	$3,500,000	25%	$5,800,000	25%	$3,900,000
Instrumentation and Controls (Installed)	15%	$2,400,000	15%	$2,100,000	15%	$3,500,000	15%	$2,400,000
Piping (Installed)	30%	$4,800,000	30%	$4,200,000	30%	$6,900,000	30%	$4,700,000
Electrical Systems (Installed)	35%	$5,600,000	35%	$4,800,000	35%	$8,100,000	35%	$5,500,000
Yard Improvements	10%	$1,600,000	10%	$1,400,000	10%	$2,300,000	10%	$1,600,000
Service Utilities (Installed)	40%	$6,400,000	40%	$5,500,000	40%	$9,200,000	40%	$6,300,000
Raw Cost Subtotal	**$24,800,000**		**$21,500,000**		**$35,800,000**		**$24,400,000**	
Contractor Packages	-	$2,400,000	-	$2,400,000	-	$2,400,000	-	$2,400,000
Buildings (Concrete)	-	$23,700,000	-	$26,000,000	-	$23,700,000	-	$29,200,000
Buildings (including systems)	3%	$300,000	3%	$400,000	3%	$300,000	3%	$400,000
Direct Cost Subtotal	**$64,700,000**		**$61,700,000**		**$82,800,000**		**$69,700,000**	
Indirect Costs	**Selected %**	**Cost**	**Selected %**	**Cost**	**Selected %**	**Cost**	**Selected %**	**Cost**
Engineering and Supervision	15%	$9,700,000	15%	$9,300,000	15%	$12,400,000	15%	$10,400,000
Sales Tax	8%	$2,400,000	8%	$2,300,000	8%	$3,100,000	8%	$2,600,000
Contractor's Fee	10%	$6,500,000	10%	$6,200,000	10%	$8,300,000	10%	$7,000,000
Legal Expenses – Permits	3%	$1,900,000	3%	$1,900,000	3%	$2,500,000	3%	$2,100,000
Indirect Subtotal	**$85,200,000**		**$81,100,000**		**109,100,000**		**91,700,000**	
Construction Expenses – General Conditions	15%	$12,800,000	15%	$12,200,000	15%	$16,400,000	15%	$13,800,000

Table 7-1. Opinion of Probable Capital Construction Costs								
Fixed Capital Investment	**$98,000,000**		**$93,300,000**		**$125,500,000**		**$105,700,000**	
Contingency	35%	$34,300,000	35%	$32,700,000	35%	$43,900,000	35%	$37,000,000
Contingency Subtotal	**$132,300,000**		**$126,400,000**		**$169,400,000**		**$142,400,000**	
Project Start (Construction Starts)	9/1/2025		9/1/2025		9/1/2025		9/1/2025	
Estimated Project Duration	39 months		39 months		39 months		39 months	
Estimated Project End	12/1/2028		12/1/2028		12/1/2028		12/1/2028	
½ Construction Period	20 months		20 months		20 months		20 months	
Time to Mid-Point	47 months		47 months		47 months		47 months	
Annual Escalation	5%	$6,600,000	5%	$6,300,000	5%	$8,500,000	5%	$7,100,000
Escalation to Mid-Point	22%	$28,600,000	22%	$27,200,000	22%	$36,600,000	22%	$30,700,00
Total Installed Cost (TIC)	**$160,900,000**		**$153,200,000**		**$206,000,000**		**$173,500,000**	
Total Cost per Gallon (24 MGD max)	6.70		6.40		8.58		7.23	
Class 5 Estimate	$80,500,000	$321,800,000	$76,600,000	$307,400,000	$103,000,000	$412,000,000	$86,600,000	$347,000,000

The anticipated cost per funding year for each alternative is summarized in Table 7-2 below.

Table 7-2. Estimated Project Cost per Funding Year

Alternative No.	1	2	3	4
Project Description	PAC Incline Plate Settlers Membranes	PAC Incline Plate Settlers Granular Media Filters	Incline Plate Settlers Membranes GAC	PAC Solids Contact Clarifiers Granular Media Filters
2025	$32,180,000	$30,740,000	$41,200,000	$34,700,000
2026	$32,180,000	$30,740,000	$41,200,000	$34,700,000
2027	$32,180,000	$30,740,000	$41,200,000	$34,700,000
2028	$32,180,000	$30,740,000	$41,200,000	$34,700,000
2029	$32,180,000	$30,740,000	$41,200,000	$34,700,000
Total	$160,900,000	$153,700,000	$206,000,000	$173,500,000

7.2 Estimated Annual Costs

Estimated annual costs account for the yearly O&M. The costs assessed included the following:

- Electricity
- Water
- Chemicals
- Residual Disposal Costs
- Maintenance
- Staffing

7.2.1 Electrical Cost

A general equipment list was developed for each alternative and summarizes electrical horsepower demands for all equipment listed in (provided in Appendix D). Electrical costs were calculated by using connected horsepower, average loadings, and typical power factors of selected equipment. The previous year's electrical bills were reviewed to identify the average cost of electricity using the Authority's current rate of 8.1 cents/kWh. The electrical cost model was calibrated by normalizing the existing electrical loads into cost per million gallons produced. A 10% discount on the normalized value was provided for shared, baseline electrical requirements, and costs not included such as pumping from the reservoir or river to the expansion. This cost was applied to Alternative 4 for 12 MGD because Alternative 4 provides a baseline comparison to the existing plant operations and has similar equipment. The kW demand was identified from Alternative 4's baseline cost, then applied to the connected horsepower to identify a reasonable duty load ratio for the other alternative equipment loadings for each alternative.

7.2.2 Water Costs

Water consumption rates for backwashing, polymer mixing, carrier fluids, and cleaning equipment was prepared. The cost was estimated using the operational data and budgeting information. The cost calculated and used for the life-cycle costs took the total annual costs (minus water costs) and divided by total annual water production. This unit treatment cost was multiplied by the estimated amount of water recycled per alternative.

7.2.3 Residual Disposal Costs

The Authority provided sludge hauling data from June 2022 to February 2023. The data used to calculate the average sludge (tons) generated per treated MGD by correlating the water produced (as measured by the finished water flow meter) to the amount of residuals hauled in the corresponding period. The cost model assumed that the sludge production would remain relatively similar, as the sludge produced would be an alum sludge and dosing requirements from the pilot have indicated similar chemical dosing ranges. The Authority currently pays $10.50/wet ton for sludge disposal.

7.2.4 Chemical Costs

The chemical costs were estimated by using fiscal year 2022's annual budget allocation. Piloting verified that the amount of chemicals required for the pretreatment processes will remain consistent for polymer. However, aluminum sulfate showed approximately a 10% consumption reduction, which was applied to Alternatives 1 - 3. Section 7.2.4.1 shows the current chemical costs associated with each chemical. Membranes require additional chemicals for cleaning, Section 7.2.4.1. shows the costs associated with the additional chemicals.

7.2.4.1 Current Chemicals

Table 7-3 shows the chemicals that are currently used by the Authority. The intent for the PRF expansion is to utilize the same types of chemicals so additional chemical vendors will not be required.

Table 7-3. Existing Chemical Costs

Chemical	Vendor	Cost
Coagulant Aid Polymer (Liquid Stream Polymer)	KED Group, Inc.	$1.939/pound
Coagulant Aid Polymer (Dewatering Polymer)	KED Group, Inc.	$1.69/pound
Sodium Hydroxide (50% Solution)	Brenntag Mid-South	$789.00/dry ton
PAC	Calgon Carbon	$2,960/ton
Sodium Hypochlorite (12.5% Strength)	Allied Universal Corp.	$0.878/gallon
Ammonium Hydroxide (19% Strength)	Airgas Specialty Products	$1.0975/gallon
Aluminum Sulfate (48% Strength)	C&S Chemicals	$322.00/dry ton

7.2.4.2 Additional Chemicals

With the membrane options, there are three (3) new chemicals that would be required for cleaning. Vendors were contacted for pricing on these chemicals. Table 7-4 shows a summary of the additional chemicals required for the membranes.

Table 7-4. Additional Chemical Costs

Chemical	Vendor	Cost
Sulfuric Acid (33% Strength)	Chem-Stat Inc.	$19.6/gallon
Citric Acid (50% Strength)	Hawkins Chemical	$16.09/gallon
Sodium Bisulfate (38% Strength)	Chem-Stat Inc.	$8.94/gallon

7.2.5 Staffing Requirements

Full-time equivalents (FTEs) represent the number of full-time staff members required to operate each of the four alternatives. FTEs were estimated by using "The Northeast Guide for Estimating Staffing at Publicly and Privately-Owned Wastewater Treatment Plants", which was prepared by the New England Interstate Water Pollution Control Commission. The document quantifies staff to operate and maintain wastewater treatment unit operations and processes. These estimates are a general guide. Since the PRF is a drinking water facility, it is noted that the guideline evaluates the general magnitude of staffing differences for differing unit operations and processes. Staffing levels must also comply with Federal, State, and Local regulations. FTEs were assumed to have an average unburdened hourly rate of $35.

FAC 62-699.310 lists staffing and classification requirements for different types and sizes of drinking water treatment plants. Based on this, each alternative would require approximately equivalent staffing levels as are currently maintained at the PRF.

It was determined that each alternative would require 2 additional FTEs to operate the expansion. There were fractional differences between alternatives, so each alternative was rounded up to the nearest whole number.

7.2.6 Operational Cost Summary

The following section serves as a summary of the operational costs and were evaluated for each alternative to identify the relative magnitude of cost required for operation. Table 7-5 serves as an estimated cost summary for the operational cost requirements for the Alternatives.

Table 7-5. Opinion of Probable Operational Expenses								
Alternative No.	**1**		**2**		**3**		**4**	
Project Description	**PAC Incline Plate Settlers Membranes**		**PAC Incline Plate Settlers Granular Media Filters**		**Incline Plate Settlers Membranes GAC**		**PAC Solids Contact Clarifiers Granular Media Filters**	
Electricity	**Value**	**Cost**	**Value**	**Cost**	**Value**	**Cost**	**Value**	**Cost**
Electricity	0.08 $/kWh	$720,000	0.08 $/kWh	$680,000	0.08 $/kWh	$720,000	0.08 $/kWh	$690,000
Electricity Subtotal	**$720,000**		**$680,000**		**$720,000**		**$690,000**	
Chemicals	**Value**	**Cost**	**Value**	**Cost**	**Value**	**Cost**	**Value**	**Cost**
Coagulant Aid Polymer (Liquid Stream)	$1.939/pound	$37,000	$1.939/pound	$37,000	$1.939/pound	$37,000	$1.939/pound	$37,000
Alum	$322/dry ton	$1,142,000	$322/dry ton	$1,142,000	$322/dry ton	$1,142,000	$322/dry ton	$1,324,000
Ammonium Hydroxide (19% Strength)	$1.0975/gallon	$74,000	$1.0975/gallon	$74,000	$1.0975/gallon	$74,000	$1.0975/gallon	$74,000
Sodium Hypochlorite (12.5% Strength)	$0.878/gallon	$369,000	$0.878/gallon	$369,000	$0.878/gallon	$369,000	$0.878/gallon	$369,000
Sodium Hydroxide (50% Solution)	$789.00/dry ton	$799,000	$789.00/dry ton	$799,000	$789.00/dry ton	$799,000	$789.00/dry ton	$799,000
Coagulant Aid Polymer (Dewatering Polymer)	$1.69/pound	$21,000	$1.69/pound	$21,000	$1.69/pound	$21,000	$1.69/pound	$21,000
Chemical Subtotal	**$2,442,000**		**$2,442,000**		**$2,442,000**		**$3,826,000**	
CIP Chemicals	**Value**	**Cost**	**Value**	**Cost**	**Value**	**Cost**	**Value**	**Cost**
Sodium Hypochlorite (12.5% Strength)	$0.878/gallon	$5,000	$0.878/gallon	-	$0.878/gallon	$5,000	$0.878/gallon	-
Sodium Hydroxide (50% Solution)	$789.00/dry ton	$9,000	$789.00/dry ton	-	$789.00/dry ton	$9,000	$789.00/dry ton	-
Sulfuric Acid (33% Strength)	$19.6/gallon	$12,000	$19.6/gallon	-	$19.6/gallon	$12,000	$19.6/gallon	-
Citric Acid (50% Strength)	$16.09/gallon	$43,000	$16.09/gallon	-	$16.09/gallon	$43,000	$16.09/gallon	-
Sodium Bisulfate (38% Strength)	$8.94/gallon	$35,000	$8.94/gallon	-	$8.94/gallon	$35,000	$8.94/gallon	-
CIP Chemical Subtotal	**$104,000**		**-**		**$104,000**			
Carbon	**Value**	**Cost**	**Value**	**Cost**	**Value**	**Cost**	**Value**	**Cost**
PAC	$1.48/lb	$1,641,000	$1.48/lb	$1,641,000	$1.48/lb	-	$1.48/lb	$1,641,000
GAC	$1.80/lb	-	$1.80/lb	-	$1.80/lb	$1,832,000	$1.80/lb	-

Table 7-5. Opinion of Probable Operational Expenses								
Carbon Subtotal	**$1,641,000**		**$1,641,000**		**$1,832,000**		**$1,641,000**	
Residual Disposal	**Value**	**Cost**	**Value**	**Cost**	**Value**	**Cost**	**Value**	**Cost**
Solids Cake Disposal	$10.5/ton	$83,000	$10.5/ton	$83,000	$10.5/ton	$83,000	$10.5/ton	$83,000
Residual Subtotal	**$83,000**		**$83,000**		**$83,000**		**$83,000**	
Full Time Equivalents	**Value**	**Cost**	**Value**	**Cost**	**Value**	**Cost**	**Value**	**Cost**
Full Time Equivalents (assume 2 FTEs)	$35/hr	$146,000	$35/hr	$146,000	$35/hr	$146,000	$35/hr	$146,000
FTE Subtotal	**$146,000**		**$146,000**		**$146,000**		**$146,000**	
General Maintenance & Replacement	**Value**	**Cost**	**Value**	**Cost**	**Value**	**Cost**	**Value**	**Cost**
General Equipment Maintenance	3%	$465,000	3%	$255,000	3%	$501,000	3%	$312,000
Maintenance Subtotal	**$465,000**		**$255,000**		**$501,000**		**$312,000**	
Water Use and Other Utilities	**Value**	**Cost**	**Value**	**Cost**	**Value**	**Cost**	**Value**	**Cost**
Recycled water/backwash	$/1000 gal	$266,000	$/1000 gal	$284,000	$/1000 gal	$277,000	$/1000 gal	$288,000
Water Use and Other Utilities Subtotal	**$266,000**		**$284,000**		**$277,000**		**$288,000**	
Operational Subtotal	**$6,050,000**		**$5,710,000**		**$6,290,000**		**$5,780,000**	

7.2.7 Net Present Value

A Net Present Value (NPV) evaluation was used to compare alternatives and includes both estimated annualized and capital costs. Estimated costs were based on manufacturer provided budgetary estimates, estimated annual O&M costs, installation estimates developed by Brown and Caldwell's cost estimating team, vendor pricing, historical and piloting dosing requirements, accounting data provided by the Authority, and assumptions made during the evaluation. NPV valuations were completed for the four alternatives. Table 7-6 provides a summary of the present value under the above-described options and provides a list of detailed assumptions used for the net present value analysis.

Table 7-6. Net Present Value

Alternative No.	1	2	3	4
Project Description	PAC Incline Plate Settlers Membranes	PAC Incline Plate Settlers Granular Media Filters	Incline Plate Settlers Membranes GAC	PAC Solids Contact Clarifiers Granular Media Filters
Capital Costs	$160,900,000	$153,200,000	$206,000,000	$173,100,000
Membrane Replacement (15-year)	$2,100,000	-	$2,100,000	-
Membrane Replacement (15-year PW)	**$1,600,000**	**-**	**$1,600,000**	**-**
Filter Replacement (12 year)	-	$615,000	-	$615,000
Media Replacement (12-year PW)	**-**	**$500,000**	**-**	**$500,000**
20-Year Future Rehabilitation Costs	$13,900,000	$12,385,000	$20,600,000	$14,285,000
Future Rehab (20-year PW)	$9,400,000	$8,300,000	$13,900,000	$9,600,000
Total 20-year PV	$11,000,000	$8,800,000	$15,500,000	$10,100,000
30-Year NPV Capital Costs	$171,900,000	$162,000,000	$221,500,000	$183,200,000
20-Year NPV of Rehab Costs	$11,000,000	$8,800,000	$15,500,000	$10,100,000
30-Year NPV of Annual Costs	$118,600,000	$112,000,000	$123,300,000	$113,300,000
NPV Total	$290,500,000	$274,000,000	$344,800,000	$296,500,000

Figure 7-1 provides a graphical summary of the net present values.

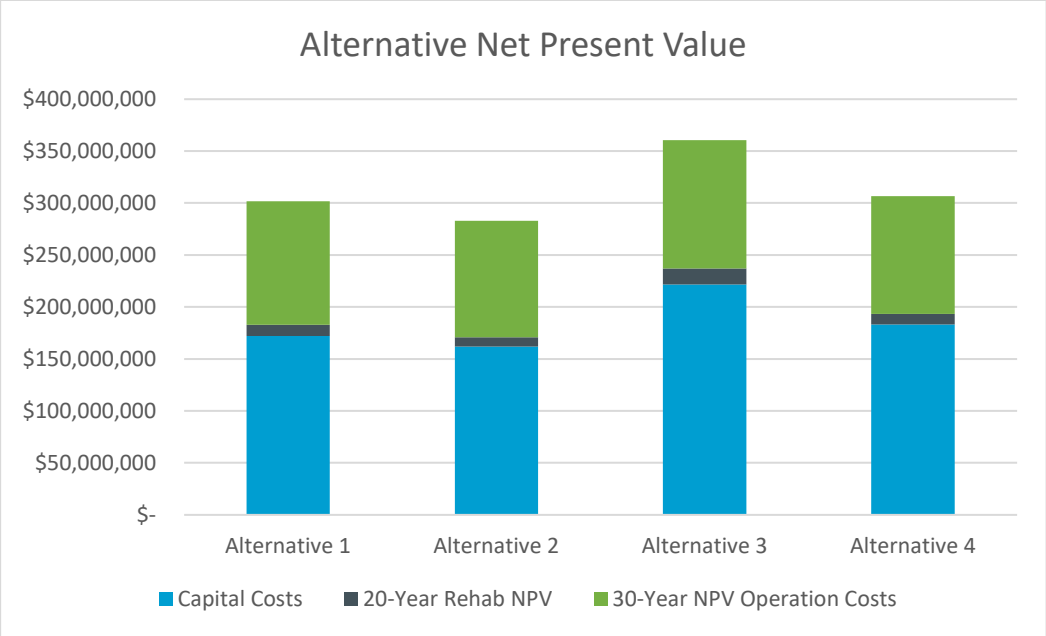


Figure 7-1. Net Present Value Summary

Section 8

Alternative Analysis

Alternative ranking factors that cannot be readily quantified also play a major role in the selection process. The subsequent paragraphs describe alternative ranking factors, methodology, and the final decision matrix regarding the “best-fit” proposed recommendation for PRF.

8.1 Alternative Ranking Factors

Alternative ranking factors are required to account for intangible qualities of each option. For the project's purpose, Brown and Caldwell met with the Authority to discuss alternative ranking factors including cost, ease of operations and maintenance, regulatory/future uncertainties, and experience and reputation. The following sections describe each category in relation to the analysis and decision matrix.

8.1.1 Cost

Alternative ranking based on project costs can be either 1) complete life cycle costs (e.g., power, chemicals, other consumables etc.); 2) initial capital costs; or 3) O&M costs. Typically, the two costs are combined into life-cycle costs. Total net present value was utilized for the purposes of score determination and was determined based on a 30-year net present value of both capital costs and annual operation and maintenance costs.

8.1.2 Ease of Operations

In the subsequent context, ease of operations will refer to the operational convenience associated with the alternatives. In general, operational ease accounts for the level of effort required during start-up/shut-down, automation, cleanup, shift operations, convenience, required man-hours, adjustments required during operations, and general everyday operations. This also refers to consistency with current plant operations. Turndown within the expansion is a significant concern for the current staff. The evaluation also considered the technologies already implemented at the facility, such as solids contact clarifiers and granular media filters, as well as the potential need to train operators on more advanced technologies not currently in use, such as membranes.

8.1.3 Ease of Maintenance

Maintenance is accounted for in the life-cycle cost valuation through estimated costs for planned and unplanned maintenance, as well as a parts allocation. The valuation does not account for the inconvenience, duration, or frequency of planned or unplanned maintenance activities, which is an intangible quality that the ease of maintenance looks to quantify. The ease of maintenance also considers having to stock parts with different configurations for the same treatment purpose (i.e., having both granular media filters [existing] and membranes within the facility and having to train staff on additional maintenance items.

8.1.4 Regulatory and Future Uncertainty

Regulatory and future uncertainty accounts for the possibility of changes to regulations, costs for materials, labor, disposal, and/or chemicals, and future demand growth. This category measures the

ability of the option to vary from design parameters. Other considerations may include ability to meet potential PFAS or potential CEC regulations.

8.1.5 Experience and Reputation

Experience and reputation accounts for industry wide understanding associated with each treatment technology for water application. This category accounts for the ability to receive secondary support such as receiving parts, use of experienced technicians, and general technical support for each technology by a measure of increased competition within the market. The initial intent was to capture manufacture service response time and warranty requirements, however, there will be several manufacturers that will potentially bid on the project, so the criteria used are more generic and not manufacturer specific. Consideration would also include proprietary technology factors, which might affect the ability to receive parts and perform maintenance.

8.2 Decision Matrix

Table 8-1 shows a summary of each non-economic factor and typical scoring techniques considered within the evaluation. The scoring techniques used in this evaluation included:

- Cost - A scale of 1-10 was used, with 10 being the most beneficial score, and 1 being the least. The most economical alternative received the highest score (10). Then the other scores were calculated by taking the percent difference from the lowest and assigning a score accordingly, so the magnitude of difference is considered.
- Other categories used discretionary scoring methods. The different score categories were independently scored. The independent scores were then averaged for a final score.
- Each category was assigned a weight, which was reflective of the importance of the category. The highest weight given was for the life-cycle costs. These weighted scores were confirmed by the Authority.

Table 8-1. Decision Matrix

Category	General Description	Typical Weight
Cost	Alternative ranking based on project costs which can be either 1) complete life cycle costs (e.g., power, chemicals, other consumables etc.); 2) initial capital costs & 20-year R&R costs; or 3) O&M costs. Typically, the two costs are combined into life-cycle costs which was used to determine scoring.	50%
Ease of Operations	Refers to operational convenience associated with the alternatives. This also refers to consistency with current plant operations.	20%
Ease of Maintenance	Maintenance is accounted for in the life-cycle cost valuation through estimated costs for planned and unplanned maintenance, as well as a parts allocation. The valuation does not account for the inconvenience, duration, or frequency of planned or unplanned maintenance activities, which is an intangible quality that the ease of maintenance looks to quantify.	20%
Regulatory and Future Uncertainty	Regulatory and Future Uncertainty accounts for the possibility of changes to regulations, costs for materials, labor, disposal, and/or chemicals, and future demand growth. The category measures the ability of the option to vary from design parameters. Other considerations may include ability to meet PFAS or potential CEC regulations.	5%
Experience and Reputation	Experience and Reputation accounts for industry wide understanding associated with each treatment technology for water applications. This category accounts for the ability to receive secondary support such as receiving parts, use of experienced technicians, and general technical support for each technology by a measure of increased competition within the market. The initial intent was to capture manufacturer service response time and warranty requirements, however, there will be several manufacturers that will potentially bid on the	5%

Table 8-1. Decision Matrix		
	project, so the criteria used are more generic and not manufacturer specific. The consideration would also include proprietary technology factors, which might affect the ability to receive parts and perform maintenance in the future.	

8.3 Rankings

The following sections contain information on the ranking scores assigned to the four alternative options for each scoring category based on the scoring discussed above. The scale used ranges from 1 (least beneficial) to 10 (most beneficial), with the purpose of indicating relative separations within each category. The option with the lowest total score is considered least beneficial. Survey results from the Authority and BC were compiled and results are summarized in the following subsections.

8.3.1 Cost

Table 8-2 shows the scores for each alternative based on cost which was determined by assigning a score of 10.0 to the alternative that was most cost effective which based on an evaluation of total life cycle costs showed Alternative 2 being most cost effective. Alternative 1 is the second most cost effective alternative, with Alternative 3 being the least cost effective of the alternatives. Scores were given a weight for this category of 50% as shown in the table below. Alternative 2 was the most cost effective from capital, operational, and life-cycle cost perspectives.

Table 8-2. Cost Scores				
Category	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Score	9.4	10.0	7.4	9.2
Weighted Score (50%)	4.7	5.0	3.7	4.6

8.3.2 Ease of Operations

Part of the expansion project's intent is to aid in balancing the existing facility's overall flow because the SCUs have limited tolerance to significant flow fluctuations. Alternative 4 (i.e., PAC/SCUs/conventional filters) would operate similarly as the existing facility, however the configuration does not provide turndown capabilities as the other alternatives with plate settlers. Alternative 2 (i.e., PAC/plate settlers/conventional filters) operation is consistent with the existing PRF operations, except that plate settlers are used instead of the SCUs to provide greater turndown capability. Alternative 1 (i.e., PAC/plate settlers/membrane filters) and Alternative 3 (i.e., plate settlers/membrane filters/GAC filters) would operate differently. Alternative 2 was ranked the highest, followed by, Alternative 4 , and Alternatives 1 & 3 were ranked lowest. Alternative 3 received a lower score than Alternative 1 because the process flow is significantly different from current operations . The score for this category is shown in Table 8-3.

Table 8-3. Ease of Operations Scores				
Category	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Score	4.13	8.50	2.00	7.25
Weighted Score (20%)	0.83	1.70	0.40	1.45

8.3.3 Ease of Maintenance

Alternative 2 and Alternative 4 are similar as the existing plant, which caused their scores to be the highest . Alternative 4 received a slightly lower score than Alternative 2 because of the algae maintenance associated with the SCUs. Stainless-steel coatings and covers can be used to minimize algae growth on the plate settlers. Alternative 1 and Alternative 3 add complexity to maintenance. GAC vessels would require regeneration and its associated costs. As such, Alternative 1 and 3 received lower scores for the ease of maintenance. Scores are summarized in Table 8-4.

Table 8-4. Ease of Maintenance Scores

Category	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Score	4.88	8.88	3.00	8.25
Weighted Score (20%)	0.98	1.78	0.60	1.65

8.3.4 Regulatory and Future Uncertainty

Future regulations may finished water quality requirements. Alternative 2 and Alternative 4 operate similarly to the existing plant, so process modifications to accommodate future regulations would be the same as Plants 1 – 4. The membrane alternatives (i.e., Alternatives 1 and 3) may offer the ability for improved finished water quality. However, all the technologies evaluated meet current regulatory requirements. Alternative 3 is ranked the highest due to the identified efficacy of GAC for T&O compound removal and potentially future regulated compounds. Alternatives 2 & 4 were ranked lower in this category, although would currently meet drinking water regulatory requirements. The score for the category is shown in Table 8-5.

Table 8-5. Regulatory/Future Uncertainty Scores

Category	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Score	6.63	5.00	8.75	5.25
Weighted Score (5%)	0.33	0.25	0.44	0.26

8.3.5 Experience and Reputation

Alternative 4 scored the highest because the technology has been optimized through years of continual PRF operations. Alternative 2 received a slightly lower score with the addition of plate settlers. Alternative 1 received a lower score resulting from the proprietary nature of membrane technology, along with considerations for service, parts, and support, start-up requirements and unfamiliarity with membranes. Alternative 3 received the lowest score because GAC provides an additional new component to the process flow, operations, service, parts, etc. The score for the category is shown in Table 8-6.

Table 8-6. Experience and Reputation Scores

Category	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Score	5.50	8.13	4.75	9.38
Weighted Score (5%)	0.28	0.41	0.24	0.47

8.4 Alternative Selection Summary

To best qualify and quantify the decision, a weighted matrix system was developed to allow the Authority to not only rank each alternative by category, but also to assign a weight to each category in proportion to its importance. Decision categories, weight factors, and rankings were assigned to both economic and non-economic categories. Table 8-7 shows the final weighted scores and totals for each decision category.

Table 8-7. Alternative Selection Score Summary

Category	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Cost (50%)	4.70	5.00	3.70	4.60
Ease of Operations (20%)	0.83	1.70	0.40	1.45
Ease of Maintenance (20%)	0.98	1.78	0.60	1.65
Regulatory and Future Uncertainty (5%)	0.33	0.25	0.44	0.26
Experience and Reputation (5%)	0.28	0.41	0.24	0.47
Total	7.14	9.13	5.45	8.35

8.5 Recommendation

Alternative 2 is recommended for the following reasons:

1. Lowest life cycle costs for each cost category (capital, operational, and significant future CAPEX).

2. Familiarity with the treatment technologies associated with the alternative except for plate settlers which would be a new technology to the facility. The membrane alternatives would offer filtration processes being operated with two separate technologies (existing granular media filtration & proposed membrane expansion), making the plant more complex to operate, require additional training from staff and more specialized operator training will be required.

3. An established service channel for the equipment, meaning, that the Authority knows how to maintain the equipment, store existing parts, and has the local service support to service the equipment. If a membrane technology or GAC technology were chosen, these networks would require new service pathways and require a learning curve for maintenance, adding more complexity to current maintenance.

4. Increased complexity to the existing processes may create more specialized staffing requirements.

5. Meeting regulatory finished water goals.

6. Addressing outstanding issues with the existing media filters related to filter backwash operations by using a supplemental backwash line to provide concurrent backwashing capabilities at the new and at exiting PRF filters.

7. Improved rapid treatment turndown capabilities than exist with the existing treatment configurations.

8. Lowest capital and operating cost opinions based on available information.

8.6 Sensitivity Analysis

A sensitivity analysis for the decision matrix was performed to understand the drivers for the decision, and to serve as recommendation confirmation. Several items such as chemical costs, weight of the score, and operational costs were manipulated to determine what factors would need to occur to have another alternative come out more beneficial. In general, it was found Alternative 2 frequently ranked the highest because:

- Alternative 2 had the lowest capital, operational, and life cycle costs.
- Alternative 2 was ranked 1st in the top three categories that accounted for 90% of the weight categories (costs, ease of operations, and ease of maintenance).

The scoring was developed through collaboration between the Authority and BC. The ranking between the top 3 categories that accounting for 90% of the weighted score for each alternative was the same among respondents. The sensitivity analysis revealed that for another alternative to become more favorable than Alternative 2, a considerable condition changes would be needed, including non-cost factors.

Section 9

Construction Considerations

9.1 Permitting Requirements

The Agent will meet with permitting agencies to discuss the project and evaluate the necessary permitting requirements for the project. Permit pre-application meetings will be summarized in meeting minutes. The Agent will coordinate with the Authority to attend pre-application meetings. Each agency's permit and regulatory requirements will be evaluated to evaluate the impact to the project. This evaluation consists of identification of permits required, documenting the permitting agency review period, and the permit fees as summarized in this section and in Appendix C. The Agent will meet with the following agencies:

9.1.1 DeSoto County Building Department (Building Permit)

- Development Order – This is required to submit with Preliminary site plan. It will go into the BOCC quasi-judicial. Ordinance requires Development Orders to expire within 3 years if construction has not begun.
- Improvement Plan – This must be submitted after the Development Order. It includes detailed plans that are reviewed and approved by staff in the planning and zoning department.
- Building Permit – This may be issued after the Improvement Plan is approved. A single building permit is issued for each building structure, although all the buildings in the project can be submitted together. Structural, electrical and mechanical permits are issued as required for each structure, based on the plans submitted. The County will perform intermittent site inspections during construction to facilitate the issuance of a temporary and final Certificates of Occupancy. Certificate of Occupancy requires final inspection for approval.

9.1.2 Florida Department of Environmental Protection (FDEP)

- NPDES - Notice of Intent to Use Generic Permit for Stormwater Discharge from Large and Small Construction Activities form will need to be submitted by the contractor during construction for a site greater than 1 acre as per FAC 62-621.300. This permit will require a Stormwater Pollution Prevention Plan (SWPPP) and will also handle dewatering as long as the dewatering water is not contaminated.
- Public Water System - This Class IA Facility has permitted maximum capacity of 51 MGD and a PWS ID of 6142734. Any change or expansion to a system requires permit form 62-555.900(1) Application for a Specific Permit to Construct PWS Components. Treatment improvements and expansion including piping, chemical tanks, wet wells, other process equipment etc. would be covered under this drinking water permit. The expansion project will be reviewed as a major modification. The fee for a major modification is $12,500.00 as per FAC 62-4.050(4)(n)1.a. The agency has a 30 day review period from receipt of application. Following notice of completion, agency has 90 days to issue the permit/agency action. In case of a request for additional information (RAI) for either the ERP or drinking water permit, applicant has 90 days to respond.

9.1.3 Florida Power and Light (FPL)

- Discussions with FPL on April 21, 2023 indicated that they would commit to an increased customer service at the point that the customer identifies design loads and provides a riser diagram.

Currently it is taking FPL 12 months to complete a design to the point that they can order equipment. Additionally, due to current equipment lead times it is taking 18 months for the equipment to arrive and be installed. Therefore, FPL indicated that they need 30 months to design and install the additional electrical service required for the Peace River plant expansion. Based on discussions with FPL, it was indicated that a second feed from the Ixora Substation is currently possible, but since the existing feed also takes power from the Ixora feed it is not truly a dedicated redundant feed.

9.1.4 Florida Fish and Wildlife Conservation Commission (FWC)

- Burrows - Burrows may not be destroyed nor impacts occur within 25 feet of a burrow. If impacts to a burrow are unavoidable, tortoises may be relocated to an approved protected area on-site or to an approved location offsite, with the issuance of an agency permit. If there are less than 10 burrows on site, on-site or off-site relocation may be authorized. If there are more than 10 burrows on site, a Conservation Permit is required.
- Surveying - The project site will need to be surveyed for an update to the presence (and number) or absence of gopher tortoises, and the survey approved by FWC prior to construction. FWC recommends 90 days lead time to file the survey at the time plans are filed and before land clearing begins.
- Eastern Indigo Snake – This is a protected species. If this species is found during an updated site survey, pre-construction posting of educational information on site to inform construction personnel is required.

9.1.5 Environmental Resource Permit (ERP)

- The Joint Application for Individual Environmental Resource permit/Authorization to Use State-Owned Submerged Lands/Federal Dredge and Fill Permit (Individual ERP) application will be reviewed as a new permit. Sections A, C and E of the individual ERP application will be required. Building and structure impervious area would be covered under the ERP review and regulation. If no wetlands are impacted, FDEP – South District will review the application. If there are wetlands or retained waters in the project site, the Army Corps of Engineers will review as a section 404 permit. For a project site between 10 and 20 acres, the online submittal fees is $1,500 per FAC 62-3.05(4)(h)4.a.(II) with a $100 discount for submitting online. Review period is 30 days from receipt. In the case that there is a request for additional information (RAI) for either the ERP or drinking water permit, the applicant has 90 days to respond. Following notice of completion, the agency has 60 days of issue the permit or agency action.

9.2 Environmental Review/Site Assessment

An environmental review was performed for this proposed project to be funded by Earth Resources Consulting Scientists. This review included preparing the following:

- A list of threatened, endangered, proposed, and candidate species and designated critical habitats may be present in the project area.
- A discussion of significant adverse effects upon flora, fauna, threatened or endangered plant or animal species, surface water bodies, prime agricultural lands, wetlands, or undisturbed natural areas.

An onsite field visit was be conducted on March 3, 2023 to collect hydrology, vegetation, and soils data to complete the Army Corp of Engineers (ACOE) jurisdictional wetland determination of the Section 404 Waters of the United States identified within the parcel boundary.

Results of the environmental site assessment can be found in **Appendix B**, which indicate that the project site area includes both wetland and upland areas with the potential presence of protected species or their habitat. **Figure 9.1** shows the approximate project site boundary in relation to local wetlands. Additionally, six (6) active groper tortoise burrows were documented within the site area which may require an additional permit from the Florida Fish and Wildlife Conservation Commission (FWC) prior to construction activities.

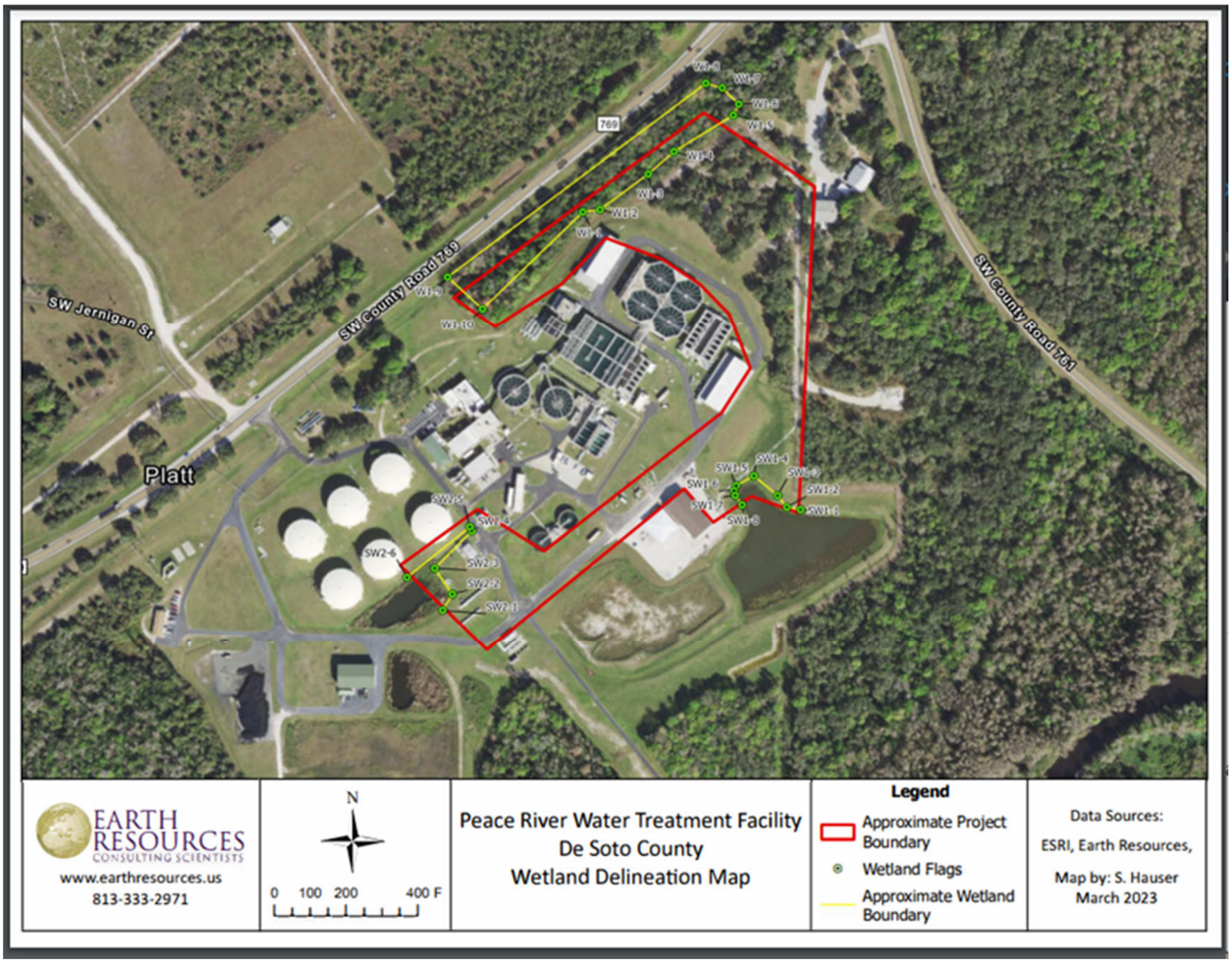


Figure 9-1. Wetland and Surface Water Location Map

Section 10

Project Procurement Approaches

10.1 Overview of Procurement Approaches

Procurement approaches and their resulting delivery models take numerous forms, ranging from standard design-bid-build (DBB) techniques, through construction management-at-risk (CMAR), to turn-key approaches with significant risk transfer for the owner, including many variants of design-build (DB) all of which fall under the broad range of collaborative delivery.

The "spectrum" of collaborative delivery methodologies also can encompass variations that include operations scope and private financing participation. For example, methodologies that include operations and maintenance (O&M) support are often designated as design-build-operate (DBO). Figure 10-1 shows the variety of delivery approaches available.

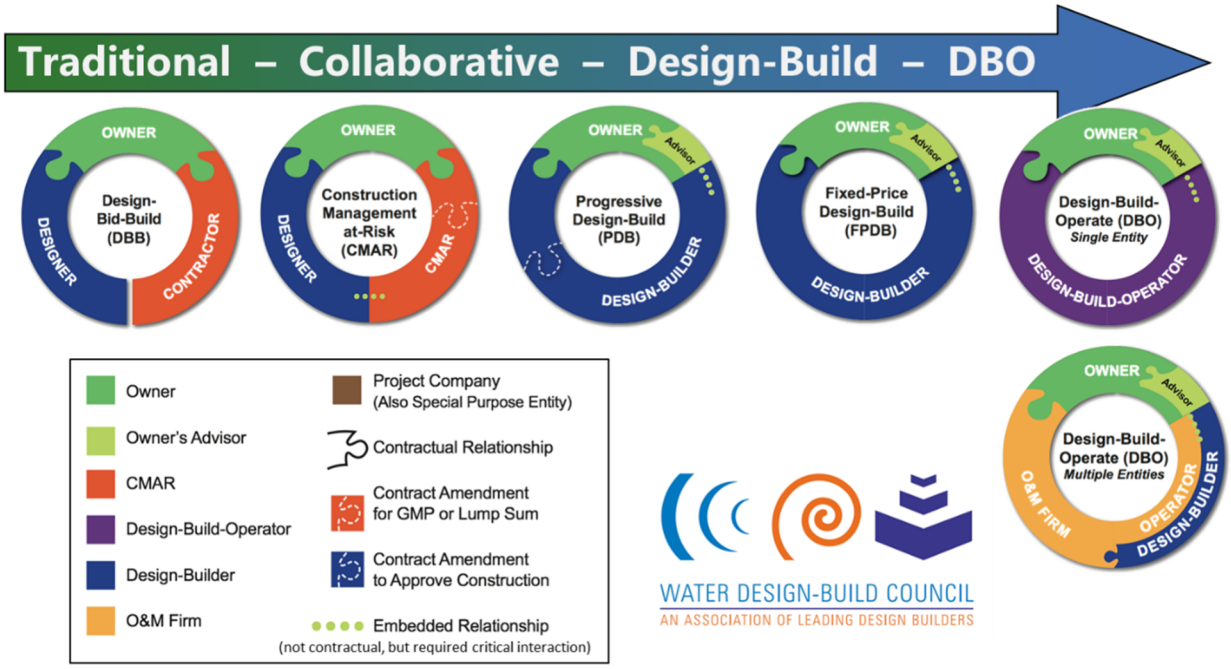


Figure 10-1. Spectrum of Project Delivery Approaches (Graphics per WDBC, 4th edition)

Project delivery and procurement methods have generally evolved from the traditional design-bid-build approach as the "baseline" most commonly used by public utilities. In recent decades, the various collaborative delivery methodologies have emerged as viable alternatives to traditional delivery. These alternatives to design-bid-build seek to better allocate risk and responsibility, save time, foster collaborative and innovation, provide a path to cost certainty and support a selection methodology beyond low-bid capital price. The potential improvement to traditional delivery is supported by re-defined contractual relationships. These relationships are shown in Figure 10-1 via two forms:

- Formal *Contractual Relationships* (illustrated with the puzzle piece) indicate firm relationship agreements executed between the given entities, and

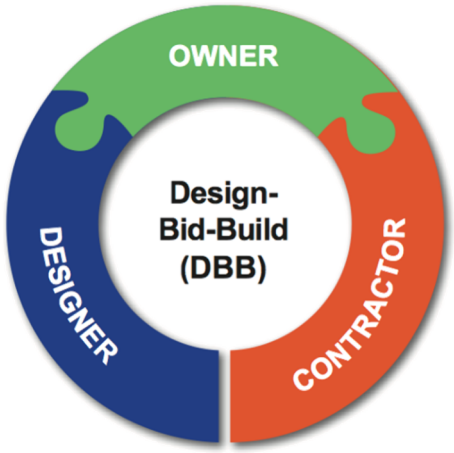
- *Embedded Relationships* (illustrated with the dotted green line) represent the collaborative connections required, but not formally contracted, to make the given model a success.

Each of the traditional and collaborative project delivery methods has its own attributes that generally differ in terms of allocation of risks and responsibilities, scheduling and schedule certainty, ownership, performance guarantees, and procurement complexity. This section provides information on the advantages and disadvantages of each procurement approach that would be applicable to the Authority in procurement of a facility expansion project. Although other alternatives related to operation (DBO) and private financing (P3) are available, they are not included since they would not be applicable to this project.

10.1.1 Design Bid-Build (DBB)

Design-Bid-Build (DBB) has historically been the most common approach to development of public infrastructure projects. The DBB process has also been used extensively by the private sector to procure new facilities. DBB is considered the "baseline" contract delivery model.

A typical DBB project involves the owner engaging one or more engineering firms to develop a detailed design and specifications and to assist with obtaining local, State, and federal approvals for the project. The owner then uses the detailed design and specifications package as part of a tender package to obtain bids from contractors. The contractor selected through the bidding process is subsequently engaged to construct the facility in accordance with their bid price and schedule. Typically, the contractor is paid monthly progress payments, and the owner applies holdbacks (retainage) on payments in accordance with governing state or local law.



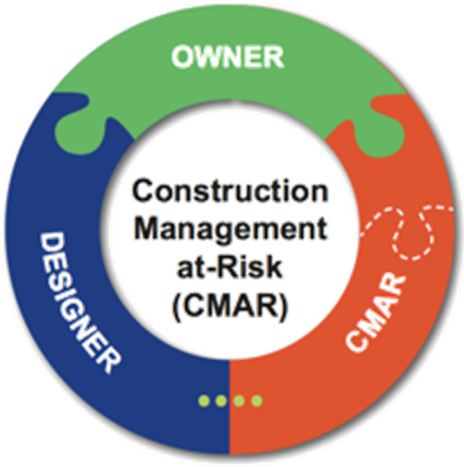
Typically, on a DBB project the design definition and permitting phases must be completed by the Program Manager before the individual projects can be released for detailed design and construction. This sequence leads to a longer overall delivery schedule, but it also reduces exposing the owner's capital to risks resulting from permitting delays or unexpected changes in permit conditions.

Roles in a DBB project are normally very clearly defined. Design and project performance risks lie with the design team. Construction and scheduling risks lie with the contractor. Operations risk rests with the owner. However, contractors and operators may not have significant input into the design, which can contribute to change orders. Claims during construction can be common, and the requirement for some redesign during construction exists, typically at the owner's cost. In addition, design performance or lifecycle responsibility and risk is not typically transferable using DBB delivery.

Table 10-1 provides a summary of advantages and disadvantages of this procurement approach to the owner.

Table 10-1. Advantages and Disadvantages of Design-Bid-Build (DBB)	
Advantages to Owner	**Disadvantages to Owner**
• Well understood and time-tested process and procedures. • Ability to select subconsultants by qualifications and cost in the traditional manner. Limited at-risk exposure to local professional firms. • Bids to fully develop design plans and specifications. • Full going-in construction price known at bid time. • Fully accepted and viable under applicable procurement statutes	• Linear process takes time. • Little or no designer/contractor collaboration. • Pre-designed approach may not support best potential construction technologies/best practices. • Relies on engineer's construction cost estimates until very late in the project. • Hard bids subject to design omissions and resulting change orders. • Limited opportunity to select contractor on qualifications and past performance in addition to price. • Separate contracts for design and construction creates multiple points of contact for owner and does not align business interests. • Not readily conducive to integration of a lifecycle evaluation component or a performance-based operations commitment. • Not consistent with the required permitting and approval process for a major wet weather project (e.g., integration of design, construction, and operations components required for the permitting process).

10.1.2 Construction Management At Risk (CMAR)



Construction Management At-Risk (CMAR) is also considered a traditional delivery model, albeit an improved approach over DBB where an intentional overlap is created between the engineer and the contractor, allowing the contractor to bring construction insight to bear as early as practical in the design process. Sometimes referred to as "design-build-light," this methodology maintains two separate contracts between the owner and the Design and CMAR firms, similar to DBB, but encourages collaboration during design to reduce risk once the contractor proceeds to construction in the field. This approach also allows the Owner to understand construction cost during the design process.

While in conformance to most traditional procurement processes (where the engineer is selected using traditional professional services criteria), this method introduces the concept of contractor selection without a hard bid of the construction cost. Instead, contractors are generally selected based on their qualifications in combination with their proposed scope of services and fee for service prior to construction as well as their fee and overhead costs for construction services. The ultimate construction cost is developed during the design period, typically in an open-book fashion, and ultimately agreed upon as a "guaranteed maximum price" (GMP) or Lump Sum prior to authorizing the start of construction. In some instances, owners convert an initial GMP approach to a lump sum approach during delivery.

Where agreement on a GMP or Lump Sum cannot be reached or construction pricing competitiveness cannot be verified, owners often maintain the option to convert the construction scope to a hard-bid process; commonly known as the contractual "off-ramp."

While promoting collaboration early in the design process, the formal contract vehicles with separate agreements between the Owner and Engineer and the Owner and Contractors are essentially unchanged compared to traditional DBB delivery. During construction delivery, traditional practices for

managing contractor change orders, requests for information (RFIs) from the designer, and verification of construction performance remain unchanged.

Table 10-2 provides a summary of advantages and disadvantages of this procurement approach to the owner.

Table 10-2. Advantages and Disadvantages of Construction Management At Risk (CMAR)

Advantages to Owner	Disadvantages to Owner
• Relies on proven, accepted method for selecting professional engineering services based on qualifications/cost factors. • Integrates constructability earlier in the design process. • Provides contractor-led estimates earlier and allows scope revision during design to meet project budget. • Can reduce overall project risk and contingency. • Can reduce design misunderstandings and resulting potential for change orders. • Allows qualifications and past performance to be considered when selecting a contractor. • Allows permitting process to be integrated into design and construction planning.	• Relies on engineer's construction cost estimate for initial cost information. • Creates a "forced marriage" between designer and contractor that may – or may not – work. • Final construction scope still subject to change order potential. • Added cost to owner for contractor's pre-construction phase services (although may be offset with construction savings due to early collaboration). • Requires selection of contractor based on fees without knowing full construction price. • Separate contracts for design and construction creates multiple points of contact for owner and does not align business interests. • Does not inherently allow support performance risk transfer - design obligation is traditional "Standard of Care" and construction obligation is to build according to the specified design. • Not readily conducive to integration of a lifecycle approach or a performance-based operations commitment.

10.1.3 Design Build (DB)

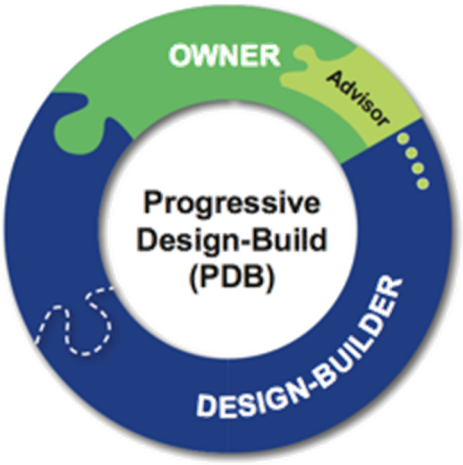
Under a design-build (DB) structure, the owner enters into a single contract with a single DB entity (or a consortium of entities acting together as one entity, e.g., Joint Venture). Generally, the DB Contractor has the responsibility of designing and building a project that meets owner-prescribed performance standards, and the owner then pays the DB entity based on certain construction and performance milestones being achieved.

In practice, DB can be procured using several different methods, tailored to meet procurement statutes and practice, as well as to align with project complexity and the level of design completion anticipated prior to the procurement. Design-build models also support performance risk transfer for both design/construction as well as O&M and/or financing.

The various forms of DB differ largely in the type of pricing requested of proposers and in the degree of definition developed for the project in advance of a procurement and subsequently provided to the design-builder in the request for qualifications (RFQ)/request for proposals (RFP). For purposes of this approach evaluation, two fundamental design-build models will be considered.

10.1.4 Progressive Design-Build (PDB)

In a progressive design-build (PDB) procurement, a design-builder is selected based primarily on qualifications and, where local practice requires it, limited pricing information generally similar to the CMAR model with an added component of cost for design and preconstruction services (either in a lump-sum or on a not-to-exceed basis for this early work). As the design-builder develops the design, a construction cost estimate is progressively developed, often in conjunction with the 30- and 60-percent levels of design detail.



Once the design is well advanced (beyond 60 percent and often up to 90 percent), a GMP is defined for approval by the owner. (As with CMAR, some owners convert GMPs to lump sum pricing.)

If the design-builder and the owner cannot reach agreement on an acceptable GMP or lump sum, the owner can use the completed design as the basis for a hard construction bid procurement. In this case, an "off-ramp" occurs, and the project becomes more like a DBB delivery model, which may impact design ownership.

Progressive procurements are often preferred when a project lacks definition or final permitting, or when an owner prefers to remain involved in the design process while leveraging the schedule, collaboration, and contractual advantages provided by a DB approach. This model is also valuable when regulatory permitting requires well-developed design solutions, or when an owner believes that they can lower cost by participating in design decisions and in managing risk progressively through the project definition phase.

Owners do not generally use the progressive procurement method when a project's definition is well advanced prior to the procurement or when a lump sum construction price is preferred (or required) to select a design-builder.

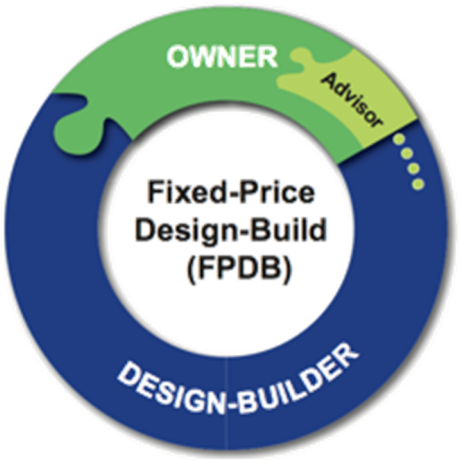
Table 10-3 provides a summary of advantages and disadvantages of this procurement approach to the owner.

Table 10-3. Advantages and Disadvantages of Progressive Design Build (PDB)

Advantages to Owner	Disadvantages to Owner
• Greater control over project design, construction, and O&M lifecycle costs than in other delivery models because the final contract is not signed until a large portion of the design is complete. • Single straightforward procurement process can be completed in short timeframe. • Increased marketplace interest due to relatively low proposal preparation cost. • Allows selection of designer and contractor based on past performance, qualifications, and ability to work as a single-entity team with aligned interests for project success. • Provides progressively accurate, contractor-developed construction cost estimates of total project costs from earliest point in project through GMP definition. • Provides maximum opportunity for designer, contractor, and owner collaboration to define scope, meet schedule and budget, and tailor subcontracting plan. • Provides "off-ramp" to hard-bid construction if GMP is not agreed upon. • No contractor-initiated change orders. • Requires little or no design to be completed by owner in advance of procurement and provides maximum flexibility in a final determination of project viability for economic and non-economic factors. • Provides a performance risk transfer mechanism that can be implemented in conjunction with long-term operations commitments. • Single contract and point of contact with owner.	• Requires selection based on qualifications and design/preconstruction fee, full construction cost is not known at the time of initial contract. • Existing project design investment may not be of value or use to design-builder. • May not be as fast to deliver as other design-build methods due to potential for extended design/estimate development period, including involvement of numerous stakeholders in the design process. • May not be perceived as being "competitive" for construction pricing. • Requires significant owner staff involvement and resources during design. • May limit local/small subconsultant participation due to at-risk nature of the work.

10.1.5 Fixed Price Design-Build (FPDB)

In a fixed price design-build procurement (FPDB), the RFQ/RFP generally includes a conceptual design as a minimum and a 30 percent design (sometimes referred to as a "bridging" design) as a maximum. Requirements for a performance-based approach are stated as measurable performance objectives of the completed project rather than the specific approaches or processes the design-builder should follow to achieve those objectives. Requirements for a prescriptive approach rely on the pre-design documents as required templates for the design-builder.



FPDB is often considered as a highly competitive contract delivery model given its industry-recognized success in supporting large, complex projects.

A performance-based procurement gives a design-builder the flexibility to propose how they will meet the owner's objectives, while requiring proposers to provide a lump sum, fixed price for completion of the project. Alternatively, owners may ask for a "target price" for construction that establishes a not-to-exceed construction price basis, while allowing the owner to collaborate on and adjust scope during detailed design definition. In this case, the "target" lump sum

can be adjusted after award, but only as directed via owner-approved scope changes. Except for these explicitly approved owner changes, the design-builder must conform to their originally proposed price. Thus, this option provides some confirmation of a set price for the project.

Performance-based procurements are often preferred when an owner has a clear vision for how a facility must perform, or has limited resources, time, or interest in the specific method for gaining required performance. This model is used to prompt industry's most innovative and cost-effective solutions through what is essentially a design competition, typically in combination with a need to accelerate schedule.

In a prescriptive FPDB procurement, the RFQ/RFP typically includes at least a 30-percent design completed by an owner's consultant prior to the procurement, sometimes referred to as "bridging documents." Requirements are stated in terms of specific approaches or processes the design-builder must follow.

Prescriptive procurements are often preferred when owners are very clear on their preferences and want to use design-build to accelerate the schedule while allowing selection of a design-builder based on a combination of qualifications and a lump sum price. While a design-builder may offer a variation or alternative concept to the bridging documents, procurement procedures are often established to require owner review and approval of these exceptions or "alternative technical concepts" in advance of the proposal submittal. With this method, the lump sum price in the design-builder's proposal is only adjusted for specific owner-initiated scope changes, generally due to unforeseen conditions or a change in law or regulatory practice.

Table 10-4 provides a summary of advantages and disadvantages of this procurement approach to the owner.

Table 10-4. Advantages and Disadvantages of Fixed Price Design Build (FPDB)

Advantages to Owner	Disadvantages to Owner
• High potential for design-build cost savings through design innovation during competitive procurement. • High transfer of design-related performance risk to design-builder. • Minimal design work by owner required prior to procurement, resulting in relatively low cost to prepare RFP. • Perceived as "competitive" construction pricing, providing full contract cost at bid time. • Allows selection of designer and contractor based on past performance, qualifications, and ability to work as a single-entity team with aligned interests for project success. • No contractor-initiated change orders. • Provides a performance risk transfer mechanism that can be implemented in conjunction with long-term operations commitments. • Single contract and point of contact with owner.	• If lifecycle cost is not analyzed or operations not included in scope, may result in higher O&M costs or undesirable project features. • Proposal evaluation and selection is relatively complex. • Limited ability to predict what will ultimately be proposed. • Lump sum pricing may include excess risk and contingency cost due to undefined project scope. • Limited opportunity for owner and design-builder collaboration on design during procurement process. • Limited ability for owner to adjust proposed design, scope without resulting in owner-initiated change orders and resulting price adjustments. • May limit local/small subconsultant participation due to at-risk nature of the work.

10.1.6 Procurement Alternatives

Brown and Caldwell hosted a workshop with the Authority to consider the project procurement method. The workshop evaluated four capital improvement planned projects, which included:

- PRF Expansion (this project)
- Reservoir Expansion Project
- Distribution Piping Projects, and

- Intake Structure Project

The workshop considered different ways to bundle projects together to accomplish the goals. The workshop considered each project delivery method in respect to the following:

- Cost/price (cost certainty)
- Construction/project markups
- Best value
- Ability to prioritize
- Ability to combine/separate scopes of projects
- Design approval processes
- Ability for innovation/design flexibility (with Authority input)
- Potential for early delivery
- Flexibility of funding
- Procurement time
- Encourage competition
- Design risk
- Construction risk
- Administrative efficiencies
- Performance warranties and risks
- Combining multiple projects
- End quality

Through collaboration, each consideration was scored between 1 and 10, with higher scores being more preferred than lower scores. The considerations also contained a weighted factor so more important considerations to the Authority would impact the final score greater than less important categories. A Progressive design-build delivery for the PRF expansion project was identified to be the most beneficial to the Authority, with cost/price certainty, the Authority's ability to evaluate procurement based on priorities, and schedule priorities being the most influential considerations.

Section 11

Project Funding

11.1 Overview of Funding Options

The funding options for this project range from loan and grants at the federal and state level to private investors in the form of multiple bonds. Table 11-1 provides an overview of the of the types of funding that could be available for the water treatment plant expansion project.

Table 11-1. Overview of Capital Project Funding

Funding Program	Funding Entity	Funding Admin Level	Funding Type
Southwest Florida Water Management District Cooperative Funding Initiative (CFI) Program	Southwest Florida Water Management District	State	Grants
Infrastructure Bill American Jobs Plan	Federal Money Distributed by the State	Federal	Grants / Loans
American Rescue Plan Act (ARPA) of 2021 (Coronavirus State and Local Fiscal Recovery Fund)	Federal Money Distributed by the State	State	Grant
Water Infrastructure Finance and Innovation Act (WIFIA)	Environmental Protect Agency (EPA)	Federal	Loan
Municipal Bonds	Private Investors	N/A	Loan
State Infrastructure Finance Authority Water Infrastructure Finance and Innovation Act (SWIFIA)	Environmental Protect Agency (EPA)	State	Loan
Drinking Water State Revolving Fund (DWSRF)	Environmental Protect Agency (EPA)	State	Loan
USDA Rural Development Loan and Grant Program	US Department of Agriculture	Federal	Grants / Loans

11.1.1 Southwest Florida Water Management District Cooperative Funding Initiative (CFI) Program

The District CFI program provides funding to assist local governments, public and private water providers and other entities with construction, development and conservation of water resources within the bounds of the District. The District will prioritize funding for alternative water supply projects owned and operated and controlled by regional authorities.

Program Requirements

- Program covers up to 50 percent of costs for projects
- Up to $2 Million - $5 Million in funding available for new projects
- Funding application required to submit results of an independent third-party review with funding application if project is estimated to cost more than $5,000,000.

11.1.2 Infrastructure Bill (American Jobs Plan)

This program provides $55 billion toward upgrading and modernizing America's wastewater, stormwater, and drinking water systems through grant and low-cost loans, another $15 billion specifically toward a goal of removing 100% of lead service lines across the country, and $10 billion toward monitoring and remediating PFAS in drinking water.

11.1.3 American Rescue Plan Act (ARPA) of 2021 (Coronavirus State and Local Fiscal Recovery Fund)

The program Provides $350B dollars in emergency funding associated with the COVID-19 crisis for state, local, territorial, and Tribal governments to enable them to continue to support the public health response and lay the foundation for a strong and equitable economic recovery and will help them cover the costs incurred due responding to the public health emergency and provide support for a recovery – including through assistance to households, small businesses and nonprofits, aid to impacted industries, and support for essential workers. It will also provide resources for state, local, and Tribal governments to invest in infrastructure, including water, sewer, and broadband services, including the following:

- $195 billion for states, (a minimum of $500 million for each state)
- $130 billion for local governments ($10 billion for a Coronavirus Capital Projects Fund, $60 billion for counties)
- $20 billion for tribal governments
- $4.5 billion for territories

Program Requirements

- Municipalities with a population of at least 50,000 will receive a direct payment from the U.S. Treasury using a modified Community Development Block Grant formula.
- All eligible entities receiving direct payment from Treasury under the State and Local Fiscal Recovery Funds Program will need a DUNS number and an active SAM registration to receive payment. The DUNS and SAM registration process may take several business days to complete. Also, gather the entity's payment information.
- The U.S. Treasury will disburse payments in two installments, or "tranches," with the first distribution no later than May 10, 2021, and the second distribution no earlier than twelve months after the first payment.
- Counties and designated "metropolitan" cities will receive their first tranche/distribution directly from the U.S. Treasury no later than May 10, 2021, and the second distribution no earlier than twelve months after the first payment.
- All other cities and towns will receive their distributions through the State. The State has an additional 30 days to distribute the recovery funds to recipients which means those cities would receive their distribution by June 9, 2021. The State can apply for a 30-day extension should distribution of the funds cause an "excessive administrative burden," in which case those cities would receive their distribution at the latest by July 9, 2021.

11.1.4 Water Infrastructure Finance and Innovation Act (WIFIA)

The WIFIA program is a federal loan and guarantee program administered by EPA. WIFIA's aim is to accelerate investment in the nation's water infrastructure by providing long-term, low-cost supplemental credit assistance for regionally and nationally significant projects.

Program Requirements

- $20 million: Minimum project size for large communities
- $5 million: Minimum project size for small communities (population of 25,000 or less)
- 49 percent: Maximum portion of eligible project costs that WIFIA can fund
- Total federal assistance may not exceed 80 percent of a project's eligible costs
- 35 years: Maximum final maturity date from substantial completion
- 5 years: Maximum time that repayment may be deferred after substantial completion of the project
- WIFIA loans can be combined with private equity, revenue bonds, corporate debt, grants, and SRF loans
- Interest rate will be equal to or greater than the U.S. Treasury rate of a similar maturity at the date of closing
- Projects must be creditworthy and have a dedicated source of revenue
- NEPA, Davis-Bacon, American Iron and Steel, and all other federal cross-cutter provisions apply
- Broad eligibility
- Very low interest rates and flexible terms
- Funding to finance construction: make projects "shovel-ready"
- Projects can be combined
- A strong LOI is essential—it takes months to prepare, but it is due in just 90 days
- Odds of being awarded funds are high (55 of 67 LOIs were selected to apply in 2020)
- Demonstrate proof of financial stability
- Non-refundable application fee of $25,000 for projects serving communities of not more than 25,000 individuals or $100,000 for all other projects

11.1.5 Municipal Bonds

Municipal bonds are debt obligations issued by government entities. There are two types of municipal bonds, General Obligation Bonds and Revenue Bonds. General obligation bonds, issued to raise immediate capital to cover expenses, are supported by the taxing power of the issuer. Revenue bonds, which are issued to fund infrastructure projects, are supported by the income generated by those projects. For the funding of this project, a revenue bond for part or all the project cost would have to be obtained. This is a loan to be paid back over a defined period at an interest rate to be determined at the time of the bond sale.

11.1.6 State Infrastructure Finance Authority Water Infrastructure Finance and Innovation Act (SWIFIA)

SWIFIA, authorized by Congress in section 4201 of America's Water Infrastructure Act (AWIA) of 2018, is a loan program exclusively for state infrastructure financing authority borrowers. The SWIFIA project must be a combination of eligible development and implementation projects, each of which is eligible for assistance under section 603(c) of the Federal Water Pollution Control Act (33 U.S.C. § 1383(c)) or section 1452(a)(2) of the Safe Drinking Water Act (42 U.S.C. §§ 300j–12(a)(2)) for which a State infrastructure financing authority submits to EPA in a single request.

Program Requirements

- $20 million: Minimum SWIFIA project size

- 49 percent: Maximum portion of eligible SWIFIA project costs that EPA can finance
- 35 years: Maximum final maturity date from the date of first disbursement
- 5 years: Maximum time that repayment may be deferred after the date of first disbursement
- Interest rate will be equal to or greater than the U.S. Treasury rate of a similar maturity at the date of closing
- Projects must be creditworthy and have a dedicated source of revenue
- NEPA, Davis-Bacon, American Iron and Steel, and all other federal cross-cutter provisions apply

11.1.7 Drinking Water State Revolving Fund (DWSRF)

Funds infrastructure improvements in drinking water systems. The DWSRF emphasizes funding to small and economically disadvantaged communities and other programs that encourage preventing pollution to drinking water. Publicly or privately-owned community water systems and non-profit non-community water systems are eligible. Project types include drinking water treatment, pipe installation/replacement, well construction/rehabilitation, source water protection, storage, and more. The 51 DWSRF programs function like infrastructure banks by providing low interest loans to eligible recipients for drinking water infrastructure projects. As money is paid back into the state's revolving loan fund, the state makes new loans to other recipients.

Program Requirements

- EPA funds DWSRFs in 50 states plus Puerto Rico annually with 20 percent state match
- Types of assistance include loans, refinancing, purchasing, guaranteeing local debt, and purchasing bond insurance
- Loan terms up to 30 years (for disadvantaged communities: 40 years or design life of project, whichever is less)
- Repayments begin up to 18 months after project completion
- States rank and give priority to projects that address the most serious risks to human health, are necessary to ensure compliance with the SDWA, and assist systems most in need according to state affordability criteria
- DWSRFs have authority to provide additional subsidization in the form of grants, principal forgiveness, and negative interest rate loans

11.1.8 USDA Rural Development Loan and Grant Program

The Rural Economic Development Loan and Grant program provides funding for rural projects through local utility organizations. USDA provides zero-interest loans to local utilities which they, in turn, pass through to local businesses (ultimate recipients) for projects that will create and retain employment in rural areas. The ultimate recipients repay the lending utility directly. The utility then is responsible for repayment to USDA. USDA provides grants to local utility organizations which use the funding to establish Revolving Loan Funds (RLF). Loans are made from the revolving loan funds to projects that will create or retain rural jobs. When the revolving loan fund is terminated, the grant is repaid to USDA.

Program Requirements

- Up to $300,000 in grants may be requested to establish the Revolving Loan Funds.
- For projects in rural areas or towns with a population of 50,000 or less
- Up to 10 percent of grant funds may be applied toward operating expenses over the life of the Revolving Loan Fund
- Up to $1 million in loans may be requested

Section 12

Limitations

This document was prepared solely for Peace River Manasota Regional Water Supply Authority in accordance with professional standards at the time the services were performed and in accordance with the contract between Peace River Manasota Regional Water Supply Authority and Brown and Caldwell dated June 21, 2022. This document is governed by the specific scope of work authorized by Peace River Manasota Regional Water Supply Authority; it is not intended to be relied upon by any other party except for regulatory authorities and funding agencies contemplated by the scope of work. We have relied on information or instructions provided by Peace River Manasota Regional Water Supply Authority and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.

This document sets forth the results of certain services performed by Brown and Caldwell with respect to the property or facilities described therein (the Property). Peace River Manasota Regional Water Supply Authority recognizes and acknowledges that these services were provided within various limitations, including budget and time constraints. These services were not designed or intended to determine the existence and nature of all possible environmental risks (which term shall include the presence or suspected or potential presence of any hazardous waste or hazardous substance, as defined under any applicable law or regulation, or any other actual or potential environmental problems or liabilities) affecting the Property. The nature of environmental risks is such that no amount of additional inspection and testing could determine as a matter of certainty that all environmental risks affecting the Property had been identified. Accordingly, THIS DOCUMENT DOES NOT PURPORT TO DESCRIBE ALL ENVIRONMENTAL RISKS AFFECTING THE PROPERTY, NOR WILL ANY ADDITIONAL TESTING OR INSPECTION RECOMMENDED OR OTHERWISE REFERRED TO IN THIS DOCUMENT NECESSARILY IDENTIFY ALL ENVIRONMENTAL RISKS AFFECTING THE PROPERTY.

Further, Brown and Caldwell makes no warranties, express or implied, with respect to this document, except for those, if any, contained in the agreement pursuant to which the document was prepared. All data, drawings, documents, or information contained this report have been prepared exclusively for the person or entity to whom it was addressed and may not be relied upon by any other person or entity without the prior written consent of Brown and Caldwell unless otherwise provided by the Agreement pursuant to which these services were provided.

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

REGULAR AGENDA
ITEM 5

Contract, Scope, and Fee with Carollo Engineers for Integrated Regional Water Supply Plan 2025

Presenter - Jim Guida, P.G., Director, Water Resources & Planning

Recommended Action - Motion to approve Professional Services Contract with Carollo Engineers for the Integrated Regional Water Supply Plan 2025 Project and Authorize the Executive Director to Execute Work Order No. 1 under that Contract for the Integrated Regional Water Supply Plan 2025 in an amount not to exceed $698,883.

Every five years the Authority updates our Integrated Regional Water Supply Plan (IRWSP) to ensure that regional water supply and transmission system planning keeps pace with changing needs and regulations in the region. The updated water supply planning also coincides with the SWFWMD water supply planning cycle enabling the Authority's regional projects to be included in the SWFWMD water supply plan, which supports project co-funding and permitting.

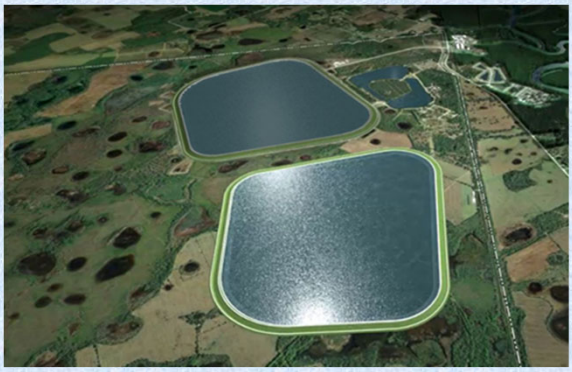
At the August 2, 2023, meeting, the Board approved the selection of Carollo Engineers to develop the 2025 IRWSP, and authorized the Executive Director to negotiate a contract, scope and fee with Carollo for this work. Work Order No. 1 under this contract will implement the scope and fee for development of the 2025 IRWSP. Work includes an update to demand projections, demand management/water conservation, detailed evaluation of future regional interconnections, current and potential future sources of supply, and an enhanced assessment of reclaimed water supply opportunities in the region. A prioritized listing of project opportunities will be developed including cost estimates and timetables needed for implementation. The duration of the Project is from October 2023 - April 2025. Negotiated not-to-exceed costs for Work Order No. 1 $698,883, which includes a $35,000 Owners Allowance for out-of-scope work if authorized by the Executive Director.

This work is funded through the Management and Planning Projects section of the Authority's Approved FY 2023 and 2024 Budgets.

Budget Action: No action needed.

Attachments:
Tab A - Presentation Materials
Tab B - Integrated Regional Water Supply Plan 2025 Project Contract
Tab C - Integrated Regional Water Supply Plan 2025 Project Scope of Services

TAB A
Presentation Materials



Contract, Scope, Fee with Carollo Engineers for Integrated Regional Water Supply Plan 2025

Regular Agenda Item 5

October 4, 2023

Peace River Manasota
Regional Water Supply Authority

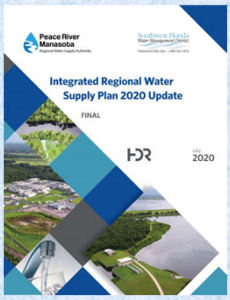
1

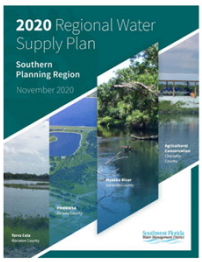
Integrated Regional Water Supply Plan - 2025 Consultant Selection

Integrated Regional Water Supply Plan 2025 (2025 IRWSP)
Authority's Primary Planning Document - Updated Every 5-years
Update to 2020 IRWSMP

Topics:

- Regional Demand Projections
- Demand Management/Water Conservation
- Regional Facilities Update
- Evaluation of Regional Transmission Pipelines / Future Regional Interconnections
- Assessment of Reclaimed Water Supply Opportunities
- Prioritized List of Supply Project Opportunities w/ Cost Estimates and Timetables
- Capital Improvement Plan (CIP) Recommendations
- Integrated w/ SWFWMD's 2025 Regional Water Supply Plan (RWSP)
- Schedule: October 2023 - April 2025



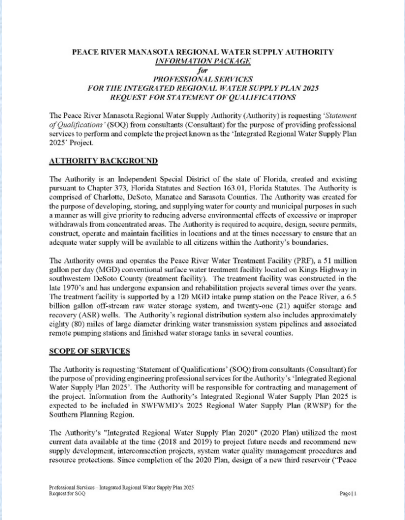


2

Peace River Integrated Regional Water Supply Plan 2025

CONSULTANT CONTRACT MILESTONES

Milestone	Date
Advertised for Consultant SOQ	May 15, 2023
SOQs Submittals Received	June 22, 2023
PSEC Meeting to Shortlist	June 29, 2023
Board Selection of Top-Ranked Firm (Carollo Engineers)	August 2, 2023
Contract/Work Order 1 for Board Consideration	October 4, 2023



PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
INFORMATION PACKAGE
for
PROFESSIONAL SERVICES
FOR THE INTEGRATED REGIONAL WATER SUPPLY PLAN 2025
REQUEST FOR STATEMENT OF QUALIFICATIONS

The Peace River Manasota Regional Water Supply Authority (Authority) is requesting *'Statement of Qualifications'* (SOQ) from consultants (Consultant) for the purpose of providing professional services to perform and complete the project known as the 'Integrated Regional Water Supply Plan 2025' Project.

AUTHORITY BACKGROUND

The Authority is an Independent Special District of the state of Florida, created and existing pursuant to Chapter 373, Florida Statutes and Section 163.01, Florida Statutes. The Authority is comprised of Charlotte, DeSoto, Manatee and Sarasota Counties. The Authority was created for the purpose of developing, storing, and supplying water for county and municipal purposes in such a manner as will give priority to reducing adverse environmental effects of excessive or improper withdrawals from concentrated areas. The Authority is required to acquire, design, secure permits, construct, operate and maintain facilities in locations and at the times necessary to ensure that an adequate water supply will be available to all citizens within the Authority's boundaries.

The Authority owns and operates the Peace River Water Treatment Facility (PRF), a 51 million gallon per day (MGD) conventional surface water treatment facility located on Kings Highway in southwestern DeSoto County (treatment facility). The treatment facility was constructed in the late 1970's and has undergone expansion and rehabilitation projects several times over the years. The treatment facility is supported by a 120 MGD intake pump station on the Peace River, a 6.5 billion gallon off-stream raw water storage system, and twenty-one (21) aquifer storage and recovery (ASR) wells. The Authority's regional distribution system also includes approximately eighty (80) miles of large diameter drinking water transmission system pipelines and associated remote pumping stations and finished water storage tanks in several counties.

SCOPE OF SERVICES

The Authority is requesting 'Statement of Qualifications' (SOQ) from consultants (Consultant) for the purpose of providing engineering professional services for the Authority's 'Integrated Regional Water Supply Plan 2025'. The Authority will be responsible for contracting and management of the project. Information from the Authority's Integrated Regional Water Supply Plan 2025 is expected to be included in SWFWMD's 2025 Regional Water Supply Plan (RWSP) for the Southern Planning Region.

The Authority's "Integrated Regional Water Supply Plan 2020" (2020 Plan) utilized the most current data available at the time (2018 and 2019) to project future needs and recommend new supply development, interconnection projects, system water quality management procedures and resource protections. Since completion of the 2020 Plan, design of a new third reservoir ("Peace

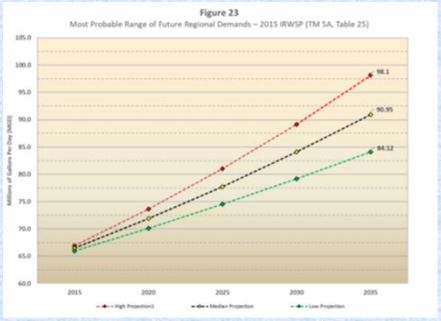
Professional Services – Integrated Regional Water Supply Plan 2025
Request for SOQ
Page | 1

3

Peace River Integrated Regional Water Supply Plan 2025

KEY COMPONENTS OF WORK ORDER NO. 1

KEY COMPONENT
Task 1 – Project Management, Communication, Coordination
Task 2 – Regional Facilities Update
Task 3 – Regional Needs Update
Task 4 – Regional Water Supply Evaluations
Task 5 – Regional Transmission System
Task 6 – Demand Management and Water Conservation
Task 7 – Reclaimed Water Opportunities
Task 8 – Capital Improvement Plan
Task 9 –Integrated Regional Water Supply Plan 2025

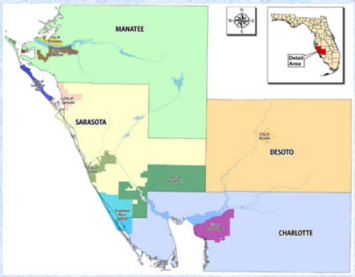


4

Peace River Integrated Regional Water Supply Plan 2025

WORK ORDER NO. 1 - SCHEDULE AND BUDGET

KEY COMPONENT	SCHEDULE	BUDGET ($)
Task 1 – Project Management, Communication, Coordination	10/23 - 4/25	$149,865
Task 2 – Regional Facilities Update	11/23 - 5/23	$45,384
Task 3 – Regional Needs Update	11/23 - 5/23	$77,234
Task 4 – Regional Water Supply Evaluations	3/24 - 11/24	$44,408
Task 5 – Regional Transmission System	11/23 - 11/24	$117,442
Task 6 – Demand Management and Water Conservation	1/24 - 6/24	$33,408
Task 7 – Reclaimed Water Opportunities	3/24 - 11/24	$37,420
Task 8 – Capital Improvement Plan	7/24 - 1/25	$34,352
Task 9 – Integrated Regional Water Supply Plan 2025	7/24 - 4/25	$124,370
Owner's Allowance	-	$35,000
Total	-	**$698,883**



5

Peace River Integrated Regional Water Supply Plan 2025

STAFF RECOMMENDATION

Motion to Approve Professional Services Contract with Carollo Engineers for the Peace River Integrated Regional Water Supply Plan 2025 and Authorize the Executive Director to Execute Work Order No 1 under that Contract for an Amount Not-to-Exceed $698,883.

Peace River Manasota Regional Water Supply Authority

6

TAB B
Integrated Regional Water Supply Plan 2025 Project Contract

Agreement for Professional Services for the Integrated Regional Water Supply Plan 2025

This Agreement for Professional Services for the Peace River Integrated Regional Water Supply Plan 2025 Project ("Project") is made by and between Peace River Manasota Regional Water Supply Authority, an interlocal government agency of the State of Florida existing under Sections 163.01 and 373.713, Florida Statutes (the "Authority"), and _____ ("Consultant"), a corporation in the State of _____ and authorized to do business in the State of Florida.

Background

A. The Authority desires to retain Consultant to provide professional services for the Integrated Regional Water Supply Plan 2025 Project as described in Information Package for the Request for Statement of Qualifications issued on May 15, 2023.

B. The Project will update work from the 2020 Water Supply Plan and address key issues that will position the regional system to best serve Authority Members and Partners over the next 20 years. The work effort will require multi-disciplinary expertise including engineering, hydrogeology, planning, environmental systems, and water supply system operations. Elements currently proposed for inclusion in the 'Integrated Regional Water Supply Plan 2025' (IRWSP 2025) are shown below, which may be revised at the discretion of the Authority.

C. The Authority has selected Consultant in accordance with the Authority's procurement policy, and applicable provisions of Law.

D. Consultant desires to provide the professional services required by the Authority as defined in this Agreement.

Terms and Conditions

1. **Background, Exhibits, and Documents.** The background provided above and the following exhibits which are attached, are part of this Agreement. The Information Package and Consultant's submittals provided in response to the Request for Statements of Qualification for this Project are also part of this Agreement.

   Exhibit A – Scope of Services and Compensation
   Exhibit B – Consultant's Statement of Qualifications for Professional Services for the Integrated Regional Water Supply Plan 2025 Project ("SOQ")
   Exhibit C – Authority Resolution 2018-01 Resolution Establishing Per Diem and Travel Expenses
   Exhibit D – Consultant's Certificate of Insurance

2. **Definitions**. The following terms as used in this Agreement shall have the following meanings:

1.1. Agreement – This written document, as it may be amended from time to time and all incorporated documents.

1.2. Law – All laws, statutes, rules, regulations, ordinances, codes and/or orders applicable to the Services.

1.3. Services – The services described in **Exhibit A**, as well as all obligations, duties and responsibilities required of Consultant under this Agreement. The term "Services" also includes all Additional Services which are subsequently authorized in writing by the Authority.

1.4. Additional Services – Subject to paragraph 10 of this Agreement, any services that are authorized by the Authority in a written amendment after this Agreement is executed.

1.5. Subconsultant – All contractors, subcontractors, consultants, subconsultants, suppliers, experts and other entities retained by Consultant to perform or provide any portion of the Services required hereunder.

2. **Effective Date and Term**. This Agreement will become effective on the last date all the parties have executed it, as demonstrated by the date under the signatures on the signature page and will remain effective until the Project is complete unless it is sooner terminated in accordance with the procedures set forth in this Agreement.

3. **Compensation**.

3.1. Compensation for Services and Expenses. For the timely and proper performance of the Services, the Authority shall pay Consultant the compensation set forth in **Exhibit A.** The Authority shall reimburse Consultant for expenses (other than expenses which are included in lump sum payment items) consistent with Section 112.061, Florida Statutes and **Exhibit C**, provided Consultant submits appropriate documentation substantiating the expense and certifies that such claimed expense is true and correct as to every material matter. Consultant shall honor a claim for refund by the Authority if the reimbursement is more than the limits imposed in Section 112.061, Florida Statutes.

3.2. Accuracy of Rates and Unit Costs. Consultant hereby certifies that the wage rates and other unit costs supporting the compensation are accurate, complete, and current upon the Effective Date of this Agreement. The Authority will adjust any compensation to be paid under this Agreement, both as set forth in **Exhibit A** or for any Additional Services authorized in writing by the Authority, to exclude any significant sums the Authority determines were increased due to inaccurate, incomplete, or noncurrent wage rates or other unit costs. The Authority may make any such adjustment to compensation within one year of the expiration or termination of this Agreement.

4. <u>Consultant's Representations and Warranties.</u> Consultant represents and warrants to the Authority as follows:

4.1. Conducting Business in Florida. Consultant is duly authorized to conduct business in the State of Florida.

4.2. Authority. Consultant has the full power and authority to execute and deliver this Agreement and to incur and perform the obligations provided for herein, all of which have been duly authorized by all proper and necessary actions of the governing entity of Consultant.

4.3. Accuracy of SOQ Response. All information provided by Consultant in response to the Request for Statements of Qualifications for the Project was true and accurate when Consultant submitted it to the Authority and has not materially changed as of the Effective Date of this Agreement.

4.4. Understanding of Agreement. Consultant has familiarized itself with and understands this Agreement, the Project, the Services, the Law, the site, and all local conditions that may affect Consultant's performance of this Agreement, including Consultant's compensation and the performance or furnishing of the Services.

4.5. Discrepancies. Consultant has reviewed all available information and data shown or indicated in this Agreement and has given the Authority written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered and the Authority's written resolution thereof, if any, is acceptable to Consultant.

4.6. Expertise. Consultant has special expertise in the type of professional services to be provided under this Agreement and Consultant acknowledges that such representations were a material inducement to the Authority to enter into this Agreement with Consultant.

4.7. Valid Agreement. This Agreement is a valid, binding, and enforceable obligation of Consultant, and does not violate any law, rule, regulation, contract, or agreement otherwise enforceable by or against Consultant except as it may be limited by bankruptcy, insolvency, reorganization, or other similar laws affecting the rights of creditors generally.

4.8. Scrutinized Companies. Consultant is in compliance with Section 287.135, Florida Statutes. As required by Subsection 287.135(5), Florida Statutes, Consultant certifies that it is not on any of the following lists: 1) Scrutinized Companies with Activities in Sudan, 2) Scrutinized Companies with Activities in the Iran Petroleum Energy Sector, or 3) Scrutinized Companies that Boycott Israel.

4.9. Public Entity Crimes. Consultant is in compliance with Section 287.132, Florida Statutes. The Public Entity Crimes statement required by Subsections 287.133(2) and (3), Florida Statutes provided with Consultant's response to the SOQ is true and accurate

on the Effective Date of this Agreement.

4.10. Discriminatory Vendor List. Consultant is in compliance with subsection 287.134(2)(a), Florida Statutes. Consultant is not on the discriminatory vendor list maintained by the Florida Department of Management Services under section 287.134, Florida Statutes.

4.11. E-Verify. Consultant is in compliance with Section 488.095, Florida Statutes. As required by Subsection 488.095(2)(a), Florida Statutes, Consultant has registered with and uses the E-Verify System to verify the work authorization status of all newly hired employees. The E-Verify Statement Consultant submitted with its response to the SOQ remains true and correct.

4.12. No Contingent Fees. As required by Section 287.055(6), Florida Statutes, Consultant warrants that he or she has not employed or retained any company or person, other than a bona fide employee working solely for the architect (or registered surveyor and mapper, or professional engineer, as applicable) to solicit or secure this agreement and that he or she has not paid or agreed to pay any person, company, corporation, individual, or firm, other than a bona fide employee working solely for the architect (or registered surveyor and mapper or professional engineer, as applicable) any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this agreement. If Consultant breaches or violates this provision, the Authority has the right to terminate this Agreement without liability and, at its discretion, to deduct from Consultant's compensation, or otherwise recover, the full amount of such fee, commission, percentage, gift, or consideration.

5. Consultant's Responsibilities.

5.1. Performance of Services. Consultant shall perform the Services upon the terms and conditions set forth in this Agreement and upon any terms required under any government funding agreement.

5.2. Changes. Consultant shall immediately notify the Authority if anything changes regarding Consultant's representations and warranties contained in this Agreement.

5.3. Resources. Consultant shall secure and maintain an adequate and competent staff of professionals and all facilities and equipment required to perform the Services.

5.4. Key Personnel. Consultant must not remove any key personnel or Subconsultants assigned to the Project without the prior written approval of the Authority. All key personnel shall be available to the Project on a full-time basis, except as otherwise expressly approved in writing by the Authority. Such key personnel are as follows:

_____

5.5. Objectionable Employees. If at any time during the term of this Agreement the Authority notifies Consultant in writing that any of Consultant's employees or the employees of any Subconsultant are objectionable to the Authority, Consultant shall remove or have the Subconsultant remove the objectionable employee from the Project and not reemploy the objectionable employee on any portion of the Services.

5.6. Consultant's Representative. Consultant shall designate in writing a single representative with the authority to transmit instructions, receive information, interpret, and deliver Consultant's policy and decisions related to the Services and bind Consultant with respect to any matter arising out of or relating to this Agreement.

5.7. Information Related to the Services. Consultant shall obtain and review all information and data which relates to the Services or which Consultant may reasonably anticipate may affect cost, scheduling, progress, performance or furnishing of the Services, including, but not limited to, information and data related to the Project work of others under separate contracts, to the extent that such work may interface with the Services hereunder.

5.8. Status Reports and Inspections. Consultant shall routinely and continuously advise the Authority of the status of the Project, and the Services of Consultant. The Authority and its authorized representatives have the right to visit the site and Consultant's office at any reasonable time Consultant to inspect the Services or any of the drawings or documents of Consultant. Consultant shall maintain documents obtained or generated under this Agreement and make them available upon request by the Authority during the term of this Agreement and for three years after its termination. In addition to the documents and reports contemplated in **Exhibit A**, Consultant shall, at no cost to the Authority, deliver to the Authority copies of all other Project documents and or reports under Consultant's possession or control that the Authority may request from time to time.

5.9. Coordination with Others. Consultant shall cooperate with other engineers, consultants, construction contractors and suppliers retained by the Authority and assist the Authority with the coordination of those various projects, work, and engineering and consulting services. Consultant shall review all information and attend all meetings as shall be reasonably necessary to accomplish the coordination of those various projects, work, and engineering and consulting services, and eliminate any problems where the projects, work or services interface with the Project or Services.

5.10. Laws. Consultant shall secure all licenses or permits required by Law for the performance of the Services and shall comply with all Laws in effect at the time of the execution of this Agreement and the time of performance of the Services.

5.11. No Discrimination. Consultant shall comply with Title VII of the Civil Rights Act of 1964, as amended, and the Florida Civil Rights Act of 1992. Consultant shall not discriminate in any form or manner against its employees or applicants for employment on the basis of race, color, national origin, religion, sex, age, handicap, or marital status.

Further, Consultant shall comply with all applicable rules, regulations or executive orders promulgated to give effect to the Civil Rights Act of 1964, as amended.

5.12. Notice of Claims. Consultant shall immediately notify the Authority if it becomes aware of any circumstances which may reasonably give rise to any claim against the Authority for Services performed under or related to the Services performed under this Agreement.

5.13. No Conflicts of Interest. Consultant is not under contract and will not contract for or accept employment for the performance of any work or services with an individual, business, corporation, or government unit that would create a conflict of interest in the performance of its obligations under this Agreement.

6. Authority's Responsibilities.

6.1. Applications for Payment. The Authority shall review and consider, in a reasonably prompt and thorough fashion, all applications for payments, reports, schedules, estimates, drawings, proposals or other documents presented to the Authority by Consultant and shall inform Consultant of the Authority's decisions or otherwise take appropriate action within a reasonable time to not unreasonably delay the Services of Consultant.

6.2. Authority's Representative. The Authority shall designate in writing a single representative with authority to transmit instructions, receive information and interpret and deliver the Authority's policy and decisions pertinent to the Services.

6.3. Existing information. Upon Consultant's specific request, the Authority shall cooperate in providing to Consultant, all existing and available studies, reports, surveys, and other information and data regarding the Project to the extent such items are in the Authority's possession and the Authority has actual knowledge of their existence and location. Despite any other provision of this Agreement, the Authority does not represent or warrant the accuracy or completeness of any such items, unless it is expressly noted otherwise in writing on such item.

7. Change of Plan.

7.1. Authority's Right. The Authority has the absolute right to terminate, suspend, or amend the Services or the Project at any time and for any reason, and such action on its part shall not be deemed a default or breach of this Agreement. Any such termination, suspension, or amendment shall be in writing.

7.2. Remedies. If the Services or Project is entirely or partly suspended for one or more periods of time Consultant will have no claim for compensation for the suspended period(s). Upon resumption of the Services or Project, Consultant shall resume the Services until the Services are completed in accordance with this Agreement, and the time for completion of the Services which were suspended shall be extended for the period of the suspension. If the cumulative total of such suspensions, excluding periods

of suspension during the design phase, is 270 days or less, the extension of time shall be Consultant's sole remedy. If the cumulative total of such suspensions is more than 270 days, Consultant's sole remedy shall be to terminate this Agreement according to the provisions of paragraph 8.

8. Termination of Agreement.

8.1. Termination for Convenience. The Authority has the right to terminate this Agreement, in whole or in part without cause upon written notice to Consultant. In such event, Consultant's sole and exclusive recovery against the Authority will be limited to that portion of Consultant's compensation earned to the date of termination, together with any costs reasonably incurred by Consultant that are directly attributable to the termination. The Consultant shall not be entitled to any further recovery against the Authority, including, but not limited to, anticipated fees or profits on Services not required to be performed. The Authority in its sole discretion shall determine that portion of the compensation earned for any incomplete Services based upon the ratio of such part of the Services completed relative to the entire Services. Termination without cause shall be effective upon delivery of written notice to Consultant.

8.2. Termination for Cause. Consultant shall be considered in material default of this Agreement and the Authority may terminate this Agreement, in whole or in part, for any of the following reasons: (a) failure to begin Services within the time specified in a Work Order, or (b) failure to timely and properly perform the Services required hereunder or as directed by the Authority, or (c) the bankruptcy or insolvency or a general assignment for the benefit of creditors by Consultant or by any of Consultant's principals, partners, officers or directors, or (d) failure to obey any Law, or (e) failure or refusal to allow public access to all public record documents or other materials made or received by Consultant in conjunction with this Agreement, unless exempt under Florida law, or (f) any other material breach of this Agreement. In any such event, the Authority may terminate this Agreement, in whole or in part, by giving Consultant written notice. In the event of any such termination for cause, the Authority is not obligated to make any further payments to Consultant hereunder until such time as the Authority has determined all costs, expenses, losses and damages which the Authority may have incurred as a result of such default by Consultant, whereupon the Authority shall be entitled to set off all costs, expenses, losses and damages so incurred by the Authority against any amounts due Consultant hereunder. Termination for cause will be effective upon 14 days written notice to Consultant.

8.3. Violation by Authority. If the Authority violates any provision of this Agreement, and if the violation continues for 60 days after Consultant has delivered written notice of the violation, then Consultant may, without prejudice to any other right or remedy, terminate or cancel this Agreement by giving the Authority 14 days written notice of termination. In the event of any such termination by Consultant, Consultant's sole and exclusive remedies against the Authority will be limited to those set forth in paragraph 8.1 above.

8.4. Notice and Cure. Despite the provisions of paragraphs 8.2 and 8.3, this Agreement will not terminate for cause if the party receiving the notice begins, within seven days of receipt, to correct its failure and proceeds diligently to cure such failure within thirty 30 days of receipt of the notice; provided, however, that if and to the extent such cause for termination cannot reasonably be cured within such 30 day period, and if such party has diligently attempted to cure the same and thereafter continues to diligently cure the same, then the cure period may be further extended by the party that provided the notice.

8.5. Remedies if no Default. If, after termination of this Agreement as provided for in paragraph 8.2 above, it is determined for any reason that Consultant was not in default, or that its default was excusable or that the Authority otherwise was not entitled to the remedy against Consultant provided for in paragraph 8.2, then such termination for cause shall be deemed to be a termination for convenience as described in paragraph 8.1 and Consultant's sole and exclusive rights and remedies against the Authority shall be the same as and limited to those afforded Consultant under paragraph 8.1 above.

8.6. Delivery of material after termination. Within 10 days after any termination of this Agreement, Consultant shall deliver to the Authority all papers, drawings, models, and other material prepared by and for Consultant with respect to the Project and Services.

9. Waiver.

9.1. Acceptance of Final Payment. Consultant's acceptance of final payment constitutes a full waiver of all claims by Consultant against the Authority arising out of and relating to this Agreement or otherwise related to the Project, except those previously made in writing and identified by Consultant as unsettled at the time it submits its invoice for final payment. Neither the acceptance of the Services nor any payment by the Authority shall be deemed to be an acceptance of defective or incomplete Services or waiver of any of the Authority's rights against Consultant.

9.2. Non-enforcement. Non-enforcement of any provision of this Agreement by either party shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or the remainder of this Agreement.

10. Additional Services.

10.1. Notice to Authority. If Consultant is of the opinion that any services the Authority directs it to perform are beyond the Scope of the Services under this Agreement, Consultant shall, within seven business days of such direction, notify the Authority in writing of its opinion. The Authority shall, within 10 business days after receipt of such notification, determine whether such service is beyond the scope of this Agreement and constitutes Additional Services. If the Authority determines that such service does constitute Additional Services, it will provide extra compensation to Consultant based upon the rates and terms provided in **Exhibit A**.

10.2. Project Schedule. If, in the opinion of the Authority, the progress of the Services during any period is substantially less than the amount which is necessary to meet the Project schedule, the Authority may require Consultant to take whatever action is necessary, in the opinion of the Authority, to put the Services back on schedule. Such action shall not constitute Additional Services unless the delays were caused by circumstances beyond the control and fault of Consultant or its agents, employees and Subconsultants.

10.3. Claims against the Authority. In the event of claims by others against the Authority in connection with the Project or the Services, Consultant shall provide to the Authority such technical assistance that the Authority may request. Such assistance shall constitute Additional Services, unless such claims are caused by the failure of Consultant, its agents, employees or Subconsultants to comply with the terms and conditions of this Agreement or otherwise perform their duties under this Agreement.

10.4. Delays more than and less than 30 days. Subject to the provisions of paragraph 10.2 above, Consultant shall not make any charges or claims for damages for any delays or hindrances of less than 30 days from any cause whatsoever during the progress of any portion of the Services. The Authority may compensate such delays or hindrances of less than 30 days by an extension of time as the Authority may decide. However, any such extension shall not operate as a waiver of any other rights of the Authority. The Authority will consider delays or hindrances that exceed 30 days and will determine whether any additional services are needed from Consultant unless such delays or hindrances were caused in whole or in part by Consultant, its employees, agents, or Subconsultants or because of a suspension of the Project or Services entirely or partly by the Authority. This paragraph does not apply to suspensions of the Project or Services by the Authority, which suspensions will be governed by paragraph 7.

10.5. Audit. If the Authority requires Consultant to provide it with an audit of its Project costs, such audit will not be considered Additional Services.

11. Assignment and Subconsultants. Consultant shall not sublet, assign, or transfer this Agreement or any Services without the prior written consent of the Authority, which consent may be withheld in the Authority's sole discretion. Consultant shall be solely responsible for the employment, direction, supervision, compensation, and control of any and all Subconsultants. Consultant shall cause all Subconsultants to abide by the terms and conditions of this Agreement and all Laws. All agreements between Consultant and Subconsultants shall be in writing, with a copy of such agreements to be provided to the Authority upon its request for same.

12. Indemnification. Consultant shall indemnify and hold harmless the Authority, and its officers and employees, from liabilities, damages, losses, and costs, including, but not limited to, reasonable attorneys' fees, to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of the Consultant and other persons employed or utilized by the Consultant in the performance of the contract.

13. Consultant's Insurance Requirements.

13.1. Consultant must maintain during the entire term of this Agreement, insurance in the following kinds and amounts with a company or companies authorized to do business in the State of Florida and shall not commence work under this Agreement until the Authority has received an acceptable certificate of insurance showing evidence of such coverage. The amounts and types of insurance shall be appropriate for the services being performed by the Consultant, its employees or agents and must conform to the following minimum requirements. Consultant has provided the Certificate of Insurance contained in Exhibit D that meets the requirements of this paragraph 13:

13.1.1. Workers Compensation. Coverage must apply for all employees and subcontractors with statutory limits in compliance with the applicable state and federal laws. In addition, the policy must include the following Employer's Liability with a minimum limit per accident in accordance with statutory requirements.

a. Notice of Cancellation and/or Restriction. The policy must be endorsed to provide Authority with thirty (30) days written notice of cancellation and/or restriction.
b. Agent(s) must be in compliance with all applicable state and federal workers' compensation laws.

13.1.2. Commercial or Comprehensive General Liability. Coverage must include:

a. $1,000,000.00 combined limit per occurrence for bodily injury, personal injury and property damage.
b. Contractual coverage applicable to this specific contract, including any hold harmless and/or indemnification agreement, broad form property damage, explosion, collapse, and underground hazard coverage and independent contractor's coverage.
c. Additional Insured. Authority is to be specifically included as an additional insured.
d. Notice of Cancellation and/or Restriction. The policy must be endorsed to provide Authority with thirty (30) days written notice of cancellation and/or restriction.

13.1.3. Comprehensive Automobile Liability. Coverage must be afforded on a form no more restricted than the latest edition of the Comprehensive Automobile Liability Policy filed by the Insurance Services Office and must include:

a. $1,000,000.00 combined single limit per accident for bodily injury and property damage.
b. Owned Vehicle.
c. Hired and Non-Owned Vehicles.
d. Employee Non-Ownership.
e. Additional Insured. Authority is to be specifically included as additional insured.
f. Notice of Cancellation and/or Restriction. The policy must be endorsed to provide Authority with thirty (30) days written notice of cancellation and/or

restriction.

13.1.4. Watercraft/Aircraft Liability. If Consultant's provision of services involves utilization of watercraft or aircraft, watercraft and/or aircraft liability coverage must be provided to include bodily injury and property damage arising out of ownership, maintenance or use of any watercraft or aircraft, including owned, non-owned and hired.

13.1.5. Professional Liability. Coverage must include:

a. Minimum limit of $1,000,000.00 per occurrence or claim of malpractice, negligence, error and omissions.
b. Minimum limit of $1,000,000.00 in the aggregate for claims of malpractice, negligence, error and omissions.
c. If a claims made form of coverage is provided, the retroactive date of coverage shall be no later than the inception date of claims made coverage, unless the prior policy was extended indefinitely to cover prior acts.
d. Notice of Cancellation and/or Restriction. The policy must be endorsed to provide Authority with thirty (30) days written notice of cancellation and/or restriction.
e. Professional liability insurance shall continue in force until the end of the fifth calendar year following the calendar year in which the Agreement is terminated. The current professional liability insurance policy, if not renewed, shall provide for an extended reporting period on the existing policy through said fifth calendar year.

13.2. The required Certificates of Insurance not only shall name types of policies provided but also shall refer specifically to the Agreement.

13.3. Insurance coverage shall be placed with insurers or self-insurance funds, satisfactory to the Authority, licensed to do business in the State of Florida and with a resident agent designated for the service of process. Consultant shall provide the Authority with financial information concerning any self-insurance fund insuring Consultant. At the Authority's option, self-insurance fund financial information may be waived.

13.4. All the policies of insurance so required of Consultant, except workers compensation and professional liability, shall be endorsed to include as additional insureds: the Authority, its directors, officers, employees and agents as well as the Southwest Florida Water Management District as it may require through a funding agreement for the Project. Such insurance policies shall include or be endorsed to include a cross liability clause so the additional insureds will be treated as if a separate policy were in existence and issued to them. If the additional insureds have other insurance, which might be applicable to any loss, the insurance required of Consultant shall be considered primary, and all other insurance shall be considered excess. The cross liability clause does not increase the limits of liability or aggregate limits of the policy.

13.5. Deductible and self-insured retention amounts shall be subject to approval by the Authority, which approval shall not be unreasonably withheld. Consultant is

responsible for the amount of any deductibles or self-insured retentions.

13.6. Approval of the insurance by the Authority shall not relieve or decrease the liability of Consultant hereunder. Consultant acknowledges and agrees the Authority does not in any way represent the insurance (or the limits of insurance) specified in this Section 14 is sufficient or adequate to protect Consultant's interests or liabilities, but are merely minimums.

13.7. All of the policies of insurance required to be purchased and maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be cancelled, materially changed, or renewal refused, until at least thirty (30) days prior written notice has been given to the Authority and Consultant by certified mail. Consultant shall give notice to the Authority within twenty-four (24) hours of any oral or written notice of adverse change, non-renewal or cancellation. If the initial insurance expires prior to completion of the work, renewal Certificates of Insurance shall be furnished thirty (30) days prior to the date of their expiration.

13.8. All insurance required hereunder shall remain in full force and effect until final payment and at all times thereafter when Consultant may be observing the correction, removal or replacement of defective work.

13.9. Professional liability insurance shall continue in force until the end of the fifth calendar year following the calendar year in which the Agreement is terminated. The current professional liability insurance policy, if not renewed, shall provide for an extended reporting period on the existing policy through said fifth calendar year.

13.10. Consultant shall, upon request by the Authority, deliver to the Authority a copy of each insurance policy purchased by Consultant.

13.11. All policies, except for workers' compensation and professional liability, shall contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of subrogation against the Authority, its consultants, directors, officers, employees, representatives or agents. Nothing contained in these insurance requirements is to be construed as limiting the liability of Consultant or Consultant's insurance carriers.

13.12. The commercial (occurrence form) or comprehensive general liability (occurrence form) insurance shall include contractual liability insurance applicable to all of the Consultant's obligations under the Agreement, including any indemnity or hold harmless provision.

13.13. Consultant shall ensure that all Subconsultants procure and maintain, until the completion of that party's Services, insurance of the types and in the coverage amounts required to be carried by Consultant in this Agreement unless the Authority agrees in writing, in advance of Consultant's employment of any such Subconsultant, to other types of coverage and/or lower coverage amounts. Provided however, that professional liability insurance shall not be required under this Agreement for Subconsultants,

unless such party is a licensed professional. The preceding sentence does not preclude Consultant from requiring such insurance. Consultant is responsible for ensuring that all Subconsultants comply with all the insurance requirements contained herein relative to each such party.

14. **Standard of Performance.** Consultant shall perform and complete the Services in a timely manner and in accordance with the standard of care, skill, and diligence customarily provided by professionals with expertise and experience in the type of Services to be provided hereunder, and in accordance with sound professional principles and practices. Consultant acknowledges that it has represented to the Authority that Consultant has expertise and experience in the type of services to be rendered hereunder and that such representation was a material inducement to the Authority to enter into this Agreement with Consultant.

15. **Project Documents and Data.**

15.1. One (1) copy of all technical data and working papers regarding the Services, whether existing in the office of the Authority or in the office of Consultant, shall be made available to the other party to this Agreement without expense to such other party. Additional copies shall be made available at the expense of the requesting party.

15.2. All Project documents, tracings, plans, specifications, maps, evaluations, reports, technical data, and computer application code, other than working papers prepared or obtained under this Agreement, are the property of the Authority without restriction or limitation of use, and shall be made available, upon request, to the Authority at any reasonable time. Consultant, at its own expense, may retain copies thereof for its files and internal use. Any use by the Authority of such materials obtained under this Agreement for any other Project or use of incomplete materials obtained from Consultant by the Authority shall be made at the risk of the Authority. However, this does not constitute a disclaimer of the professional liability of Consultant with respect to the original Services as used for the Project.

15.3. All final plans and documents that are required by Florida Law to be endorsed and are prepared by Consultant in connection with the Services shall bear the endorsement of a person in the full employment of Consultant or duly retained by Consultant and duly licensed in the appropriate professional category.

15.4. Consultant shall make any patentable product or result of the Services and all information, design, specifications, know-how, data, and findings available to the Authority without cost to the Authority. No material prepared in connection with this Project will be subject to copyright by Consultant, all such copyrights being the property of the Authority. the Authority shall have the right to publish, distribute, disclose, and otherwise use any material prepared by or for Consultant with respect to the Project. Any use of material or patents obtained by the Authority under this Agreement for any purpose not associated with this Project shall be at

the risk of the Authority. In the Authority's discretion, whenever any renderings, photographs of renderings, photographs of models or photographs of the Project are released by the Authority for publicity, proper credit may be given to Consultant, provided the giving of such credit is without cost to the Authority.

15.5. Consultant must not make any statements, press releases or public releases concerning this Agreement or its subject matter or otherwise disclose or permit to be disclosed any of the data or any other information obtained or furnished in compliance with this Agreement, except at meetings where representatives of the Authority are present, without the Authority's prior written consent. Consultant shall not publish, copyright, or patent any of the data furnished or developed with respect to the Project without first obtaining the Authority's written consent, as all such rights are the property of the Authority.

16. **Audit Rights.** Consultant shall keep all books, records, files, plans, drawings, and other documentation, including all electronically stored items, which concern or relate to the Services hereunder (collectively referred to herein as "Records") for a minimum of three (3) years from the date of expiration or termination of this Agreement or as otherwise required by Law, which ever date is later. the Authority, or any duly authorized agents or representatives of the Authority, shall have the right to audit, inspect and copy all or such Records as often as they deem necessary during any such period of time. This right to audit, inspect and copy the Records shall include all Records of Subconsultants.

17. **Public Records.**

17.1. **Duty to Maintain and Provide Records.** Consultant shall keep and maintain all public records required to perform services under this Contract as required by Chapter 119, Florida Statutes. All analyses, data, documents, models, modeling, reports, and tests performed or utilized by Consultant shall be made available to the Authority upon request and are considered public records in accordance with Chapter 119, Florida Statutes, unless they are exempt under the Law.

17.2. IF CONSULTANT HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONSULTANT'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE AGENCY'S CUSTODIAN OF PUBLIC RECORDS AT PHONE (941) 316-1776; EMAIL – PEACERIVER@REGIONALWATER.ORG; OR MAIL – 9415 TOWN CENTER PARKWAY, LAKEWOOD RANCH, FLORIDA 34202.

17.3. Post Contract Responsibilities. Upon completion of this contract, Consultant shall keep and maintain, at no cost, to the Authority, all public records produced under this Agreement in the possession of the Consultant or shall transfer them to the Authority. If the Consultant transfers all public records to the Authority, Consultant shall destroy any duplicate public records. If Consultant keeps and maintains public records after completion of the contract, the Consultant shall meet all legal requirements for retaining public records including the rules and retention schedules adopted by the Division of Library and Information Services of the Department of State under Section 119.021(2)(a), Florida Statutes. All records stored electronically must be provided to the Authority upon request from the Authority in a format that is compatible with the information technology systems of the Authority.

17.4. Exempt Records. Consultant shall ensure that public records that are exempt from public records disclosure are not disclosed except as authorized by law during the term of this Agreement and following its completion if the Consultant does not transfer the records to the Authority.

18. <u>Miscellaneous Provisions</u>.

18.1. Entire Agreement. This written document shall constitute the entire agreement between the parties hereto and the Agreement shall not be amended or modified except in writing duly executed by the party against whom such an amendment or modification is sought to be enforced. This Agreement shall govern the relationship between the Authority and Consultant on the Project.

18.2. Successors. the Authority and Consultant each hereby binds itself, its successors, assigns, and legal representatives to the other.

18.3. No Third-Party Beneficiaries. The rights and obligations in this Agreement shall inure solely to the parties hereto (their successors, assigns and legal representatives) and no other party shall have any rights or obligations under or by virtue of this Agreement.

18.4. Applicable Law and Venue. This Agreement shall be governed by and construed under the laws of the State of Florida. Venue for any action under state law arising under this Agreement shall be in the Twelfth Judicial Circuit of Florida. Claims justiciable in federal court shall be in the Middle District of Florida.

18.5. Notices. All notices or other communications permitted or required under this Agreement must be in writing and must be sent to the party at that party's address set forth below or a whatever other address the party specifies in writing. Notices must be personally delivered, sent by certified or registered mail, or sent by overnight courier, postage prepaid.

If to the Authority: Peace River Manasota Regional Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch, Florida 34202
Attention: Mike Coates, Executive Director

If to the Consultant: Company
Address
City, State, Zip
Attention: Contact

18.6. No Construction Against Drafting Party. Each party acknowledges that it has carefully reviewed and understands this Agreement and has had an opportunity to review it with counsel of its choosing. This Agreement shall not be construed more strongly against any party, regardless of who drafted or prepared it.

18.7. Communications. The Consultant's communications with the Authority shall be limited to the Authority's Executive Director and designated staff. Communications with the Authority's Board Members are prohibited, except with the prior permission of the Authority's Executive Director or at a duly noticed public board meeting. Any such prohibitive communications shall be deemed to be a material breach of this Agreement by Consultant. This provision does not prohibit or limit contacts by or on behalf of the Authority Board Members with Consultant.

18.8. Interpretation. All words used herein in the singular shall extend to and include the plural, and the use of any gender shall extend to and include all genders. Unless the context requires otherwise: The term "include" contemplates "including but not limited to." The terms "hereof," "herein," "hereunder" and similar terms in this Agreement refer to this Agreement as a whole and not to any particular provision of this Agreement.

18.9. Headings. The captions and headings herein are for convenience of reference only and in no way define or limit the scope or content of this Agreement or in any way affect its provisions. Unless otherwise indicated, references to paragraphs include all subparts.

18.10. Time is of the Essence. Time is of the essence of this Agreement and each of its provisions.

18.11. No Waiver. Unless expressly stated in writing, no action taken by a party to this Agreement shall be considered a waiver by such party of compliance with any representations, warranty, duty, or responsibility under this Agreement.

18.12. Contest of Authority Decisions. The Authority shall decide all questions, difficulties, and disputes of any nature whatsoever that may arise under or by reason of this Agreement, the prosecution and fulfillment of the Services called for

hereunder, or the character, quality, amount, or value thereof. The decision of the Authority upon all such claims, questions or disputes shall be final and binding if not contested by Consultant in a written notice delivered to the Authority within seven days after Consultant's receipt of written notice from the Authority concerning such decision. Consultant shall not delay or postpone providing Services during the pendency of any dispute.

18.13. Survival. All express representations, indemnifications, or limitations made or given in this Agreement shall survive its completion or termination for any reason.

18.14. Severability. If any term of this Agreement is for any reason invalid or unenforceable, the rest of the Agreement remains fully valid and enforceable.

18.15. Independent Contractor. Consultant is retained by the Authority only for the purposes and to the extent set forth in this Agreement, and its relationship with the Authority shall, during the term of this Agreement, be that of an independent contractor. Consultant shall have the discretion, subject to the requirement that it perform the services required hereunder competently and professionally in accordance with the applicable professional standards and otherwise comply with the terms of this Agreement, to select the means and methods of performing such services. In this regard, Consultant shall be fully responsible for the employment, direction, supervision, compensation, and control of all persons employed or retained by Consultant. Neither Consultant nor Consultant's contractors, subcontractors, consultants, subconsultants, suppliers, experts or other persons or organizations retained or utilized by Consultant for the services required hereunder ("Subconsultants") shall be considered by reason of the provisions of this Agreement or otherwise as being an employee or agent of the Authority. Consultant shall comply with all workers' compensation, employers' liability and other Federal, State and county and municipal laws, ordinances and regulations required of an employer performing services as herein contemplated. Provided, however, in no event shall the Authority be obligated to pay Consultant any overtime or other premium pay compensation unless such overtime or premium compensation was expressly approved in writing and in advance by the Authority. Furthermore, Consultant is responsible for paying all income and employment taxes, and the Authority shall not be responsible for collecting or paying withholding, FUTA, FICA or any other state or federal taxes.

18.16. Waiver of Jury Trial. To the extent permitted by applicable law, Consultant and the Authority irrevocably waive any right to trial by jury in any legal proceeding arising out of or relating to this Agreement or any of the transactions contemplated by it. Neither the Authority nor Consultant or any successor thereof will seek a trial by jury in any action or proceeding (whether at law or in equity, whether direct or collateral, whether in contract or in tort) arising out of or related to this Agreement or the relationship created by it. Neither the Authority nor Consultant shall seek to consolidate any action or proceeding in which trial by jury has been waived with any other action or proceeding in which a jury trial cannot be or has not been

waived.

18.17. Authority's Right to Terminate under Section 287.135, Florida Statutes. As set forth in Section 287.135, Florida Statutes, the Authority reserves the right to terminate this Agreement and any contract for goods or services if Consultant: has been found to have submitted a false Scrutinized Vendor List certification; has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Section List; has been engaged in business operations in Cuba or Syria; or has been placed on the Scrutinized Companies that Boycott Israel List or is engaged in a boycott of Israel.

[The remainder of this page is blank]

The parties have caused their duly qualified representatives to execute this Agreement on the dates set forth below.

Witness:

_____
Signature

_____
Print name

_____
Print title

_____
Date

Consultant:

_____
Firm Name

_____
Signature

_____
Print name

_____
Print title

_____
Date

Attest:

_____
Signature

_____
Print name

_____
Print title

_____
Date

Approved as to legal sufficiency:

_____
Douglas P. Manson, General Counsel

Peace River Manasota Regional Water Supply Authority:

_____
Signature

_____
Print name

_____
Print title

_____
Date

Exhibit A
Scope of Services and Compensation

Exhibit B

Consultant's 2023 SOQ for Professional Services for the Integrated Regional Water Supply Plan 2025 Project

Exhibit C

Authority Resolution 2018-01 Resolution Establishing Per Diem and Travel Expenses

Exhibit D
Certificate of Insurance

TAB C
Integrated Regional Water Supply Plan 2025 Project Sope of Services

EXHIBIT A

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
INTEGRATED REGIONAL WATER SUPPLY PLAN 2025

SCOPE OF SERVICES

SEPTEMBER 15, 2023

INTRODUCTION

The Peace River Manasota Regional Water Supply Authority (Authority) has requested that Carollo Engineers, Inc. (Carollo) provide professional engineering services to update the Authority's Integrated Regional Water Supply Plan for 2025 (2025 Plan). The last Integrated Regional Water Supply Master Plan was completed in 2020 (2020 Plan). Since that time, the regional water supply situation has changed with continued demand increases, new regional facilities coming online, new permitted water supply sources, and studies that may provide additional supplies, and the ongoing design of new transmission system pipelines and a new raw water reservoir. The goal of this project is to provide a plan that will guide the future of the regional water supply through 2045 and allow the Authority to meet its commitments to members to provide a cost effective, reliable, and environmentally responsible regional public water supply while maximizing and optimizing existing facilities.

The Authority is tasked with supporting the reliable, sustainable supply of water to the local region, which is comprised of the utilities located within Charlotte, DeSoto, Manatee, and Sarasota Counties (Region). The regional drinking water transmission system includes many miles of large-diameter piping and associated storage/pump stations. The Peace River Facility in DeSoto County is owned and operated by the Authority. The facility is a 51 million gallon per day (mgd) surface water facility with 21 aquifer storage and recovery (ASR) wells and a 6.5 billion gallon off-stream raw water storage system.

SCOPE OF SERVICES

TASK 1 - PROJECT MANAGEMENT, COMMUNICATION, AND COORDINATION

Carollo will administer this project as the prime consultant and will be responsible for the project administration, coordination of subconsultants, and invoicing. The project manager will make staffing assignments, review work progress, and coordinate quality assurance and review procedures.

Task 1.1 – Project Work Plan

This task includes development of a Project Work Plan detailing the lines of communication, document management process, hydraulic modeling standards, and other related information to be shared with project team members, including subconsultants.

The Project Work Plan will address quality management, staffing, initial project schedule, standards, deliverables, and delivery plan. A schedule with agreed-upon critical milestones will be included in the Project Work Plan. The Plan will identify information needed to complete the work while establishing the contact information, lines of communication, and procedures for the project. The Draft Plan will be provided to the Authority at the Project Kickoff Meeting. Upon receipt of any comments, Carollo will update the document and issue the Final Plan to the Authority for reference throughout the project.

Task 1.2 – Project Invoicing and Monthly Progress Reports

Carollo will provide monthly invoices and progress reports that identify what work has been performed during the month and work anticipated for the following month. These reports will be delivered as part of the monthly invoice. An action/decision log will also be included to document project status and decisions throughout the project.

Task 1.3 – Project Meetings

The project manager and project engineer will meet periodically with Authority staff and/or member government staff as needed to keep them informed of the project status and discuss upcoming tasks and deliverables. In addition to frequent routine communication, Carollo will participate in the following meetings:

- Project kickoff meeting.
- Fifteen (15) monthly progress meetings. Phone updates/discussion will be as needed.
- Five (5) meetings with the Authority and each member government (one meeting each) to discuss the member governments' water demand projections and water supplies.
- Two (2) professional staff meetings held between the Authority and member government staff.
- Three (3) Board meetings with presentations on the preliminary and final prioritized project recommendations and estimated costs.
- Three (3) additional meetings to be determined as dictated by needs identified throughout the project. These could include additional meetings with member governments as needed, "Town Hall" type meetings with all utilities in the Region to provide a status update of the project, and/or additional meetings with Authority staff to discuss specific topics relevant to the project.

Carollo will prepare meeting agendas and minutes to document discussions, decisions, and progress. All meetings conducted throughout the project will be billed on a time and materials basis.

Task 1.4 – Subconsultants Management and Coordination

Carollo will manage the efforts of the subconsultants, including review of work progress and deliverables, invoicing, and payments. This effort includes coordinating meetings, schedule, and deliverables.

Task 1.5 – Quality Management

Carollo will assign a quality manager to the project to oversee the quality checks of project calculations, hydraulic model checks, and review of deliverables. All QA/QC will be performed by a Quality Manager and pertinent technical experts assigned to the project.

TASK 2 - REGIONAL FACILITIES UPDATE

Carollo will work with the Authority to update the existing inventory of regional facilities, including treatment and storage facilities for the Authority and its member and customer utilities, as well as the City of Bradenton, City of Sarasota, City of Venice, Englewood Water District, City of Punta Gorda, and the City of Arcadia. The last ten years of Southwest Florida Water Management District (SWFWMD) Public Supply Annual Reports (PSARs) will be compiled as part of this effort. Facility capacity, FDEP- and SWFWMD-permitted quantities, actual production, and pertinent changes will be identified and updated as needed. The potential for future expansion of existing facilities based on permitted water supplies will be evaluated.

Facility conditions (the condition of facility assets, facility age, etc.) will be reported to the extent possible determined by the information provided. As available, condition assessment reports, data from renewal and replacement (R&R) evaluations, member government input, and related information for the regional facilities will be documented as related to the regional facility water production capacity. This Scope of Services does not include site visits to each regional facility to document existing conditions.

TASK 3 – REGIONAL NEEDS UPDATE

Carollo and its subconsultant, RESPEC, will update the water demand projections for the Authority members and customers, as well as other utilities within the four-county region.

Task 3.1 – Update Regional Water Demand Projections

Carollo will develop future water demand estimates for the next 20-year period (2025-2045) for its members and customers: Charlotte, DeSoto, Manatee, and Sarasota Counties and the City of North Port. The seven methodologies presented in the 2020 Plan will be reviewed, and those that are still applicable will be updated using the latest available data. These methodologies include customer provided projections, adjusted customer projections, evaluation and projection of actual historical use, projections based on BEBR population projections (medium, high, and 20-year historic growth), and SWFWMD based projections. Carollo will evaluate and consider any information provided by the current members and customers for the customer provided

projection methodology in order to understand the context and specific situation and drivers of the projections submitted by of each member government and customer.

In addition to 20-year water demand projections using several methodologies, Carollo will develop 50-year water demand projections (through 2075) by extrapolating the most probable demand curve out 30 more years to determine a long-range projection for sizing transmission mains.

Available water demand projection information will also be documented for other public water suppliers in the Region that are not currently Authority customers to provide a more thorough assessment of total projected public supply demand in the four-county region. The other entities for which water demands will be documented include the Cities of Bradenton, Palmetto, Sarasota, Venice, Punta Gorda, and Arcadia, Englewood Water District, and the Town of Longboat Key. Requested information will include latest demand projections, Water Supply Master Plans, and 10-year Water Supply Facility Work Plans. When available, Carollo will include the demand projections from each of these municipalities; however, if demand projections are not provided by the municipality, the most recent SWFWMD projections will be used for these utilities. Carollo will not develop demand projections using all project methodologies for these entities.

Task 3.2 – Evaluate Potential New Demand Projection Methodologies

Potential new methodologies will be explored and considered with the previous methodologies to best capture future regional demands. Uncertainty will be addressed by analyzing recent water demand data to set an accurate 2023 demand as a starting point as well as statistical techniques to test the sensitivity of the multiple future projections. Carollo will evaluate the range of water use growth rates which have actually occurred over the past 15 years as compared to previous projections in order to characterize a range of uncertainty associated with projection of demands. This range of uncertainty will be considered in the analysis of demands to assist in bracketing the range of potential demands for the planning period.

Task 3.3 – Analyze Cone of Uncertainty and Select Most Probable Demand

Carollo will present the difference in projected demands between each projection methodology for Authority customers for the 20-year demand period. These values will be considered in association with the identified range of uncertainty derived from historic actual water use data and will present a most probable regional demand curve, bounded by a cone of uncertainty, based upon a comprehensive and integrated review of the available data. Uncertainty will be addressed by analyzing recent water demand data to set an accurate 2023 demand as a starting point as well as statistical techniques to test the sensitivity of the multiple future projections. Carollo will present the difference in projected demands between each projection methodology for Authority customers for the 20-year demand period. Carollo will consider these values in association with the identified range of uncertainty derived from historic actual water use data and will present a most probable regional demand curve based upon a comprehensive review of the available data.

Task 3.4 – Determine Capacity Triggers, Timing, Peaking Factors, and Quantity

Carollo will consider uncertainty factors, the existing facilities inventory (as identified in Task 2), and interconnectivity with respect to projected demands to identify additional supplies that will be required, and the timeline associated with these needs. In addition to a traditional plan based on a timeline with set dates for future improvements, Carollo will provide a trigger-based water supply plan. Triggers will be associated with demands, changes in demands, and reserve and rotational capacity needs instead of dates, which will allow the 2025 Plan to remain relevant if actual demands deviate from the projections.

As part of this task, Carollo will consolidate daily water demand data for all the Authority and its member and customer utilities for the past five years. This data will be charted and analyzed to evaluate the adequacy of the Authority's current contractual peak month and maximum day factors for development of new capacity. The history of major treatment facility outages within the region will be overlaid with the Authority demand data to see how these events impact water demands and peaking factors. Impacts of other events such as the COVID pandemic will be considered to see if conclusions can be drawn regarding how these types of events outside the Authority's control can impact water demands. Carollo will also evaluate how customers are using Authority water and document seasonal differences or other factors that impact the use of Authority water.

Task 3.5 – Regional Needs Technical Memorandum

A technical memorandum (TM) will be developed to summarize the results of Task 3 and the most probable demand projection. The Draft Regional Needs TM will be submitted to the Authority for review and comment. Upon receipt of the Authority's comments, the demand projections will be revised, and a final set of projections will be established to serve as the basis of the IRWSP. The Final Regional Needs TM will be issued to the Authority, and the TM will be incorporated as a chapter of the IRWSP.

TASK 4 – REGIONAL WATER SUPPLY EVALUATIONS

Carollo will evaluate and update concepts, yields, and costs for the water supply options identified in the 2020 Plan, current capital improvements plan (CIP), and include costs developed as part of ongoing water supply improvement or expansion projects. Carollo will also identify new sources in order to provide a range of options to the Authority. The resiliency of various supply options will also be considered.

Task 4.1 - Future Water Supply Sources

Carollo will evaluate the water supply sources included in the 2020 Plan and determine if the sources listed remain feasible options, update the status of any projects related to identified sources, update available capacities, estimated development costs, and reevaluate needs and timing based on the results from Task 3. Information from the ongoing brackish groundwater and surface water expansion projects will also be expanded based on these projects, which are being completed concurrently with the 2025 Plan.

Carollo will also investigate potential new supply sources, such as additional yield from existing facilities. In addition to yield, the potential supply sources will be evaluated for capital and lifecycle costs, reliability, potential environmental impacts, permittability, and the overall ability to contribute to robust, sustainable future regional water supply system.

Carollo will document the status of any ongoing or planned future projects by other regional and municipal entities that should be included in the regional water supply portfolio. Carollo will investigate the potential for increasing supply capacity, or improving supply reliability, at existing regional facilities through modifications to existing processes or other changes (prior to large facility expansions). The same criteria listed above for new supplies, including estimated yield, capital and life cycle costs, reliability, etc., will be assessed. The water supply source capacity requirements will also include the Authority's standard buffer capacity as well as necessary rotational capacity depending on the source.

Task 4.2 - Source Resiliency to Climate Change

Existing and proposed sources will be evaluated at a high level in terms of their resiliency to climate change. Climate change-related threats such as sea-level rise, changing rainfall patterns, severe storm events, increased temperatures, and extended droughts will be considered for each water supply source. Climate change adaptation strategies will be identified as well as mitigation strategies for the effect a new source has on regional resiliency. Carollo will update the source water vulnerability assessment included in the 2020 Plan to reflect the latest potential risks and threats to the existing water supply sources.

TASK 5 - REGIONAL TRANSMISSION SYSTEM

The Authority has created a skeletonized hydraulic model of the transmission system using GIS data and available pump curves. Carollo will review and expand this model to evaluate the existing transmission system including local interconnections as well as ongoing transmission main projects and other potential future pipelines to prioritize transmission system expansion efforts.

Task 5.1 – Peer Review of Transmission System Model

The Authority recently constructed an extended period simulation (EPS) hydraulic model of its existing (2020) regional transmission system that includes Authority owned pipelines, storage tanks, and pump stations. Delivery points to current customers are included in the model and represent contractual average day quantities. A common diurnal demand pattern was applied to each customer to reflect the historical regional demands as calculated based on water pumped from the PRF.

Carollo will complete a peer review of the Authority's transmission system model including a check of general pipeline diameters, friction coefficients, connectivity, and node elevations. Carollo will also review pump station and storage tank infrastructure elements including configuration, elevation, controls, and other operational parameters. Carollo will evaluate available SCADA data to determine if a more refined diurnal curve could be added to specific

customers, and if so, will analyze the available data to calculate updated diurnal curves and add them to the model. A detailed calibration effort will not be completed.

Carollo will provide written peer review comments on the Authority's model, and per the Authority's approval any recommended changes to the model will be incorporated prior to building future scenarios in the model.

In addition to any peer review changes, Carollo will update the model to reflect current conditions as of early 2024 to reflect any changes in infrastructure, demands, or operational parameters between 2020 and 2024. Carollo will develop existing (2024) scenarios for average annual, peak month, and maximum day that reflect each of the contractual quantities.

Task 5.2 - Model Reference Guide and Delivery Point Schematics

Carollo will develop a model reference guide that documents pertinent information regarding the model including data field descriptions, scenario tree explanation and guidance for future changes and additions, controls, reference material documentation, etc. Carollo will also provide recommendations for future model improvements or additional SCADA data that could be captured to improve the accuracy or level of detail of the model.

Carollo will work with the Authority and its customers to develop schematics that document the potential optional modes for the infrastructure at up to six (6) delivery points. The schematics will include general representation of yard piping, valves, tanks, and pump stations to indicate the various operating modes at each location. The schematics will be constructed in Microsoft PowerPoint for ease of future use and updating.

Task 5.3 - Future Model Scenarios

The existing 2023 scenario will be used as the basis for all future model scenarios. Future EPS scenarios will be constructed in the model for the following time periods:

- 2025 (to reflect near-term changes)
- 2030 (5-year for near-term CIP)
- 2045 (20-year for long-term CIP)
- 2075 (50-year for sizing pipelines)

For each time period, the following demand (contractual quantity) scenarios will be created:

- Average annual (168-hour EPS)
- Peak month (24-hour EPS)
- Maximum day (24-hour EPS)

A series of steady-state “out-of-service” scenarios (for 2025 and 2045) also will be developed to evaluate the ability for the Authority to supply water during times of emergency should the self-supply of any customer be out-of-service. These model runs will be based on peak month contractual amounts for each delivery point, aside from the customer that has its self-supply out-of-service. The model will be used to determine the additional quantity of water that could be provided to that customer based on both 2025 and 2045 demand conditions. The quantity of additional water supply that can be provided to each customer during a self-supply out-of-service situation will be documented for each customer.

Carollo will also develop a steady-state scenario (for 2025 and 2045) in which the Authority’s facility is out-of-service in order to determine the ability of the regional water transmission system to transfer water between customers. This evaluation will consider regional Authority-owned infrastructure only (not pipelines owned by customers or interconnects between customers).

Based on this analysis, additional regional transmission pipelines and/or additional interconnects will be evaluated to determine their ability to provide water under various potential out-of-service scenarios. The potential pipeline/interconnect projects will be prioritized based on their relative benefit associated with the reliability of the Region’s water supply system.

Task 5.4 - Evaluate and Prioritize Future Transmission Pipelines

The regional model will be used to evaluate the transmission of water between the Authority and members and customers under future conditions to evaluate future water supply delivery and system interconnects. The scenarios developed in Task 5.3 will be used to evaluate the pipeline sizes needed to deliver the future demand quantities to each customer. The pipeline sizing will be based on maximum day demands (estimated contractual quantities). The timing and prioritization of the pipelines will be based on the demand projections as well as the ability to improve reliability and resilience in water supply.

In addition to identifying and prioritizing future transmission mains, Carollo will provide recommendations for periodic inspection of existing pipelines based on material, age, and other relevant factors.

Task 5.5 - Transmission System Water Quality

The Authority has indicated that maintaining high water quality is a priority that needs to be integrated into transmission system planning. Water quality at entry points to the transmission system is critical, but minimizing corrosion and water age while delivering water through a transmission system is also essential. The ability to maintain finished water quality will be considered for all evaluated transmission projects within the 2025 Plan. Strategies may include managing operational practices to adjust for seasonal source and demand variations along with optimizing blending ratios to integrate existing and future facilities to provide desired water quality in a cost-effective manner. The average water age from the hydraulic model scenarios

will be documented for each delivery point in order to identify the need for additional residual disinfectant addition.

Carollo will identify locations where water quality compatibility may need to be addressed in future projects including disinfectant and corrosion inhibitor compatibility. A table of corrosion inhibitor and disinfection for each customer will be included to provide a high level summary of compatibility for all utilities in the Region.

Though water quality will be considered, it will not be a primary focus of the 2025 Plan, as a separate Water Quality Master Plan was completed by the Authority in 2020.

TASK 6 - DEMAND MANAGEMENT AND WATER CONSERVATION

Carollo will review existing demand management and water conservation programs in place at the local level within the region. While Authority members and customers already have low per capita water usage, improved conservation efforts continue to be important and Carollo will investigate potential demand management/water conservation strategies that may provide additional regional savings. Carollo will document existing local programs and evaluate the potential for regional programs or local programs with regional impacts. Carollo will also request and compile copies of each entities' latest Water Conservation Plan.

The Consultant will calculate the per-capita water use data for the Authority's members and customers to identify any reductions in demands which may be attributable to water conservation efforts in the region. The primary source for this information will be SWFWMD's PSARs, supplemented by SWFWMD's Estimated Water Use Reports and/or Water Management Information System (WMIS) water use database. Per-capita water use trends for each of the Authority's members and other customers, individually and as a whole, will be determined, compared to SWFWMD goals, and evaluated within the context of potential implications on future demand projections.

The Consultant will document an inventory of demand management and conservation program information for the Authority's members and other customers. Elements to be considered in the water conservation program inventory include tiered water rates, water audit and leak detection programs, indoor water fixture retrofit programs, landscape and irrigation retrofit programs and incentives for new construction, and public outreach and education programs.

TASK 7 – RECLAIMED WATER OPPORTUNITIES

Regional reclaimed water quantities and locations will be evaluated to determine the potential for utilizing unused reclaimed water to augment or offset potable water demands. Carollo will obtain information regarding current reclaimed water production and usage, available reclaimed supplies, existing reclaimed water infrastructure and storage, and any relevant agreements between member governments and potentially some non-members who may have reclaimed water supply available to evaluate opportunities for regional application of this water source. Data sources will include but not necessarily be limited to FDEP's Annual Rese Inventory Reports and SWFWMD PSARs. Potable water offset, groundwater replacement credits, indirect

potable reuse (IPR), and direct potable reuse (DPR) will be considered for short- and long-term future water sources based on quantity, location, applicable regulations, general feasibility, and the ability to provide overall augmentation to the Authority's (and the Region's) water supply. A summary of applicable regulations will be documented and considered for the potential reclaimed water opportunities. The cost of implementing reclaimed water as a source into the Authority's water supply portfolio is not included in this evaluation.

TASK 8 - CAPITAL IMPROVEMENT PLAN

Carollo will develop planning level (Class 4) costs for the recommended water supply, treatment, and transmission system projects that will provide the Authority with reliable water supply for its members and customers over the next 20 years. These projects will be prioritized and presented in the form of a proposed 20-year CIP. Projects for which other more detailed cost estimates are being developed will include the cost estimates from those design efforts as available. The recommended timing of projects will be based on the selected water demand projections developed in Task 3, potential for demand management and conservation, and will also be tied to demand triggers.

TASK 9 – INTEGRATED REGIONAL WATER SUPPLY PLAN 2025 REPORT

Carollo will summarize the results of this project in the Integrated Regional Water Supply Plan 2025. The report will include a description of existing Regional facilities, 20-year and 50-year water demand projections through 2045 and 2075, respectively, and a summary of potential water supply sources/alternatives, and the results of the transmission system evaluation with recommended future projects that focus on increasing the interconnectedness of the regional system. Water supply and transmission main interconnection needs will be prioritized based on the collected information and used to refine the recommended 20-year CIP. Opportunities to incorporate reclaimed water supply as a regional water source will be documented. Recommendations will include consideration of expected environmental impacts/benefits as well as other factors outlined in Task 4.

Carollo will prepare the 2025 Plan Draft Report and submit it to the Authority for review and comment. Carollo will attend a comment review meeting with Authority staff to discuss comments. Upon receipt of the Authority's comments and after the Draft Report review meeting, Carollo will update the document and submit the 2025 Plan Final Report.

DELIVERABLES

The following deliverables will be provided:

- Meeting agenda and minutes for all meetings outlined in Task 1.
- Electronic pdf and Word version of the Draft Regional Needs Technical Memorandum.
- Electronic pdf and Word version of the Final Regional Needs Technical Memorandum.

- Electronic pdf and Word version of the Draft Integrated Regional Water Supply Plan 2025.
- Eight (8) paper copies, electronic pdf, and Word versions of the Final Integrated Regional Water Supply Plan 2025. Paper copies will not include appendices.
- Updated transmission system model with future scenarios.
- Model reference guide and facility schematics.

ITEMS NOT INCLUDED

Tasks not specifically outlined above are not included in this Scope of Services. If the Authority desires additional services, the resultant change in scope will serve as a basis for amending this project assignment or initiating the development of a new project assignment as agreed to by both the Authority and Carollo. The following items are not included:

1. Facility condition assessments. Carollo will incorporate documentation of facility condition as available from the Authority and/or member governments.
2. Meetings beyond what is specified in this Scope of Services.
3. Model scenarios beyond what is specified in this Scope of Services.

ASSUMPTIONS

Because of the nature of this project, certain assumptions apply to this Scope of Services. To the extent possible, these assumptions are stated within this document and are reflected in the budget. If the project task requirements are significantly different from the assumptions presented in this Scope of Services, or if the Authority desires additional services, the resultant change in scope will serve as a basis for amending this project assignment or initiating the development of a new project assignment as agreed to by both the Authority and Carollo. The following assumptions and Authority responsibilities apply to this project:

1. The Authority and its members and customers will provide requested data and other information relative to the project. Carollo shall be entitled to rely upon the accuracy of such data and information without independent review or evaluation.
2. In providing opinions of cost, financial analyses, economic feasibility projections, schedules, and quantity and/or quality estimates for potential projects, Carollo has no control over cost or price of labor and material; unknown or latent conditions of existing equipment or structures that may affect operation and maintenance costs; competitive bidding procedures and market conditions; time or quality of performance of third parties; quality, type, management, or direction of operating personnel; the incoming water quality and/or quantity; the way the Authority's plant(s) and/or associated processes are operated and/or maintained; and other economic and operational factors that may materially affect the ultimate project elements, including, but not limited to, cost or

schedule. Therefore, Carollo makes no warranty that the Authority's actual project costs, financial aspects, economic feasibility, schedules, and/or quantities or quality realized will not vary from Carollo's opinions, analyses, projections, or estimates.

3. Notwithstanding any contrary provision in the Agreement, Carollo shall be entitled to use and reasonably rely upon all such information and services provided by the Authority or others in performing Carollo's services under this Agreement, in accordance with the standard of care.

4. The Authority shall arrange for access to and make all provisions for Carollo to enter upon public and private property as required for Carollo to perform services hereunder.

5. Documents, including drawings and specifications, prepared by Carollo pursuant to this Agreement are not intended or represented to be suitable for reuse by the Authority or others for this Project or on any other project. Any reuse of completed documents or use of partially completed documents without written verification or concurrence by Carollo for the specific purpose intended will be at the Authority's sole risk and without liability or legal exposure to Carollo.

6. Notwithstanding any contrary provision in the Agreement, Carollo shall perform the Services as expeditiously as is consistent with the standard of care.

7. The services to be performed by Carollo are intended solely for the benefit of the Authority. No person or entity not a signatory to this Agreement shall be entitled to rely on Carollo's performance of its services hereunder, and no right to assert a claim against Carollo by assignment of indemnity rights or otherwise shall accrue to a third party as a result of this Agreement or the performance of Carollo's services hereunder.

8. The Authority will provide all required information within the timeframe established in the schedule contained in the Scope of Services. The schedule is based upon timely receipt of data, which will be provided based on a reasonable, mutually agreed upon timeframe.

9. The Authority will review and comment upon deliverables within three weeks of receipt.

SCHEDULE

The Scope of Services will be delivered over the course of 18 months after given the notice to proceed. The estimated time required for the completion of each task and the approximate date for distribution of deliverables is summarized in the following project schedule.

PROJECT SCHEDULE																		
	2023			2024												2025		
	Month																	
Project Tasks	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
Task 1: Project Management/Communication																		
Task 2: Regional Facilities Update																		
Task 3: Regional Needs Update																		
Task 4: Water Supply Evaluations																		
Task 5: Regional Transmission System																		
Task 6: Demand Management/Conservation																		
Task 7: Reclaimed Water Opportunities																		
Task 8: Capital Improvement Plan																		
Task 9: Water Supply Plan 2025 Report																		
Deliverables																		
Draft 2025 Plan																*		
Final 2025 Plan																		*

FEE

A summary of the project fee is provided in Table 1 below with a detailed breakdown included in Attachment No. 1 to this Scope of Services. Compensation will be based on a lump sum basis, except meetings in Subtask 1.3 will be on a time and materials basis. The lump sum tasks will be billed on percentage of completion basis by task. Invoices will be submitted monthly.

Table 1 Project Fee by Task

Description	Budget
Task 1 – Project Management, Communication, and Coordination	$149,865
Task 2 – Regional Facilities Update	$45,384
Task 3 – Regional Needs Update	$77,234
Task 4 – Regional Water Supply Evaluations	$44,408
Task 5 – Regional Transmission System	$117,442
Task 6 – Demand Management and Water Conservation	$33,408
Task 7 – Reclaimed Water Opportunities	$37,420
Task 8 – Capital Improvement Plan	$34,352
Task 9 – Integrated Regional Water Supply Plan 2025	$124,370
Owner's Allowance	$35,000
TOTAL	**$698,883**

Task No.	Task Description	PIC Senior Professional *$353.00*	PM Lead Project Professional *$328.00*	Technical Advisors Project Professional *$310.00*	Lead Project Engineer Professional *$265.00*	Project Engineer Assistant Professional II *$214.00*	Staff Engineer Assistant Professional I *$175.00*	Graphics Associate Technician *$164.00*	Admin Document Processor/ Clerical *$141.00*	Carollo Total Hours	Carollo Total Labor	RESPEC Subconsultant	ASRus Subconsultant	Earth-Balance Subconsultant	Total Subs	Total Task Budget
1.0	**Project Management, Communication, and Coordination**	**18**	**165**	**48**	**44**	**39**	**162**	**0**	**45**	**521**	**$130,055**	**$13,810**	**$0**	**$6,000**	**$13,530**	**$149,865**
1.1	Project Work Plan		4				8		2	14	$2,994				$0	$2,994
1.2	Project Invoicing and Monthly Progress Reports		18			9	18		18	63	$13,518				$0	$13,518
1.3	Project Meetings	6	111		4	30	136		25	312	$73,331				$13,530	$93,141
	a. Project Kickoff Meeting	2	8		4	4	8			26	$6,646				$0	$6,646
	b. External Meetings and Workshops	0	58			8	68		10	144	$34,046				$0	$40,326
	Meetings with Current Members and Customers (5)		*20*				*20*		*5*	*45*	*$10,765*				*$0*	*$10,765*
	Professional Staff Meetings (2)		*8*			*4*	*12*		*2*	*26*	*$5,862*	*$2,510*			*$2,510*	*$8,372*
	Board Meetings (3)		*18*				*18*			*36*	*$9,054*				*$0*	*$9,054*
	Additional Meetings As-Needed (3)		*12*			*4*	*18*		*3*	*37*	*$8,365*	*$3,770*			*$3,770*	*$12,135*
	c. Monthly Progress Meetings (15)	4	45			18	60		15	142	$32,639	*$7,530*		$6,000	$13,530	$46,169
1.4	Subconsultants Management and Coordination		32							32	$10,496				$0	$10,496
1.5	Quality Management	12		48	40					100	$29,716				$0	$29,716
2.0	**Regional Facilities Update**	**0**	**8**	**0**	**72**	**0**	**48**	**0**	**0**	**128**	**$30,104**	**$15,280**	**$0**	**$0**	**$15,280**	**$45,384**
	Update Regional Facilities Inventory		4		40		40			84	$18,912	$15,280			$15,280	$34,192
	Facility Condition, Constraints, and Potential for Expansion		4		32		8			44	$11,192				$0	$11,192
3.0	**Regional Needs Update**	**0**	**24**	**16**	**0**	**16**	**72**	**0**	**8**	**136**	**$29,984**	**$47,250**	**$0**	**$0**	**$47,250**	**$77,234**
3.1	Update Demand Projections Using Previous Methodologies		4							4	$1,312	$27,610			$27,610	$28,922
3.2	Evaluate Potential New Demand Projection Methodologies		4	16			24			44	$10,472				$0	$10,472
3.3	Analyze Cone of Uncertainty and Select Most Probable Projection		4							4	$1,312	$7,620			$7,620	$8,932
3.4	Determine Capacity Triggers, Timing, Peaking Factors, and Quantity		8			16	40			64	$13,048				$0	$13,048
3.5	Regional Needs Technical Memorandum		4				8		8	20	$3,840	$12,020			$12,020	$15,860
4.0	**Regional Water Supply Evaluations**	**0**	**16**	**8**	**24**	**0**	**48**	**0**	**0**	**96**	**$22,488**	**$4,920**	**$12,000**	**$5,000**	**$21,920**	**$44,408**
4.1	Future Water Supply Sources		12	8			16			36	$9,216	$4,920	$12,000	$5,000	$21,920	$31,136
4.2	Source Resiliency to Climate Change		4		24		32			60	$13,272				$0	$13,272
5.0	**Regional Transmission System**	**0**	**44**	**0**	**40**	**160**	**304**	**0**	**0**	**548**	**$112,472**	**$0**	**$0**	**$4,970**	**$4,970**	**$117,442**
5.1	Peer Review of Transmission System Model		4		8	32	60			104	$20,780				$0	$20,780
5.2	Model Reference Guide and Delivery Point Schematics		4		24	16	60			104	$21,596				$0	$21,596
5.3	Future Model Scenarios		16			80	120			216	$43,368				$0	$43,368
5.4	Evaluate and Prioritize Future Transmission Pipelines		16		8	24	40			88	$19,504			$4,970	$4,970	$24,474
5.5	Transmission System Water Quality		4			8	24			36	$7,224				$0	$7,224
6.0	**Demand Management and Water Conservation**	**0**	**6**	**8**	**0**	**0**	**0**	**0**	**0**	**14**	**$4,448**	**$28,960**	**$0**	**$0**	**$28,960**	**$33,408**
	Document Local Programs		2							2	$656	$8,200			$8,200	$8,856
	Per Capita Evaluation		2							2	$656	$11,440			$11,440	$12,096
	Future Opportunities and Impacts on Demand		2	8						10	$3,136	$9,320			$9,320	$12,456
7.0	**Reclaimed Water Opportunities**	**0**	**14**	**0**	**0**	**52**	**124**	**0**	**0**	**190**	**$37,420**	**$0**	**$0**	**$0**	**$0**	**$37,420**
	Reclaimed Water Inventory and Quantification		4			4	60			68	$12,668				$0	$12,668
	Regulatory Review		2			16	24			42	$8,280				$0	$8,280
	Reclaimed Water Source Augmentation Evaluation		8			32	40			80	$16,472				$0	$16,472
8.0	**Capital Improvements Plan**	**0**	**16**	**0**	**32**	**16**	**64**	**0**	**0**	**128**	**$28,352**	**$6,000**	**$0**	**$0**	**$6,000**	**$34,352**
	Project Cost Estimates		8		32	8	32			80	$18,416	$6,000			$6,000	$24,416
	Project Prioritization and Timing		8			8	32			48	$9,936				$0	$9,936
9.0	**Integrated Regional Water Supply Plan 2025 Report**	**0**	**52**	**0**	**48**	**92**	**284**	**48**	**64**	**588**	**$116,060**	**$8,310**	**$0**	**$0**	**$8,310**	**$124,370**
	Draft Report		32		32	64	240	40	40	448	$86,872	$8,310			$8,310	$95,182
	Draft Report Review Meeting		4			4	4			12	$2,868				$0	$2,868
	Final Report		16		16	24	40	8	24	128	$26,320				$0	$26,320
	Hours	**18**	**345**	**80**	**260**	**375**	**1,106**	**48**	**117**	**2,349**						
	Project Fee without Owner's Allowance	$6,354	$113,160	$24,800	$68,900	$80,250	$193,550	$7,872	$16,497		**$ 511,383**	**$ 124,530**	**$ 12,000**	**$ 15,970**	**$ 146,220**	**$ 663,883**
10.0	**Owner's Allowance**															**$ 35,000**
	Project Fee with Owner's Allowance															**$ 698,883**

6561 Palmer Park Circle • Suite D • Sarasota Florida 34238
(941) 552-5657

TASK ORDER NO. XX

RESPEC ENGINEERS
SCOPE OF SERVICES
September 6, 2023

PRMRWSA 2025 Integrated Regional Water Supply Plan Update Assistance

SCOPE OF SERVICES

TASK 1 - PROJECT MEETINGS

RESPEC will prepare for and attend the following meetings with Carollo Engineers (Carollo), the Peace River Manasota Regional Water Supply Authority (PRMRWSA/Authority) and/or other members of the Carollo project team regarding the PRMRWSA 2025 IWRSP Update.

- Task 1.1 - Six (6) Progress Meetings via Teams
- Task 1.2 - Two (2) Professional Staff Meetings (In-Person)
- Task 1.3 - Three (3) Additional Meetings (In-Person or Teams, As Needed)

TASK 2 - REGIONAL GROUNDWATER FACILITIES UPDATE

Task 2.1 – Regional Groundwater Facilities Inventory Update

RESPEC will work with the Authority and Carollo to update the existing inventory of regional groundwater facilities, including treatment and storage facilities for the Authority and its member and customer utilities, as well as the City of Bradenton, City of Sarasota, City of Venice, Englewood Water District, City of Punta Gorda, and the City of Arcadia. Facility capacity, permitted quantities, actual production, and pertinent changes will be identified and updated as needed. It is expected that Carollo will handle the facility inventory update for the surface water facilities.

Facility conditions (the condition of facility assets, facility age, etc.) will be reported to the extent possible determined by the information provided. As available, condition assessment reports, data from renewal and replacement (R&R) evaluations, member government input, and related information for the regional facilities will be documented as related to the regional facility water production capacity.

Task 2.2- Regional Groundwater Facilities Technical Memorandum

RESPEC will develop a Draft and Final Technical Memorandum consistent with the information developed as part of Task 2.1.

TASK 3 – REGIONAL NEEDS UPDATE

RESPEC will develop future water demand estimates for the next 20-year period (2025-2045) for the Authority's members and customers: Charlotte, DeSoto, Manatee, and Sarasota Counties and the City of North Port. The seven methodologies presented in the 2020 Plan will be reviewed, and those that are still applicable will be updated using the latest available data. These methodologies include customer provided projections, adjusted customer projections, evaluation and projection of actual historical use, projections based on BEBR population projections (medium, high, and 20-year historic growth), and SWFWMD based projections. RESPEC will evaluate and consider any information provided by the current members and customers for the customer provided projection methodology to understand the context and specific situation and drivers of the projections submitted by of each member government and customer.

Task 3.1 – Authority Customer and Alliance Member Demand Projections

Task 3.1.1 – Customer 20-Year Demand Projections

RESPEC will compile, describe, and present the Authority customer (Charlotte County, Manatee County, Sarasota County, Desoto County and the City of North Port) 20-year demand projections provided to the Authority since completion of the 2020 IRWSP through the latest available customer demand projections.

Task 3.1.2 – Water Alliance 20-Year Demand Projections

Twenty-year demand projections for Water Alliance Members that are not Authority Customers will be compiled and based upon either Alliance Members' own projections or the latest SWFWMD-related demand projections whichever is more recent and available. Alliance Members for which water demands will be documented include the Cities of Bradenton, Palmetto, Sarasota, Venice, Sarasota, Punta Gorda, and Arcadia, Englewood Water District, and the Town of Longboat Key. RESPEC will acquire and include the demand projections from each of these municipalities; however, if demand projections are not provided by the municipality, the most recent SWFWMD projections will be used for these utilities. It should be noted that RESPEC will not develop demand projections using the aforementioned seven methodologies for these Water Alliance Members.

Task 3.1.3 – 50-Year Demand Projections

In addition to 20-year water demand projections using the aforementioned methodologies, RESPEC will develop 50-year water demand projections (through 2075) for Member Governments and Customers by extrapolating the most probable demand curve out 30 more years to determine a long-range projection.

The 50-year demand projections for Water Alliance Members that are not Authority Customers will be provided and based upon an extrapolation of their respective 20-year demand projections. The Authority's adopted "6% Reserve Capacity" and "90% Capacity Standard" BMPs will be applied for all demand projections.

Task 3.2 - BEBR Population Projections and Methodology

RESPEC will update the 2020 IRWSP Demand Projections to present and describe the latest county-wide population projections from the University of Florida's Bureau of Economic and Business Research (BEBR) for the Authority's Member Government and Customers.

Task 3.3 - SWFWMD Population & Demand Projections

RESPEC will compile, describe, and present the demand and population data contained within the SWFWMD's 2020 RWSP for each Authority Customer and Alliance Member. RESPEC will also obtain and present SWFWMD's latest available population and demand projections that are typically updated annually in the first quarter of the year.

Task 3.4 – Characterization of Uncertainty and Most Probable Demand

Uncertainty will be addressed by analyzing recent water demand data to set an accurate 2023 demand as a starting point as well as statistical techniques to test the sensitivity of the multiple future projections. RESPEC will evaluate the range of growth rates and actual use quantities which have occurred over the past 15 years as compared to previous projections to characterize a range of uncertainty associated with projection of demands. This range of uncertainty will be considered in the analysis of demands to assist in bracketing the range of potential demands for the planning period.

RESPEC will present the difference in projected demands between each projection methodology for Authority customers for the 20-year demand period. RESPEC will consider these values in association with the identified range of uncertainty derived from historic actual water use data and will present a most probable regional demand curve based upon a comprehensive and integrated review of the available data.

Task 3.5 – Regional Demands Technical Memorandum

RESPEC will develop one Draft Technical Memorandum to be incorporated by Carollo into the Draft IRWSP consistent with Tasks 3.1 - 3.4.

RESPEC will develop one Final Technical Memorandum to be incorporated by Carollo into the Draft IRWSP consistent with Tasks 3.1 - 3.4.

TASK 4 – REGIONAL WATER SUPPLY EVALUATIONS

This Task will require collaboration from all Team Members. However, Carollo will compile the information into the IRWSP. RESPEC will assist Carollo regarding regional sources, source selection, and resiliency as follows.

Task 4.1 – Identify/Update Future Sources of Drinking Water Supply

RESPEC will review the groundwater projects identified in the 2020 Master Plan related to new or enhanced groundwater production. This will involve updating the information in the 2020 Plan to reflect the latest status and opportunities for a brackish groundwater RO facility at the Peace River Facility (PRF.) RESPEC will also contribute to the identification of potential new groundwater-related supply opportunities (e.g. Land Use Transition opportunities and Groundwater Replacement Credits Transfer Credits) as requested by Carollo. RESPEC efforts will not include Aquifer Storage and Recovery (ASR) related activities.

TASK 5 – REGIONAL TRANSMISSION SYSTEM

This is solely a Carollo task. RESPEC does not have any effort associated with this task.

TASK 6 – DEMAND MANAGEMENT AND WATER CONSERVATION

RESPEC will review existing demand management and water conservation programs in place with Member Governments and Customers. While Authority members and customers already have low per capita water usage, improved conservation efforts continue to be important and RESPEC will investigate potential demand management/water conservation strategies that may provide additional regional savings.

For the purpose of this effort, water conservation includes demand management and water use efficiency. In coordination with the Authority, RESPEC will engage SWFWMD as well as the member governments and other customers to obtain relevant demand management information and applicable water supply master plans. RESPEC will determine per-capita water use and reclaimed water reuse trends for the member governments and other customers relative to SWFWMD goals.

Task 6.1 - Review and Document Service Area Per-Capita Use

RESPEC will compile and confirm the per-capita water use data for a minimum of 10 years for the Authority's members and customers to identify any reductions in demands which may be attributable to water conservation efforts in the region. The primary source for this information will be SWFWMD's annual *Estimated Water Use Reports*. Per-capita water use trends for each of the Authority's member governments and other customers, individually and as a whole will be determined, compared to SWFWMD goals, and evaluated the context of potential implications on future demand projections.

Task 6.2 - Inventory Existing Water Conservation Programs

RESPEC will compile and update the inventory of demand management and conservation program information for the Authority's members and other customers. Elements to be considered in the water conservation program inventory include tiered water rates, water audit and leak detection programs, indoor water fixture retrofit programs, landscape and irrigation retrofit programs and incentives for new construction, and public outreach and education programs.

It is anticipated, that RESPEC would coordinate with the Authority in this effort. Elements to be considered in the water conservation program inventory include:

- Tiered potable water rates programs.
- Tiered reclaimed water rate programs
- Water audit and leak detection programs.
- Indoor water fixture retrofit programs for single-family residential, multi-family residential and industrial-commercial-institutional water user sectors.
- Landscape and irrigation retrofit programs.
- Landscape and irrigation regulations and incentives for new construction.
- Standard entitlement conditions which may assist in the management of water demands.

- Public outreach and education programs.

Task 6.3 – Demand Management and Water Conservation Technical Memorandum

RESPEC will summarize the demand management and regional water conservation efforts in a Draft Technical Memorandum (TM) for review and comment by Carollo and the Authority. The TM will include pertinent lists of information and narrative text regarding results that Carollo can use to generate the IRWSP. RESPEC will provide Final TM based upon input from Carollo and the Authority.

TASK 7 – RECLAIMED WATER OPPORTUNITIES

This is solely a Carollo task. RESPEC does not have any effort associated with this task.

TASK 8 – CAPITAL IMPROVEMENT PLAN

RESPEC will coordinate with the Carollo Team to provide cost estimates for potential groundwater projects. The cost estimates will be similar to a Class 4 Opinion of Probable Cost (OPPC).

TASK 9 – INTEGRATED REGIONAL WATER SUPPLY PLAN 2025 REVIEW

Carollo will compile Technical Memorandums and Summary Sections for Master Plan. RESPEC will provide an overall review of the 2025 IRWSP documents, including integration and consistency with previous Authority documents as follows.

- RESPEC will provide review and comments on Drafts of the 2025 IRWSP.
- RESPEC will review and provide comments on Final Drafts of the 2025 IRWSP.

PROJECT DELIVERABLES

RESPEC will complete the following deliverables:

- **Draft and Final Regional Groundwater Facilities Technical Memorandum (Task 2)**
- **Draft and Final Regional Demands Technical Memorandum (Task 3)**
- **Draft and Final Demand Management and Water Conservation Technical Memorandum (Task 6)**

SCHEDULE AND FEE SUMMARY

A table summarizing work tasks, fees, and work schedules is provided in **Table 1** attached.

ADDITIONAL SERVICES

Services not specifically identified within this Scope are not part of this Agreement. However, Additional Services can be provided if deemed necessary and will be provided for an agreed-upon fee and schedule to be determined.

RESPEC Company, LLC
Primary: Carollo Engineers
PRMRWSA 2025 IRWSP Assistance
Estimated Task/Cost Breakdown
Date: Thursday, September 14, 2023

TASK	Description	Labor							Other Direct Costs					TOTALS
		Principal(s) *$205/hour*		Staff Hydrologist *$135/hour*		Clerical *$70/hour*		TOTAL LABOR	Copies	Mileage		Hardware	TOTAL ODC	
		Hours	Cost	Hours	Cost	Hours	Cost		Cost	Miles	Cost	Cost		
1.1	Project Meetings (6 Meetings)	24.0	$4,920.00	12.0	$1,620.00	0.0	$0.00	$6,540.00	$0.00	1500	$990.00	$0.00	$990.00	$7,530.00
1.2	Professional Staff Meetings (2 Meetings)	8.0	$1,640.00	4.0	$540.00	0.0	$0.00	$2,180.00	$0.00	500	$330.00	$0.00	$330.00	$2,510.00
1.3	As-Needed Meetings (3 Meetings)	12.0	$2,460.00	6.0	$810.00	0.0	$0.00	$3,270.00	$0.00	750	$500.00	$0.00	$500.00	$3,770.00
2.1	Regional Groundwater Facilities Inventory Update	24.0	$4,920.00	20.0	$2,700.00	0.0	$0.00	$7,620.00	$0.00	0	$0.00	$0.00	$0.00	$7,620.00
2.2	Regional Groundwater Facilities Technical Memorandum	24.0	$4,920.00	12.0	$1,620.00	16.0	$1,120.00	$7,660.00	$0.00	0	$0.00	$0.00	$0.00	$7,660.00
3.1	Authority Customer and Alliance Member Demand Projections	34.0	$6,970.00	40.0	$5,400.00	0.0	$0.00	$12,370.00	$0.00	0	$0.00	$0.00	$0.00	$12,370.00
3.2	BEBR Population Projections and Methodology	24.0	$4,920.00	20.0	$2,700.00	0.0	$0.00	$7,620.00	$0.00	0	$0.00	$0.00	$0.00	$7,620.00
3.3	SWFWMD Population & Demand Projections	24.0	$4,920.00	20.0	$2,700.00	0.0	$0.00	$7,620.00	$0.00	0	$0.00	$0.00	$0.00	$7,620.00
3.4	Characterization of Uncertainty and Most Probable Demand	24.0	$4,920.00	20.0	$2,700.00	0.0	$0.00	$7,620.00	$0.00	0	$0.00	$0.00	$0.00	$7,620.00
3.5	Regional Demands Technical Memorandum	40.0	$8,200.00	20.0	$2,700.00	16.0	$1,120.00	$12,020.00	$0.00	0	$0.00	$0.00	$0.00	$12,020.00
4.1	Identify/Update Future Sources of Drinking Water Supply	24.0	$4,920.00	0.0	$0.00	0.0	$0.00	$4,920.00	$0.00	0	$0.00	$0.00	$0.00	$4,920.00
6.1	Review and Document Service Area Per-Capita Use	40.0	$8,200.00	24.0	$3,240.00	0.0	$0.00	$11,440.00	$0.00	0	$0.00	$0.00	$0.00	$11,440.00
6.2	Inventory Existing Water Conservation Programs	40.0	$8,200.00	0.0	$0.00	0.0	$0.00	$8,200.00	$0.00	0	$0.00	$0.00	$0.00	$8,200.00
6.3	Demand Management and Water Conservation Technical Memorandum	40.0	$8,200.00	0.0	$0.00	16.0	$1,120.00	$9,320.00	$0.00	0	$0.00	$0.00	$0.00	$9,320.00
8.0	Capital Improvement Plan	24.0	$4,920.00	8.0	$1,080.00	0.0	$0.00	$6,000.00	$0.00	0	$0.00	$0.00	$0.00	$6,000.00
9.0	2025 IRWSP Document Review	30.0	$6,150.00	16.0	$2,160.00	0.0	$0.00	$8,310.00	$0.00	0	$0.00	$0.00	$0.00	$8,310.00
	TOTALS	**436.0**	**$89,380.00**	**222.0**	**$29,970.00**	**48.0**	**$3,360.00**	**$122,710.00**	**$0.00**	**2,750.0**	**$1,820.00**	**$0.00**	**$1,820.00**	**$124,530.00**

August 30, 2023

Laura Baumberger, P.E.
Carollo Engineers
301 N. Cattlemen Road
Sarasota, FL 34232

Subject: ***ASRus Subconsultant Proposal for Professional Services for Peace River Authority Integrated Regional Water Supply Plan***

Dear Laura:

The purpose of this letter is to present our proposal for assisting Carollo Engineers (Carollo) with services related to the above referenced project. ASRus, LLC, (ASRus) will assist Carollo with the scope of work presented below to the level of effort budgeted.

Task 1 – UIC AS-NEEDED ASSISTANCE

ASRus will assist Carollo with the Peace River Authority Integrated Regional Water Supply Plan. ASRus will review portions of the plan as requested which are related to the Peace River Facility existing ASR system. ASRus will offer planning level concepts for consideration related to improving ASR or using aquifer recharge as appropriate. This scope assumes attending up to two video conference meetings with Carollo and the Authority if required. Table 1 is a proposed budget for the as-needed task. The proposed rate schedule for this project is provided in Exhibit A.

PROJECT DELIVERABLES

No specific deliverables are identified in this scope of work and will be determined as needed.

BUDGET AND BASIS OF COMPENSATION

Compensation for this scope of services will be paid on a Time and Material (T&M) not to exceed basis for Task 1 in **Table 1**.

We appreciate the opportunity to assist Carollo with this work and look forward to working with you. Please contact us (813-765-7942) if you have any questions or require further information.

Sincerely,

Mark B. McNeal, P.G.
Chief Executive Officer, ASRus

Table 1 - Budget for Performance of Services
Peace River Authority Integrated Regional Water Supply Plan
ASRus
Date: 08/30/2023

	ASRus (Subconsultant) Rates									
Labor Category	Principal	Senior Professional Geologist (P.G.)	Professional Geologist (P.G.)	Staff Scientist	Graphics Illustrator	Senior Clerical	**Total ASRus Hours**	**Total ASRus Labor Cost By Task**	**Other Direct Costs**	**Total Estimated Cost**
2023 Hourly Rates	$220.00	$180.00	$130.00	$90.00	$60.00	$60.00				
Task 1 - As Needed UIC Assistance	30	30	0	0	0	0	60	$12,000	$0	$12,000
Total Man-hours by Discipline	30	30	0	0	0	0	60			
Total Man-hour Cost By Discipline	$6,600	$5,400	$0	$0	$0	$0		$12,000	$0	**$12,000**

Exhibit A

SCHEDULE OF RATE VALUES

Consultant: ASRus, LLC

Peace River Authority Integrated Regional Water Supply Plan

Classification	
Hourly Rates: **Office Function/Management/Professional Supervision**	**Billing Rate ($/hour)**
Principal in Charge (P.G., CEO)	$220
Senior Professional Geologist (P.G., 20 years experience)	$180
Professional Geologist (P.G.)	$130
Senior Construction Manager (P.G. or P.E.)	$130
Construction Manager (Bachelor's Degree, non-P.G. or non-P.E.)	$90
Staff Scientist (Degreed, non-P.G.)	$90
Construction Manager (Non-degreed)	$60
Graphics Illustrator	$60
Senior Clerical	$60
Clerical	$50
Note: Hourly billing rates include overhead and profit and are valid through December 31, 2025. Hourly billing rates for labor do not include subcontract services, which will be billed separately as described below.	

Expenses

Labor rates shown above include incidental expenses expected to be incurred on this project.

TRANSMITTAL

DATE: **August 24, 2023**

TO: **Laura Baumberger, PE, Sr. PM/ Sr. VP**
Carollo Engineers

FROM: **Amber Halstead**
Ecologist

EMAIL: **lbaumberger@carollo.com**

SUBJECT: **PRMRWSA - Integrated Regional Water Supply Plan 2025**

Pages: **7** (*including cover sheet*)

On behalf of EarthBalance®, thank you for the opportunity to submit this proposal for professional services. Attached is our standard Professional Service Agreement (PSA).

If you agree with the Scope and Terms of this proposal, please sign the PSA, initial each page in the space provided, and fax the entire proposal back to my attention. A fully executed copy will be mailed back to you. If you have any questions, please don't hesitate to contact me at (941) 426-7878.

Amber Halstead
Ecologist
EarthBalance®
E-Mail: ahalstead@earthbalance.com
Phone: (941) 426-7878
Fax: (941) 426-8778

EARTHBALANCE®
Professional Services Agreement

This Professional Services Agreement ("Agreement") is entered into by and between **EarthBalance®** whose address is **2570 Commerce Parkway, North Port, Florida 34289** and **Carollo Engineers** whose address is **401 North Cattlemen Road Suite 306, Sarasota, Florida 34232** ("Client").

In consideration of the mutual promises hereinafter undertaken, **EarthBalance®** and Client hereby agree as follows:

1. Services. EarthBalance® hereby agrees to provide certain professional services for the benefit of Client, which services are more particularly described in Exhibit A attached hereto ("Scope of Services"). **EarthBalance®** agrees to use its best efforts in completing the Services; however, **EarthBalance®** does not guarantee a specific result. By example, but not by limitation, if the Services include prosecuting an application for a particular governmental or regulatory permit, **EarthBalance®** does not guarantee that the permit desired by Client or any variation thereof will be granted by the appropriate governmental or administrative agency. The Services shall be accomplished in a workmanlike and professional manner using the degree of skill and care ordinarily exercised by a reputable member of **EarthBalance's®** profession practicing in the same or similar locality. No other warranty, express or implied, is made or intended.

This agreement for professional services is limited to tasks identified in Exhibit A and does not include additional or repeat services resulting from changes to the project or the information upon which this Agreement is based. Modification to the final work products performed at the request of the Client that are not the result of the Consultant's errors or omissions shall be billed to the Client as additional services.

2. Terms and Conditions. This quotation is based on information provided by **Laura Baumberger, Carollo Engineers.**

This quote shall remain valid for a period not to exceed thirty (30) days beyond the date of submittal. If not accepted within this period, **EarthBalance®** reserves the right to modify any portion thereof or withdraw the quotation in its entirety. This Agreement shall be effective upon its full execution.

3. Duty to Cooperate. Client agrees to cooperate with **EarthBalance®** in all respects in connection with **EarthBalance's®** efforts to discharge the Scope of Services. Client shall make Client's property available to **EarthBalance®**, shall timely comply with **EarthBalance's®** requests for information, and shall execute all documents reasonably required by **EarthBalance®** in discharging the Scope of Services.

2570 Commerce Parkway, North Port, FL 34289 941.426.7878(p) 941.426.8778 (f) earthbalance.com

4. Payment. Client agrees to pay a fee for the Services rendered based upon the information contained in attached Exhibit B ("Terms of Payment"). As soon as may be practicable at the beginning of each month, **EarthBalance®** shall invoice Client for all Services performed in the prior month and any other sums due **EarthBalance®**. Client shall pay the invoice amount within thirty (30) days after the invoice date. **EarthBalance®** accepts cash, check, credit card, or ACH. A convenience fee of 5% will be added to all credit card payments. All payments shall be made in U.S. Dollars. **EarthBalance®** may cease performing Services under this Agreement if any payment due hereunder is not paid within thirty (30) days of the invoice date.

Client agrees that **EarthBalance®** shall have a lien upon the Property for professional services rendered under this Agreement and that **EarthBalance®** may record and enforce the lien for professional services in accordance with the provisions of Florida's Construction Lien Law as though **EarthBalance®** was listed therein as a professional. In any litigation arising out of this Agreement, the prevailing party shall be entitled to recover reasonable attorney's fees and costs. In addition, if **EarthBalance®** places this Agreement in the hands of an attorney for the collection of any sums due hereunder, Client agrees to reimburse **EarthBalance®** for its reasonable attorney's fees and costs relating thereto.

5. Termination and Default. This agreement may be terminated by either party giving the other party thirty days written notice of intent to terminate. In addition, upon default by Client, monetary or otherwise, this Agreement may be terminated by **EarthBalance®** with seven (7) days written notice of intent to terminate if the default remains uncured after such notice period. **EarthBalance's®** liability to Client or any related party for any claim related to or arising out of (i) this Agreement or (ii) **EarthBalance's®** services shall be limited to two times the amount of fees paid by Client hereunder.

The invalidity of any provision of the Agreement shall not impair the validity of any other provision. If any provision of this Agreement is determined to be unenforceable by a court of competent jurisdiction, such provision shall be deemed severable and the remaining provisions of the Agreement shall be enforced.

This Agreement shall be construed and interpreted in accordance with, and the validity of this Agreement shall be judged by, the laws of the State of Florida

This Agreement sets forth the entire agreement and understanding of the parties hereto. It may only be amended, modified or terminated by the written mutual consent of all of the parties hereto and duly executed by the authorized representatives of the parties hereto.

2570 Commerce Parkway, North Port, FL 34289 941.426.7878(p) 941.426.8778 (f) earthbalance.com

EXHIBIT A
Peace River Manasota Regional Water Supply Authority
Integrated Regional Water Supply Plan 2025
(Carollo Engineers)

SCOPE OF SERVICES

Task 1 – Project Management, Communication, and Coordination

EarthBalance® will serve as a subconsultant on this contract and will be responsible for the administration of our contract. Our project manager will communicate and coordinate our efforts with Carollo and will attend up to eight (8) meetings with the Authority, Customer government staff, SWFWMD staff and the Authority Board.

Task 2 – Identify/Update Future Sources of Drinking Water Supply

EarthBalance® will review supply options and projects identified in the 2020 Master Plan and update potential environmental impacts. We will assist the Team with the identification of up to one (1) new water source and analyze permit requirements, and environmental restoration needs of the source's potential environmental impacts.

Task 3 – Refine and Prioritize Future Transmission Pipelines

EarthBalance® will review transmission pipelines identified in the 2020 Master Plan and update potential environmental impacts, permitting needs, and environmental restoration needs. Additionally, we will assist the Team with the identification of up to one (1) new water transmission line and analyze permit requirements, and environmental restoration needs of the source's potential environmental impacts.

The services described in Tasks 1-3 above will rely on desktop review of publicly available data. No fieldwork will be completed under this scope of work.

EarthBalance® will perform all the services described in **Tasks 1-3** above for a **fixed fee of $15,970.00.**

Task 4 – Additional Services

EarthBalance® will perform additional services as needed upon the request of the Client, this may include, but is not limited to identification and review of additional transmission lines or review of additional facilities.

EarthBalance® will perform all the services described in **Task 4** above on a **time-and-materials basis**, not to exceed **$15,000.00**, without prior authorization from Client**.**

2570 Commerce Parkway, North Port, FL 34289 941.426.7878(p) 941.426.8778 (f) earthbalance.com

EXHIBIT B
Peace River Manasota Regional Water Supply Authority
Integrated Regional Water Supply Plan 2025
(Carollo Engineers)

TERMS OF PAYMENT

EarthBalance® will perform the described services in **Exhibit A** for the following costs:

Task	Description	Total Price
1	Project Management, Communication, and Coordination	**$15,970.00**
2	Identify/Update Future Sources of Drinking Water Supply	
3	Refine and Prioritize Future Transmission Pipelines	
4	Additional Services	**T&M NTE $15,000.00**

Services and materials requested by the Client that are outside of the above-listed Scope of Services (Exhibit A) will be billed on an hourly basis, according to the attached fee schedule.

This quote shall remain valid for a period not to exceed thirty (30) days beyond the submittal date of **August 24, 2023.** If not accepted within this period, **EarthBalance®** reserves the right to modify any portion thereof or withdraw the quotation in its entirety. This agreement shall be effective upon its full execution.

2570 Commerce Parkway, North Port, FL 34289 941.426.7878(p) 941.426.8778 (f) earthbalance.com

EXHIBIT B (Cont'd.)
Peace River Manasota Regional Water Supply Authority
Integrated Regional Water Supply Plan 2025
(Carollo Engineers)

IN WITNESS WHEREOF, this Agreement is executed on the dates hereinafter stated.

EARTHBALANCE®	**CLIENT**
Signature:_____	Signature:_____
Printed:_____	Printed:_____
Title:_____	Title: _____
Date: _____, 2023	Date: _____, 2023

PLEASE INDICATE IF THE CLIENT IS ALSO THE OWNER OF THE PROPERTY ON WHICH THE SERVICES/WORK WILL BE PERFORMED:

_____ OWNER **_____ NOT THE OWNER**

IF THE CLIENT IS NOT THE PROPERTY OWNER, PLEASE PRINT THE NAME AND CONTACT INFORMATION FOR THE PROPERTY OWNER:

Name:_____

Address:_____

Phone Number:_____

2570 Commerce Parkway, North Port, FL 34289 941.426.7878(p) 941.426.8778 (f) earthbalance.com

EarthBalance®

May 2021

SCHEDULE OF FEES

FOR PROFESSIONAL SERVICES

All work will be based on the following fee schedule:

CONSULTING	BASE RATE (Per Hour)
Senior Principal	$225.00
Principal	$195.00
Mitigation Bank Coordinator	$135.00
Senior Ecologist III	$175.00
Senior Ecologist II	$150.00
Senior Ecologist I	$125.00
Ecologist III	$105.00
Ecologist II	$95.00
Ecologist I	$85.00
Ecological Technician	$75.00
Operations Coordinator	$75.00
Technical Assistant II	$65.00
Technical Assistant I	$55.00
ECOSYSTEM RESTORATION	
Project Manager	$125.00
Assistant Project Manager	$95.00
Crew Manager	$115.00
Crew Supervisor	$80.00
Operations Coordinator	$75.00
Technical Assistant II	$65.00
Technical Assistant I	$55.00
CREW SERVICES*	
Crew Leader/Driver	$55.00
Crew Laborer	$45.00
GRAPHICS	
Senior GIS Analyst	$125.00
GIS Analyst	$105.00
EXPERT WITNESS	150% of base rate

EQUIPMENT/MATERIAL RATES	BASE RATE (Per Hours - 1/2 Day Minimum)
ATV	$10.00
UTV/Argo	$15.00
Power Boat 12' - 17'	$20.00
Power Boat 18' - 24'	$35.00
Airboat	$40.00
Skid Steer/Tractor	$30.00
Swamp Buggy	$40.00
Dump Truck	$30.00
Dump Trailer	$20.00
Chipper	$32.00
Tank Sprayer	$10.00
Hand-held Power Tools (e.g., chainsaw, polesaw, trimmer)	$7.50
John Boat/Canoe	$5.00
Copies	$0.15/black and white copy $1.00/color copy
Plots	$5.00/ Square foot

Any outside service, equipment rental, or equipment purchase that is not outlined above will be marked up 15%

*Crew services in excess of 8 hours per day are billed as overtime at 1.5 times the per hour rate.

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

CHAIRMAN'S REPORT

Presenter - Commissioner Elton Langford, Chairman

1. Annual Review of Executive Director

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

GENERAL COUNSEL'S REPORT

Presenter - Douglas Manson, General Counsel

Recommended Action - **Status Report.** This item is presented for the Board's information and no action is required.

A status update on the Master Water Supply Contract revisions will be provided.

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

EXECUTIVE DIRECTOR'S REPORT

Presenter -	Mike Coates, Executive Director
Recommended Action -	**Status Report.** This item is presented for the Board's information and no action is required.

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

ROUTINE STATUS REPORTS
ITEM 1

Hydrologic Conditions Report

MEMORANDUM

Project: Hydrologic Conditions Report

Date: October 4, 2023

TO: Mike Coates, Executive Director

Developed By: Shalina Odegard, Project Manager II

This memorandum summarizes rainfall, surface water conditions, and the Authority's current water storage and supply conditions for the month of August, and the preceding 13-month period.

Rainfall Conditions & Projections

Table 1 summarizes rainfall conditions for the 13-month period from August 1, 2022, through August 31, 2023. Rainfall in the Peace River Basin for the past 12-months totaled 54.12 inches, which is 1.82 inches above the long-term historical average of 52.30 inches. Rainfall for the month of August 2023 totaled 7.98 inches, a value 0.28 inches above the historical monthly average of 7.70 inches for August. It should be noted that abnormally high rainfall was received in September 2022 (18.68 inches) when the Basin received 11.38 inches greater than historic average monthly rainfall (predominantly due to Hurricane Ian). However, over the last 11-months since Hurricane Ian, rainfall has been only 35.44 inches which is about 9.56 inches less than the long-term historical average for October through August (45.0-inches).

Table 1 (Peace River Basin Rainfall - Inches)

Month	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	12 Mo Total
Historical Avg Rainfall[1]	7.70	7.30	3.10	1.70	1.90	2.20	2.50	2.90	2.50	4.00	8.40	8.10	7.70	52.30
Actual Rainfall[2]	9.27	18.68	0.24	3.14	2.10	1.36	0.90	0.35	2.71	5.19	6.45	5.02	7.98	54.12
Diff. Historical vs Actual	1.57	11.38	-2.86	1.44	0.20	-0.84	-1.60	-2.55	0.21	1.19	-1.95	-3.08	0.28	1.82

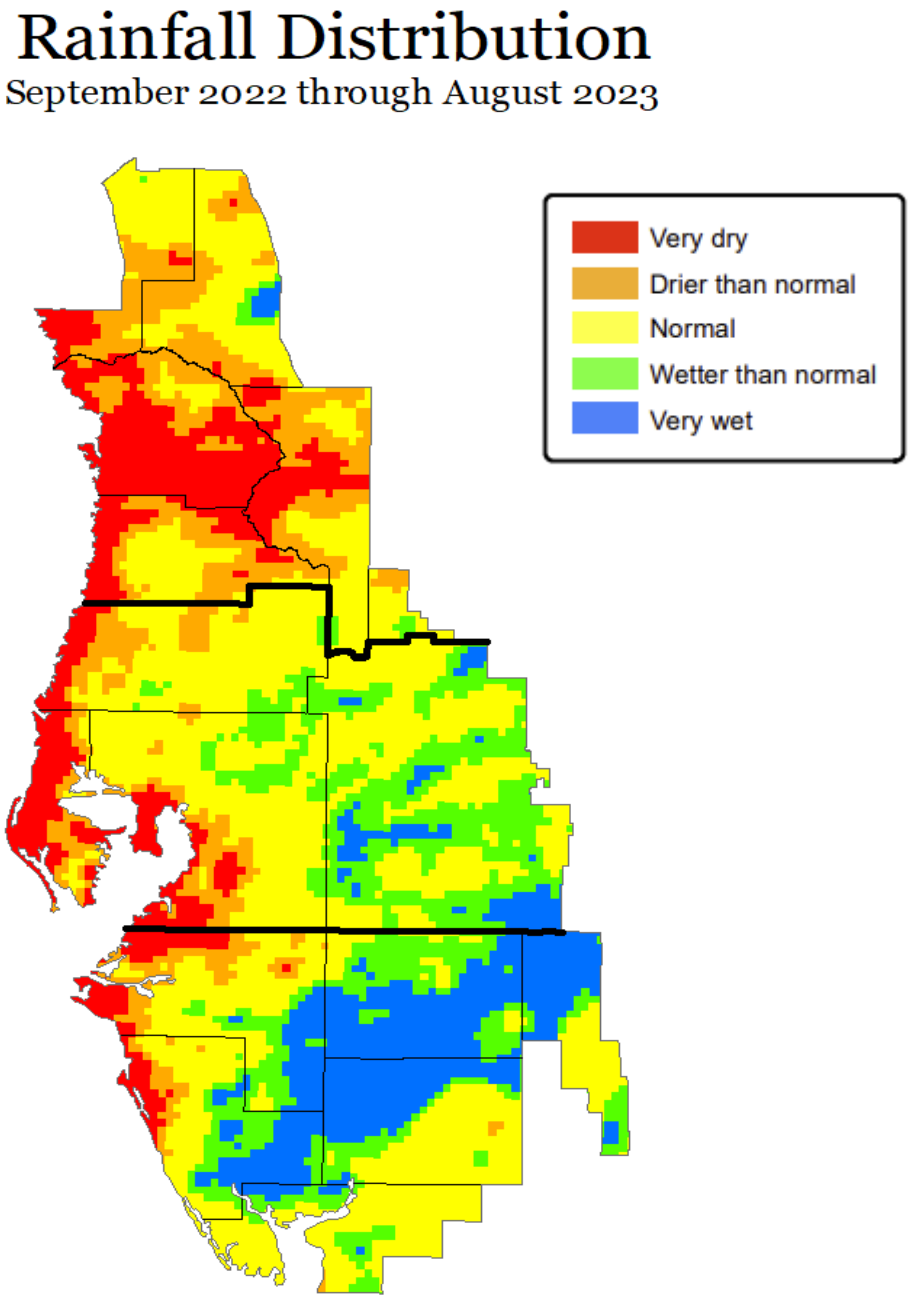
[1] Historical rainfall data are the long-term average of the Winter Haven, Bowling Green, and Joshua at Nocatee Rainfall Stations.

[2] Actual rainfall data are average values for the Winter Haven, Bowling Green, and Joshua at Nocatee Rainfall Stations.

Figure 1 provides region-wide rainfall conditions as reported by SWFWMD for the 12-month period ending August 2023. Data shown for the Authority's 4-county service area indicate near normal to very wet conditions for most of DeSoto, Sarasota, and Manatee Counties, and normal to wet conditions in Charlotte County. The overall inland Peace River Basin indicates mostly wet to very wet conditions from Polk to Desoto Counties over the last 12 months.

NOAA projections for the next three months (Sept – Nov 2023) are for above normal temperatures and slightly above normal rainfall for Southwest Florida. The NOAA/ENSO (El Nino/ La Nina) extended forecast indicates El Nino conditions will persist through winter in the Northern Hemisphere (with greater than 95% chance for December 2023 - February 2024).

Figure 1 (SWFWMD Rainfall Conditions Map)



River Flow Conditions

Figure 2 provides the locations of the three U.S. Geological Survey gauges that are used to regulate Authority withdrawals from the Peace River: 1) Peace River at Arcadia, 2) Horse Creek at Arcadia, and 3) Joshua Creek at Nocatee. Flow conditions at these gauges are discussed below:

The combined flow at the three gauges listed above fell below the historical average in mid-June 2023 and remained below until late August 2023. At the end of August 2023, the combined flow increased above the historical average due to rainfall events associated with Hurricane Idalia. **Figure 3** provides a hydrograph of combined flows plotted against the historical average and the 130 cfs lower limit for withdrawals.

Figure 2 (Peace River Basin Showing Selected Gauge Locations with ★)

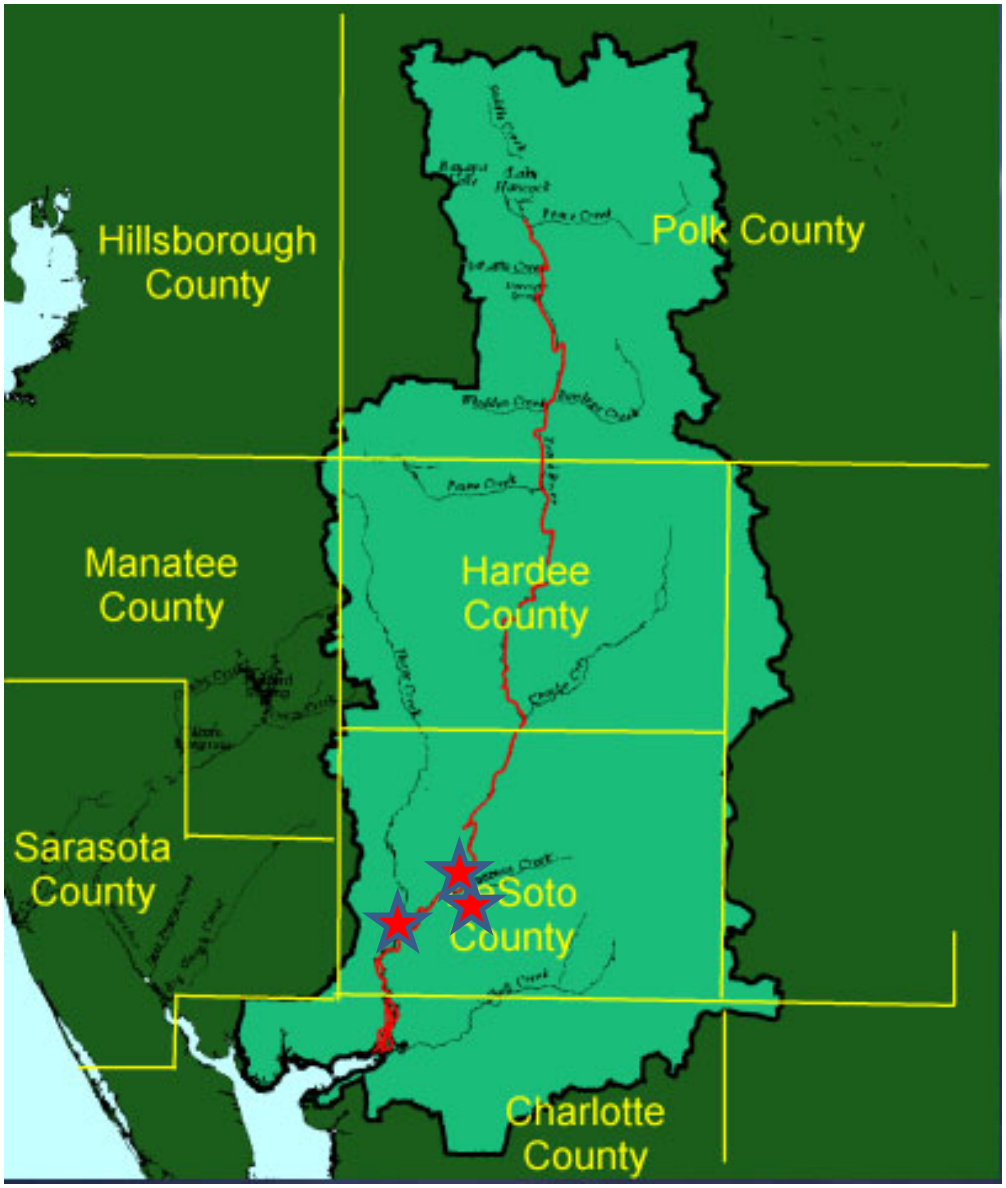
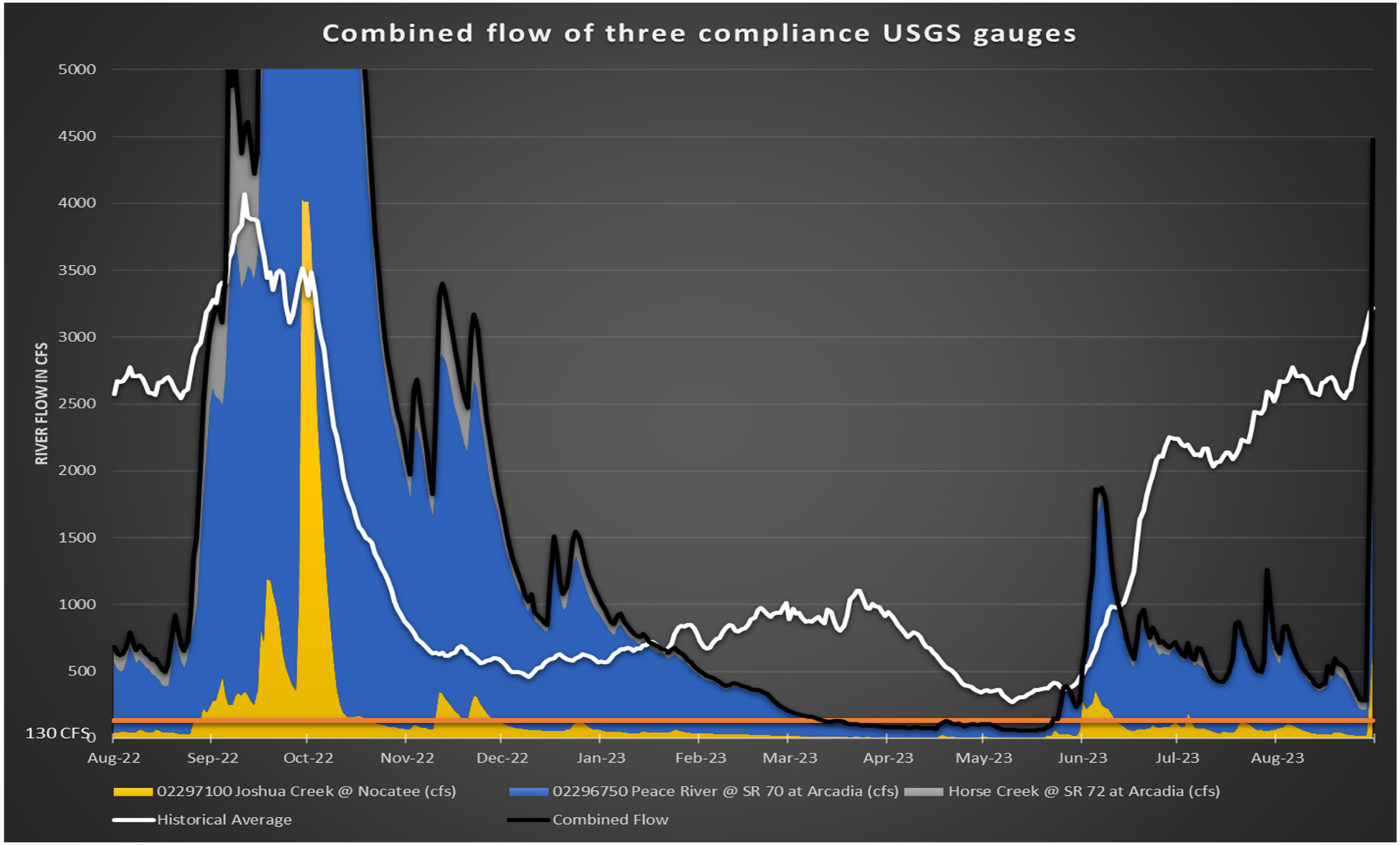


Figure 3 – HYDROGRAPH OF COMBINED FLOWS OF THREE STATIONS



River Withdrawals, Finished Water Production, & Demand (August 2022 – August 2023)

Figure 4 provides average daily river withdrawals for each of the last 13 months at the Peace River Facility in million gallons per day (MGD). Average withdrawals for August 2023 (62.3 MGD) were 1.3 MGD higher than those that occurred in August 2022 (61.0 MGD).

Figure 4

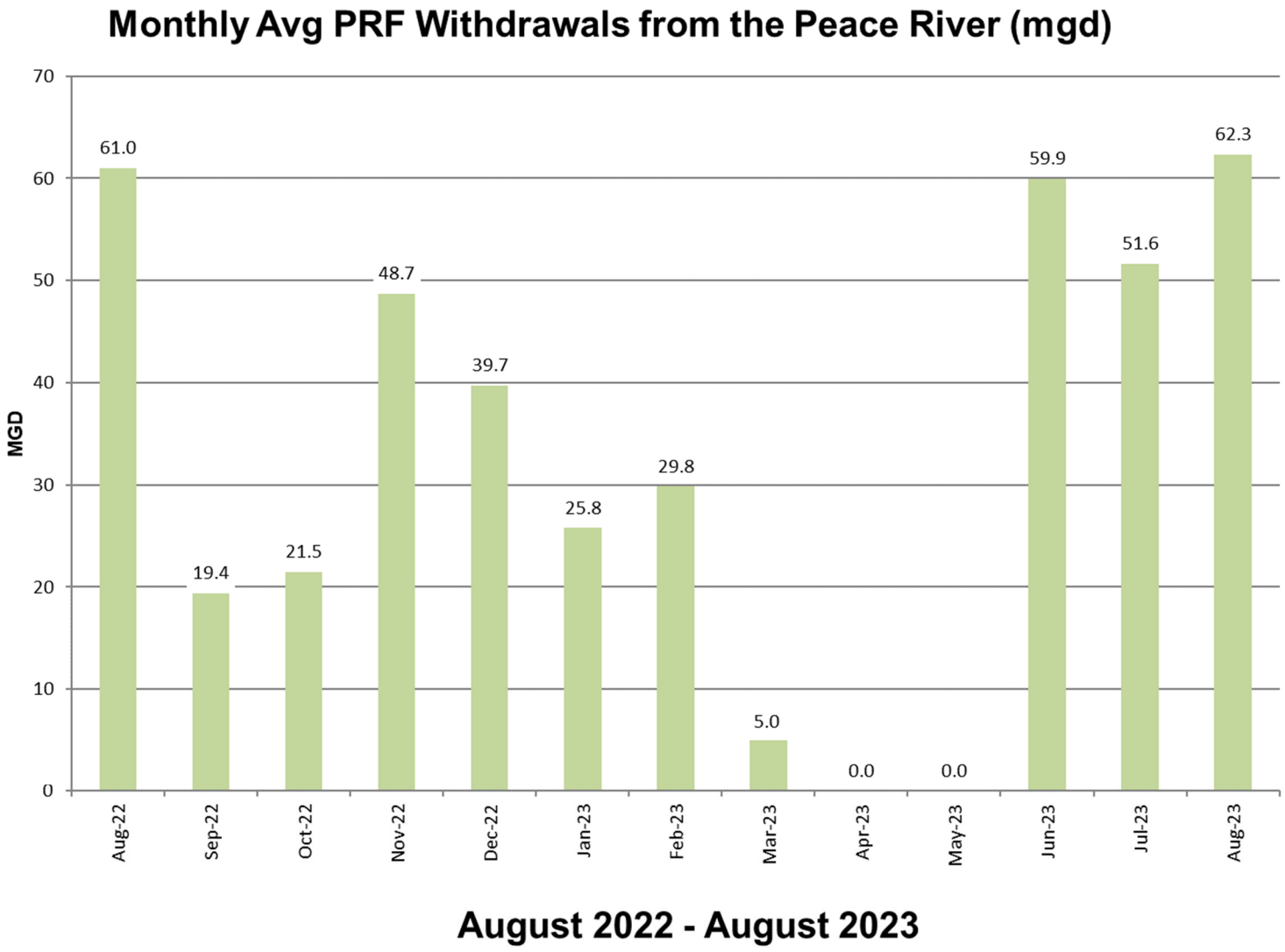
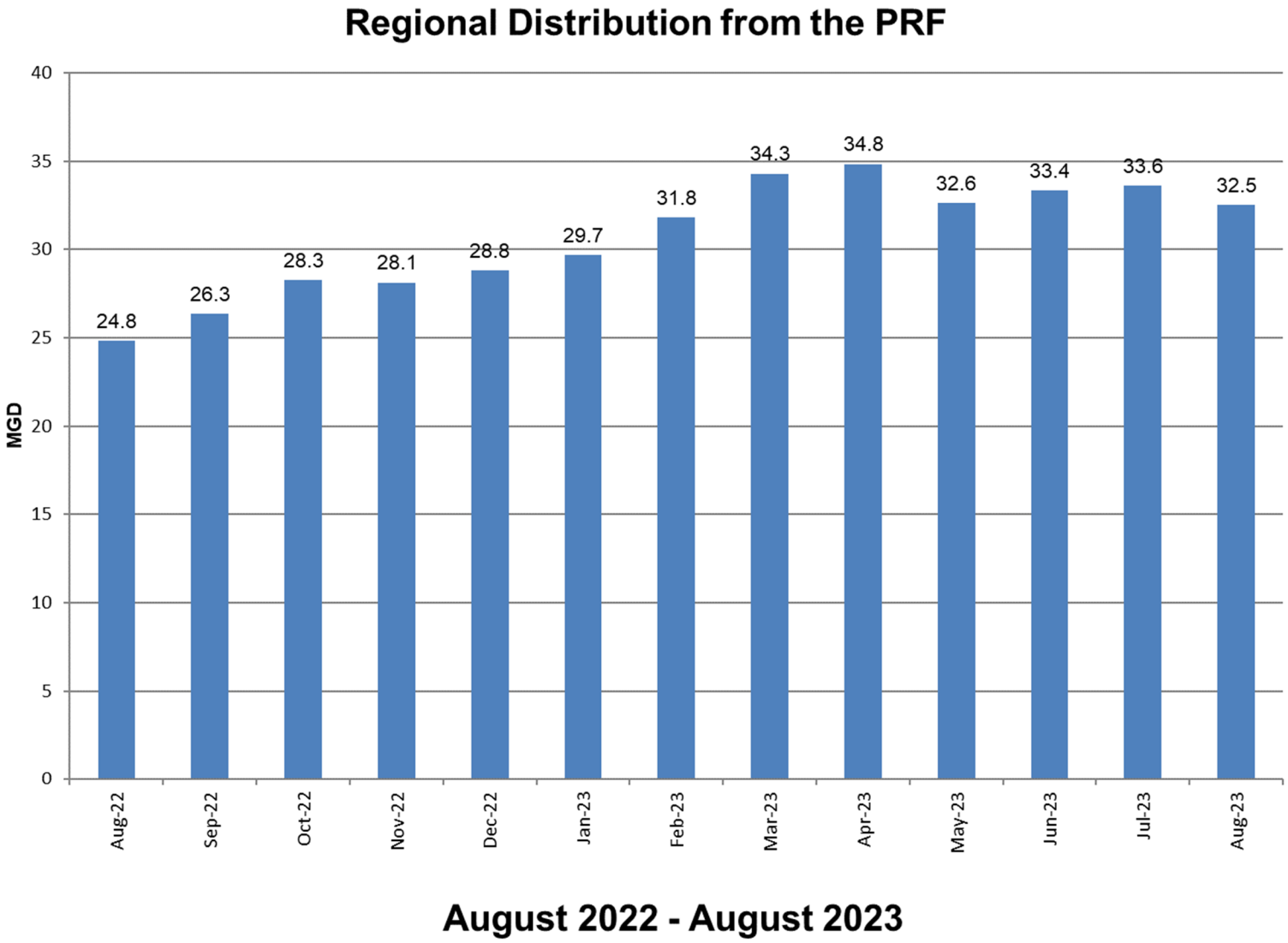


Figure 5 shows average daily finished water distributed to the regional system for each of the last 13-months in MGD. Finished water distribution averaged 32.5 MGD in August 2023, approximately 7.7 MGD more than in August 2022.

The routine exchange of water with the City of Punta Gorda is ongoing with deliveries from the Region to the City south through the Phase 1 Pipeline on US 17 and return of flow from the City to the region north through the Phase 1A Pipeline. The exchange of water through regional pipelines maintains these facilities in a "ready-to-serve" condition at all times.

Figure 5



Stored Supplies at the PRF

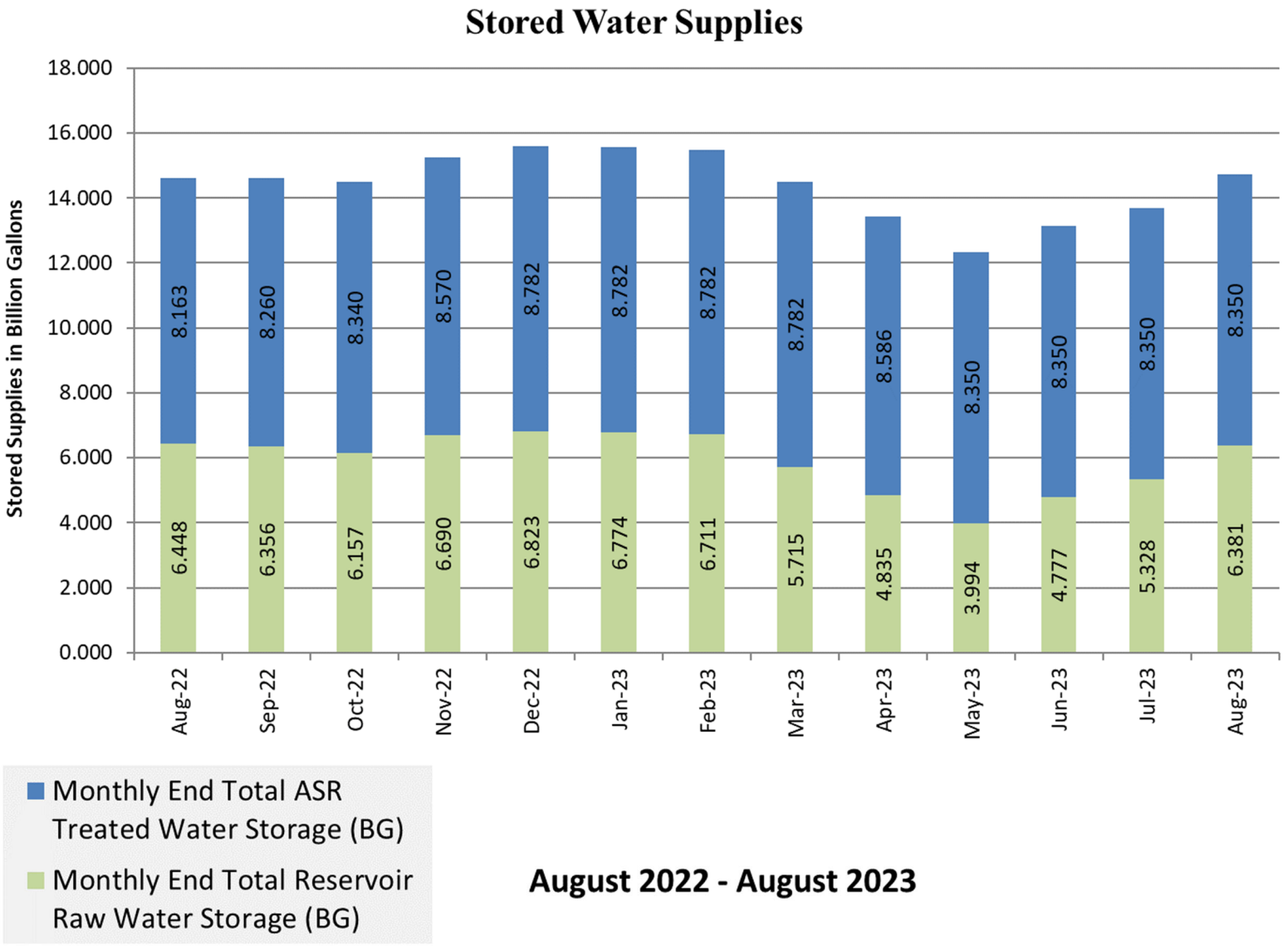
The Authority maintains two large capacity off-stream storage systems at the PRF. The primary storage is raw river water stored in Reservoir No. 1 and No. 2. When the flow in the River is high enough, a small percentage of that flow is harvested at the Authority's river intake pumping facility on the Peace River consistent with the permit-authorized diversion schedule and is stored in Reservoirs 1 and 2. Storage volumes in the reservoirs generally decline in the dry season due to lower flows and increase during the wet season as rainfall, flows, and river diversions increase. During the hurricane season the permitted total combined raw water storage capacity in Reservoirs 1 and 2 is 6.5 billion gallons (BG). Outside of hurricane season, additional water can be safely stored up to 6.8 BG. **Total raw water stored in the reservoir system as of August 31, 2023, was 6.381 BG, which was 0.067 BG less than August 2022 (6.448 BG).**

The secondary storage option at the PRF is treated water stored in the Aquifer Storage and Recovery (ASR) system. The ASR system has a design storage capacity of 6.3 BG. However, practical storage capacity is substantially higher as evidenced by the 8.350 BG stored in the ASR system as of August 31, 2023. Because this supply must be fully treated to drinking water standards before storage, it cannot be stored as rapidly as water in the raw-water reservoirs. Filling ASR storage is done incrementally each year during the wet season as excess treatment capacity (due to lower public water supply demand) and hydrologic conditions allow. Water recovered from ASR during the dry season is discharged to the surface reservoir system and undergoes full treatment again with the rest of the raw-water stream before delivery to Authority Customers.

In 2023, recovery from the ASR system began April 3 and ended May 30 for a total of 432 MG. **Total ASR system storage as of August 31, 2023, was 8.350 BG (2.05 BG greater than design storage capacity), and 0.187 BG more than August 2022 (8.163 BG).**

Stored raw water supplies (combined storage in Reservoir No. 1 and No. 2) and stored water in the ASR system for the past year are shown in **Figure 6**. **The total water in storage as of August 31, 2023, was approximately 14.731 BG, approximately 0.12 BG higher than total storage in August 2022 (14.611 BG).**

Figure 6


Stored Water Supplies
Stored Supplies in Billion Gallons
18.000
16.000
14.000
12.000
10.000
8.000
6.000
4.000
2.000
0.000
8.163
8.260
8.340
8.570
8.782
8.782
8.782
8.782
8.586
8.350
8.350
8.350
6.448
6.356
6.157
6.690
6.823
6.774
6.711
5.715
4.835
3.994
4.777
5.328
6.381
Aug-22
Sep-22
Oct-22
Nov-22
Dec-22
Jan-23
Feb-23
Mar-23
Apr-23
May-23
Jun-23
Jul-23
Aug-23
Monthly End Total ASR Treated Water Storage (BG)
Monthly End Total Reservoir Raw Water Storage (BG)
August 2022 - August 2023

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

ROUTINE STATUS REPORTS
ITEM 2

Check Registers for July & August 2023

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
CHECK REGISTER: JULY & AUGUST 2023

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
07/13/2023		QuickBooks Payroll Service	$	109,870.79
07/14/2023	39880	BILL'S BOTTLED WATER SERVICE	$	42.00
07/14/2023	39881	CHARLOTTE PLUMBING & BATH INC	$	247.00
07/14/2023	39882	DESOTO AUTOMOTIVE ENTERPRISES INC	$	1,231.00
07/14/2023	39883	HOME DEPOT	$	1,137.74
07/14/2023	39884	TRULY NOLEN Branch 093	$	303.00
07/14/2023	39885	Waste Pro Bradenton/Sarasota	$	190.00
07/14/2023	ACH6272	Air Mechanical & Service Corp	$	1,735.00
07/14/2023	ACH6273	ALLIED ELECTRONICS INC	$	546.80
07/14/2023	ACH6274	ALLIED UNIVERSAL CORP	$	43,218.89
07/14/2023	ACH6275	ANN LEE (V)	$	229.00
07/14/2023	ACH6276	Apex	$	373.19
07/14/2023	ACH6277	Apple Video & Photography Studio	$	1,495.00
07/14/2023	ACH6278	BENCHMARK ENVIROANALYTICAL INC	$	2,685.00
07/14/2023	ACH6279	BLACK & VEATCH	$	1,974.80
07/14/2023	ACH6280	Brown and Caldwell	$	40,855.95
07/14/2023	ACH6281	C & S CHEMICALS INC	$	105,133.00
07/14/2023	ACH6282	CED - Port Charlotte	$	329.68
07/14/2023	ACH6283	CENTURYLINK	$	396.10
07/14/2023	ACH6284	CenturyLink-6358	$	1,638.01
07/14/2023	ACH6285	CHARLOTTE COUNTY BCC - LANDFILL	$	5,830.00
07/14/2023	ACH6286	CHARLOTTE COUNTY BD OF COMMISSIONER	$	103,613.94
07/14/2023	ACH6287	CINTAS	$	729.22
07/14/2023	ACH6288	Daniel J Roberts (V)	$	439.76
07/14/2023	ACH6289	Entech Computer Services LLC	$	6,683.12
07/14/2023	ACH6290	FEDERAL EXPRESS	$	456.45
07/14/2023	ACH6291	Fisher Scientific	$	1,652.95
07/14/2023	ACH6292	FLUID CONTROL SPECIALTIES INC	$	1,358.00
07/14/2023	ACH6293	Hach Company	$	8,156.01
07/14/2023	ACH6294	HAZEN AND SAWYER	$	7,150.50
07/14/2023	ACH6295	HVMI LLC	$	37,975.95
07/14/2023	ACH6296	IDEXX DISTRIBUTION INC	$	972.61
07/14/2023	ACH6297	Jacobi Carbons Inc	$	212,299.20
07/14/2023	ACH6298	JANICKI ENVIRONMENTAL INC	$	27,318.00
07/14/2023	ACH6299	KIMLEY-HORN AND ASSOCIATES INC	$	1,317.96
07/14/2023	ACH6300	MADER ELECTRIC INC	$	1,400.00
07/14/2023	ACH6301	MCMASTER-CARR SUPPLY CO	$	149.00
07/14/2023	ACH6302	MOCK ENGINEERING TECHNOLOGIES	$	330.00
07/14/2023	ACH6303	Precision Gate & Security Inc	$	400.00
07/14/2023	ACH6304	Risk Management Associates Inc	$	533.00
07/14/2023	ACH6305	STANTEC CONSULTING SERVICES	$	3,199.50
07/14/2023	ACH6306	Tanner Industries, Inc	$	6,361.41
07/14/2023	ACH6307	TOI TOI USA	$	433.48
07/14/2023	ACH6308	TRINOVA INC.	$	3,848.28
07/14/2023	ACH6309	ULINE	$	4,687.70
07/14/2023	ACH6310	UNIVAR SOLUTIONS USA INC	$	43,188.00
07/14/2023	ACH6311	USA Bluebook	$	1,390.04
07/14/2023	ACH6312	Vanguard Cleaning Systems of SW Florida	$	2,400.00
07/14/2023	ACH6313	VOYAGER FLEET SYSTEMS INC	$	3,941.71
07/14/2023	ACH6314	WOMACK SANITATION INC	$	1,202.00
07/14/2023	ACH6315	YSI Inc A XYLEM Brand	$	2,985.13
07/14/2023	DBT071423	United States Treasury	$	35,098.22

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
CHECK REGISTER: JULY & AUGUST 2023

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
07/14/2023	ADBT071423	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
07/14/2023	dbt071423	Valic	$	8,580.43
07/27/2023		QuickBooks Payroll Service	$	107,867.41
07/28/2023	39886	Braden River Utilities LLC	$	102.87
07/28/2023	39887	FLORIDA DEPT OF ENVIRONMENTAL PROT	$	6,000.00
07/28/2023	39888	FLORIDA POWER & LIGHT COMPANY	$	207,247.35
07/28/2023	39889	HOME DEPOT	$	42.97
07/28/2023	39890	Manatee County Utilities Department	$	249.93
07/28/2023	39891	NaturZone Pest Control	$	83.79
07/28/2023	39892	PNC Bank	$	2,243.83
07/28/2023	39893	SAM'S CLUB	$	144.18
07/28/2023	39894	SARASOTA COUNTY UTILITIES	$	7,736.31
07/28/2023	39895	THE SUN	$	204.49
07/28/2023	39896	VERIZON WIRELESS	$	72.14
07/28/2023	39897	VERIZON WIRELESS	$	22.52
07/28/2023	ACH6316	Air Mechanical & Service Corp	$	468.00
07/28/2023	ACH6317	AIRGAS USA LLC	$	229.63
07/28/2023	ACH6318	ALLIED UNIVERSAL CORP	$	7,004.14
07/28/2023	ACH6319	AMAZON Business	$	2,010.86
07/28/2023	ACH6320	Apex	$	698.97
07/28/2023	ACH6321	ASRUS LLC	$	3,190.00
07/28/2023	ACH6322	BENCHMARK ENVIROANALYTICAL INC	$	544.00
07/28/2023	ACH6323	C & S CHEMICALS INC	$	100,950.22
07/28/2023	ACH6324	CAROLLO ENGINEERS INC	$	32,132.60
07/28/2023	ACH6325	CED - Port Charlotte	$	2,692.06
07/28/2023	ACH6326	Centurylink 3363	$	149.21
07/28/2023	ACH6327	Cimtec Automation, LLC	$	3,770.10
07/28/2023	ACH6328	CINTAS	$	107.00
07/28/2023	ACH6329	COLE-PARMER INSTRUMENT CO	$	65.12
07/28/2023	ACH6330	Core & Main LP	$	1,472.74
07/28/2023	ACH6331	CORONADO LAWN SERVICE OF FL	$	7,668.00
07/28/2023	ACH6332	DESOTO COUNTY BOCC	$	5,084.24
07/28/2023	ACH6334	EARTH BALANCE	$	4,505.63
07/28/2023	ACH6335	FEDERAL EXPRESS	$	30.17
07/28/2023	ACH6336	Fisher Scientific	$	2,051.19
07/28/2023	ACH6337	FLUID CONTROL SPECIALTIES INC	$	7,062.00
07/28/2023	ACH6338	FRONTIER-941	$	245.98
07/28/2023	ACH6339	FRONTIER COMMUNICATIONS-305	$	240.98
07/28/2023	ACH6340	Hach Company	$	188.00
07/28/2023	ACH6341	HDR ENGINEERING INC	$	2,950.00
07/28/2023	ACH6342	Jacobi Carbons Inc	$	215,353.60
07/28/2023	ACH6343	JOHNSON ENGINEERING INC	$	10,255.00
07/28/2023	ACH6344	MANSON BOLVES DONALDSON TANNER	$	28,117.16
07/28/2023	ACH6345	Matt's Lawn Service	$	775.00
07/28/2023	ACH6346	MOCK ENGINEERING TECHNOLOGIES	$	280.00
07/28/2023	ACH6347	MSC INDUSTRIAL SUPPLY CO	$	274.33
07/28/2023	ACH6348	Natural Resources LLC	$	101,016.56
07/28/2023	ACH6349	NAVITAS CREDIT CORP	$	211.58
07/28/2023	ACH6350	PRO-CHEM INC	$	869.90
07/28/2023	ACH6351	RESPEC Company LLC	$	4,925.00
07/28/2023	ACH6352	Risk Management Associates Inc	$	471.00
07/28/2023	ACH6353	Rite Technology	$	1,852.51

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
CHECK REGISTER: JULY & AUGUST 2023

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
07/28/2023	ACH6354	SARASOTA HERALD TRIBUNE	$	341.00
07/28/2023	ACH6355	STANTEC CONSULTING SERVICES	$	55,518.30
07/28/2023	ACH6356	SUNSHINE STATE ONE CALL OF FL INC	$	50.54
07/28/2023	ACH6357	Tanner Industries, Inc	$	6,429.52
07/28/2023	ACH6358	TRULY NOLEN BRANCH 079	$	303.00
07/28/2023	ACH6359	UNIVAR SOLUTIONS USA INC	$	32,721.99
07/28/2023	ACH6360	USA Bluebook	$	1,765.39
07/28/2023	ACH6361	FLORIDA DIVISION OF RETIREMENT	$	58,380.22
07/28/2023	ADBT072823	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
07/28/2023	DBT072823	Valic	$	8,575.90
07/28/2023	Dbt072823	United States Treasury	$	34,413.60
08/10/2023		QuickBooks Payroll Service	$	106,896.04
08/11/2023	39898	D M CONSTRUCTION CORP	$	18,140.01
08/11/2023	39899	DESOTO AUTOMOTIVE ENTERPRISES INC	$	1,000.00
08/11/2023	39900	DESOTO COUNTY WATER UTILITY	$	1,606.59
08/11/2023	39901	HOME DEPOT	$	978.17
08/11/2023	39902	KED GROUP INC	$	28,724.20
08/11/2023	39903	Manatee County Utilities Department	$	222.24
08/11/2023	39904	NaturZone Pest Control	$	63.00
08/11/2023	39905	SAM'S CLUB	$	536.62
08/11/2023	39906	SMITH RANCH & GARDEN INC	$	833.00
08/11/2023	39907	Waste Pro Bradenton/Sarasota	$	190.00
08/11/2023	ACH6362	ADVANTAGE CARE INC.	$	160.00
08/11/2023	ACH6363	ALLIED ELECTRONICS INC	$	164.55
08/11/2023	ACH6364	ALLIED UNIVERSAL CORP	$	43,024.41
08/11/2023	ACH6365	AMAZON Business	$	5,209.66
08/11/2023	ACH6366	ASRUS LLC	$	17,550.00
08/11/2023	ACH6367	BENCHMARK ENVIROANALYTICAL INC	$	849.00
08/11/2023	ACH6368	C & S CHEMICALS INC	$	106,904.00
08/11/2023	ACH6369	CED - Port Charlotte	$	883.27
08/11/2023	ACH6370	CENTURYLINK	$	412.25
08/11/2023	ACH6371	CHARLOTTE COUNTY BD OF COMMISSIONER	$	101,191.61
08/11/2023	ACH6372	Cimtec Automation, LLC	$	4,852.29
08/11/2023	ACH6373	CINTAS	$	338.70
08/11/2023	ACH6374	COLE-PARMER INSTRUMENT CO	$	65.67
08/11/2023	ACH6375	DMS-FINANCIAL MGMT SERVICES	$	893.78
08/11/2023	ACH6376	EARTH BALANCE	$	262.50
08/11/2023	ACH6377	Entech Computer Services LLC	$	6,664.45
08/11/2023	ACH6378	FEDERAL EXPRESS	$	461.03
08/11/2023	ACH6379	Fisher Scientific	$	659.10
08/11/2023	ACH6381	FLUID CONTROL SPECIALTIES INC	$	1,500.00
08/11/2023	ACH6382	FRONTIER-941	$	263.90
08/11/2023	ACH6383	GRAINGER	$	704.04
08/11/2023	ACH6384	Hach Company	$	2,209.80
08/11/2023	ACH6385	HAZEN AND SAWYER	$	19,078.10
08/11/2023	ACH6386	HVMI LLC	$	29,533.95
08/11/2023	ACH6387	IDEXX DISTRIBUTION INC	$	355.97
08/11/2023	ACH6388	Jacobi Carbons Inc	$	350,115.20
08/11/2023	ACH6389	JANICKI ENVIRONMENTAL INC	$	26,784.00
08/11/2023	ACH6390	JOHNSON ENGINEERING INC	$	4,070.00
08/11/2023	ACH6391	MANSON BOLVES DONALDSON TANNER	$	30,446.47
08/11/2023	ACH6392	McDade Waterworks Inc	$	52,515.00

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
CHECK REGISTER: JULY & AUGUST 2023

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
08/11/2023	ACH6393	MCMASTER-CARR SUPPLY CO	$	2,468.71
08/11/2023	ACH6394	MIS Moss Integration Solutions Inc	$	3,122.94
08/11/2023	ACH6395	MOCK ENGINEERING TECHNOLOGIES	$	180.00
08/11/2023	ACH6396	MSC INDUSTRIAL SUPPLY CO	$	1,252.70
08/11/2023	ACH6397	NAVITAS CREDIT CORP	$	211.58
08/11/2023	ACH6398	PRO-CHEM INC	$	639.40
08/11/2023	ACH6399	RESPEC Company LLC	$	12,662.50
08/11/2023	ACH6400	SARASOTA CHAMBER OF COMMERCE	$	495.00
08/11/2023	ACH6401	SOUTHWEST MOBILE MECHANIC	$	588.94
08/11/2023	ACH6402	SUNSHINE ACE HARDWARE	$	294.96
08/11/2023	ACH6403	TAMPA ARMATURE WORKS INC	$	3,124.98
08/11/2023	ACH6404	UNIVAR SOLUTIONS USA INC	$	87,017.64
08/11/2023	ACH6405	USA Bluebook	$	3,229.20
08/11/2023	ACH6406	Vanguard Cleaning Systems of SW Florida	$	2,400.00
08/11/2023	ACH6407	VOYAGER FLEET SYSTEMS INC	$	4,101.51
08/11/2023	ACH6408	WALES SCIENTIFIC SOLUTIONS, LLC	$	3,050.00
08/11/2023	ACH6409	WOMACK SANITATION INC	$	1,654.00
08/11/2023	ADBT081123	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
08/11/2023	DBT081123	United States Treasury	$	33,966.50
08/11/2023	dbt081123	Valic	$	8,584.83
08/24/2023		QuickBooks Payroll Service	$	108,641.71
08/25/2023	39908	Braden River Utilities LLC	$	86.49
08/25/2023	39909	CHARLOTTE PLUMBING & BATH INC	$	850.00
08/25/2023	39910	D M CONSTRUCTION CORP	$	18,780.62
08/25/2023	39911	DESOTO AUTOMOTIVE ENTERPRISES INC	$	1,695.02
08/25/2023	39912	FLORIDA POWER & LIGHT COMPANY	$	25,328.74
08/25/2023	39913	NaturZone Pest Control	$	83.79
08/25/2023	39914	SMITH RANCH & GARDEN INC	$	199.98
08/25/2023	39915	VERIZON WIRELESS	$	92.29
08/25/2023	39916	WESTRA CONSTRUCTION CORP.	$	189,400.00
08/25/2023	ACH6410	ADVANTAGE COMMUNICATIONS INC	$	4,925.00
08/25/2023	ACH6411	Air Mechanical & Service Corp	$	1,451.80
08/25/2023	ACH6412	AIRGAS SPECIALTY PRODUCTS	$	257.19
08/25/2023	ACH6413	ALLIED UNIVERSAL CORP	$	71,714.50
08/25/2023	ACH6414	BALLARD MARINE CONSTRUCTION	$	712,341.03
08/25/2023	AH6415	Barney's Pumps, Inc.	$	1,875.00
08/25/2023	ACH6416	Brown and Caldwell	$	11,556.43
08/25/2023	ACH6417	C & S CHEMICALS INC	$	104,179.88
08/25/2023	ACH6418	Centurylink 3363	$	149.61
08/25/2023	ACH6419	CHARLOTTE COUNTY BCC - LANDFILL	$	5,666.60
08/25/2023	ACH6420	Cimtec Automation, LLC	$	3,337.68
08/25/2023	ACH6421	COOL TODAY	$	970.10
08/25/2023	ACH6422	CORONADO LAWN SERVICE OF FL	$	8,843.00
08/25/2023	ACH6423	DESOTO CO CHAMBER OF COMMERCE	$	450.00
08/25/2023	ACH6424	DESOTO COUNTY (V)	$	66,333.33
08/25/2023	ACH6425	DONALDSON COMPANY INC	$	640.00
08/25/2023	ACH6426	EARTH BALANCE	$	2,008.50
08/25/2023	ACH6427	ENDRESS+HAUSER, INC.	$	2,405.32
08/25/2023	ACH6428	ENVIRONMENTAL EXPRESS INC.	$	160.43
08/25/2023	ACH6430	Extreme Divers	$	21,957.08
08/25/2023	ACH6431	FEDERAL EXPRESS	$	186.25
08/25/2023	ACH6432	FEL-FT MYERS WATERWORKS	$	16,100.00

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
CHECK REGISTER: JULY & AUGUST 2023

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
08/25/2023	ACH6433	Fisher Scientific	$	2,269.22
08/25/2023	ACH6434	FLUID CONTROL SPECIALTIES INC	$	2,936.00
08/25/2023	ACH6435	FRONTIER COMMUNICATIONS-305	$	240.98
08/25/2023	ACH6436	Hach Company	$	2,311.94
08/25/2023	ACH6437	Jacobi Carbons Inc	$	350,041.60
08/25/2023	ACH6438	JOHNSON ENGINEERING INC	$	24,030.00
08/25/2023	ACH6439	LLumin INC	$	2,250.00
08/25/2023	ACH6440	MANSON BOLVES DONALDSON TANNER	$	16,375.00
08/25/2023	ACH6441	Matt's Lawn Service	$	775.00
08/25/2023	ACH6442	McDade Waterworks Inc	$	539,469.00
08/25/2023	ACH6443	MIS Moss Integration Solutions Inc	$	895.00
08/25/2023	ACH6444	Pitney Bowes- Lease	$	80.48
08/25/2023	ACH6445	Precision Gate & Security Inc	$	595.00
08/25/2023	ACH6446	PRESTI & NAEGELE	$	2,584.80
08/25/2023	ACH6447	RESPEC Company LLC	$	735.00
08/25/2023	ACH6448	ROGERS PETROLEUM INC	$	1,931.75
08/25/2023	ACH6449	SUNSHINE ACE HARDWARE	$	337.48
08/25/2023	ACH6450	SUNSHINE STATE ONE CALL OF FL INC	$	50.54
08/25/2023	ACH6451	Tanner Industries, Inc	$	6,361.41
08/25/2023	ACH6452	THERMO ELECTRON NORTH AMERICA LLC	$	1,271.25
08/25/2023	ACH6453	TRINOVA INC.	$	693.63
08/25/2023	ACH6454	ULINE	$	1,604.66
08/25/2023	ACH6455	UNIVAR SOLUTIONS USA INC	$	86,407.88
08/25/2023	ADBT082523	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
08/25/2023	DBT082523	United States Treasury	$	33,494.06
08/25/2023	DBT8252023	FLORIDA DIVISION OF RETIREMENT	$	58,049.40
08/25/2023	dbt08252023	Valic	$	8,537.61
		Total	**$**	**5,595,276.27**

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JULY & AUGUST 2023

Alphabetically by Vendor

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
08/11/2023	ACH6362	ADVANTAGE CARE INC.	$	160.00
08/25/2023	ACH6410	ADVANTAGE COMMUNICATIONS INC	$	4,925.00
07/14/2023	ACH6272	Air Mechanical & Service Corp	$	1,735.00
07/28/2023	ACH6316	Air Mechanical & Service Corp	$	468.00
08/25/2023	ACH6411	Air Mechanical & Service Corp	$	1,451.80
08/25/2023	ACH6412	AIRGAS SPECIALTY PRODUCTS	$	257.19
07/28/2023	ACH6317	AIRGAS USA LLC	$	229.63
07/14/2023	ACH6273	ALLIED ELECTRONICS INC	$	546.80
08/11/2023	ACH6363	ALLIED ELECTRONICS INC	$	164.55
07/14/2023	ACH6274	ALLIED UNIVERSAL CORP	$	43,218.89
07/28/2023	ACH6318	ALLIED UNIVERSAL CORP	$	7,004.14
08/11/2023	ACH6364	ALLIED UNIVERSAL CORP	$	43,024.41
08/25/2023	ACH6413	ALLIED UNIVERSAL CORP	$	71,714.50
07/28/2023	ACH6319	AMAZON Business	$	2,010.86
08/11/2023	ACH6365	AMAZON Business	$	5,209.66
07/14/2023	ACH6275	ANN LEE (V)	$	229.00
07/14/2023	ACH6276	Apex	$	373.19
07/28/2023	ACH6320	Apex	$	698.97
07/14/2023	ACH6277	Apple Video & Photography Studio	$	1,495.00
07/28/2023	ACH6321	ASRUS LLC	$	3,190.00
08/11/2023	ACH6366	ASRUS LLC	$	17,550.00
08/25/2023	ACH6414	BALLARD MARINE CONSTRUCTION	$	712,341.03
08/25/2023	AH6415	Barney's Pumps, Inc.	$	1,875.00
07/14/2023	ACH6278	BENCHMARK ENVIROANALYTICAL INC	$	2,685.00
07/28/2023	ACH6322	BENCHMARK ENVIROANALYTICAL INC	$	544.00
08/11/2023	ACH6367	BENCHMARK ENVIROANALYTICAL INC	$	849.00
07/14/2023	39880	BILL'S BOTTLED WATER SERVICE	$	42.00
07/14/2023	ACH6279	BLACK & VEATCH	$	1,974.80
07/28/2023	39886	Braden River Utilities LLC	$	102.87
08/25/2023	39908	Braden River Utilities LLC	$	86.49
07/14/2023	ACH6280	Brown and Caldwell	$	40,855.95
08/25/2023	ACH6416	Brown and Caldwell	$	11,556.43
07/14/2023	ACH6281	C & S CHEMICALS INC	$	105,133.00
07/28/2023	ACH6323	C & S CHEMICALS INC	$	100,950.22
08/11/2023	ACH6368	C & S CHEMICALS INC	$	106,904.00
08/25/2023	ACH6417	C & S CHEMICALS INC	$	104,179.88
07/28/2023	ACH6324	CAROLLO ENGINEERS INC	$	32,132.60
07/14/2023	ACH6282	CED - Port Charlotte	$	329.68
07/28/2023	ACH6325	CED - Port Charlotte	$	2,692.06
08/11/2023	ACH6369	CED - Port Charlotte	$	883.27
07/14/2023	ACH6283	CENTURYLINK	$	396.10
08/11/2023	ACH6370	CENTURYLINK	$	412.25
07/28/2023	ACH6326	Centurylink 3363	$	149.21
08/25/2023	ACH6418	Centurylink 3363	$	149.61
07/14/2023	ACH6284	CenturyLink-6358	$	1,638.01
07/14/2023	ACH6285	CHARLOTTE COUNTY BCC - LANDFILL	$	5,830.00
08/25/2023	ACH6419	CHARLOTTE COUNTY BCC - LANDFILL	$	5,666.60
07/14/2023	ACH6286	CHARLOTTE COUNTY BD OF COMMISSIONER	$	103,613.94
08/11/2023	ACH6371	CHARLOTTE COUNTY BD OF COMMISSIONER	$	101,191.61
07/14/2023	39881	CHARLOTTE PLUMBING & BATH INC	$	247.00
08/25/2023	39909	CHARLOTTE PLUMBING & BATH INC	$	850.00
07/28/2023	ACH6327	Cimtec Automation, LLC	$	3,770.10

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JULY & AUGUST 2023

Alphabetically by Vendor

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
08/11/2023	ACH6372	Cimtec Automation, LLC	$	4,852.29
08/25/2023	ACH6420	Cimtec Automation, LLC	$	3,337.68
07/14/2023	ACH6287	CINTAS	$	729.22
07/28/2023	ACH6328	CINTAS	$	107.00
08/11/2023	ACH6373	CINTAS	$	338.70
07/28/2023	ACH6329	COLE-PARMER INSTRUMENT CO	$	65.12
08/11/2023	ACH6374	COLE-PARMER INSTRUMENT CO	$	65.67
08/25/2023	ACH6421	COOL TODAY	$	970.10
07/28/2023	ACH6330	Core & Main LP	$	1,472.74
07/28/2023	ACH6331	CORONADO LAWN SERVICE OF FL	$	7,668.00
08/25/2023	ACH6422	CORONADO LAWN SERVICE OF FL	$	8,843.00
08/11/2023	39898	D M CONSTRUCTION CORP	$	18,140.01
08/25/2023	39910	D M CONSTRUCTION CORP	$	18,780.62
07/14/2023	ACH6288	Daniel J Roberts (V)	$	439.76
07/14/2023	39882	DESOTO AUTOMOTIVE ENTERPRISES INC	$	1,231.00
08/11/2023	39899	DESOTO AUTOMOTIVE ENTERPRISES INC	$	1,000.00
08/25/2023	39911	DESOTO AUTOMOTIVE ENTERPRISES INC	$	1,695.02
08/25/2023	ACH6423	DESOTO CO CHAMBER OF COMMERCE	$	450.00
08/25/2023	ACH6424	DESOTO COUNTY (V)	$	66,333.33
07/28/2023	ACH6332	DESOTO COUNTY BOCC	$	5,084.24
08/11/2023	39900	DESOTO COUNTY WATER UTILITY	$	1,606.59
08/11/2023	ACH6375	DMS-FINANCIAL MGMT SERVICES	$	893.78
08/25/2023	ACH6425	DONALDSON COMPANY INC	$	640.00
07/28/2023	ACH6334	EARTH BALANCE	$	4,505.63
08/11/2023	ACH6376	EARTH BALANCE	$	262.50
08/25/2023	ACH6426	EARTH BALANCE	$	2,008.50
08/25/2023	ACH6427	ENDRESS+HAUSER, INC.	$	2,405.32
07/14/2023	ACH6289	Entech Computer Services LLC	$	6,683.12
08/11/2023	ACH6377	Entech Computer Services LLC	$	6,664.45
08/25/2023	ACH6428	ENVIRONMENTAL EXPRESS INC.	$	160.43
08/25/2023	ACH6430	Extreme Divers	$	21,957.08
07/14/2023	ACH6290	FEDERAL EXPRESS	$	456.45
07/28/2023	ACH6335	FEDERAL EXPRESS	$	30.17
08/11/2023	ACH6378	FEDERAL EXPRESS	$	461.03
08/25/2023	ACH6431	FEDERAL EXPRESS	$	186.25
08/25/2023	ACH6432	FEL-FT MYERS WATERWORKS	$	16,100.00
07/14/2023	ACH6291	Fisher Scientific	$	1,652.95
07/28/2023	ACH6336	Fisher Scientific	$	2,051.19
08/11/2023	ACH6379	Fisher Scientific	$	659.10
08/25/2023	ACH6433	Fisher Scientific	$	2,269.22
07/28/2023	39887	FLORIDA DEPT OF ENVIRONMENTAL PROT	$	6,000.00
07/28/2023	ACH6361	FLORIDA DIVISION OF RETIREMENT	$	58,380.22
08/25/2023	DBT8252023	FLORIDA DIVISION OF RETIREMENT	$	58,049.40
07/28/2023	39888	FLORIDA POWER & LIGHT COMPANY	$	207,247.35
08/25/2023	39912	FLORIDA POWER & LIGHT COMPANY	$	25,328.74
07/14/2023	ACH6292	FLUID CONTROL SPECIALTIES INC	$	1,358.00
07/28/2023	ACH6337	FLUID CONTROL SPECIALTIES INC	$	7,062.00
08/11/2023	ACH6381	FLUID CONTROL SPECIALTIES INC	$	1,500.00
08/25/2023	ACH6434	FLUID CONTROL SPECIALTIES INC	$	2,936.00
07/28/2023	ACH6339	FRONTIER COMMUNICATIONS-305	$	240.98
08/25/2023	ACH6435	FRONTIER COMMUNICATIONS-305	$	240.98
07/28/2023	ACH6338	FRONTIER-941	$	245.98

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JULY & AUGUST 2023

Alphabetically by Vendor

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
08/11/2023	ACH6382	FRONTIER-941	$	263.90
08/11/2023	ACH6383	GRAINGER	$	704.04
07/14/2023	ACH6293	Hach Company	$	8,156.01
07/28/2023	ACH6340	Hach Company	$	188.00
08/11/2023	ACH6384	Hach Company	$	2,209.80
08/25/2023	ACH6436	Hach Company	$	2,311.94
07/14/2023	ACH6294	HAZEN AND SAWYER	$	7,150.50
08/11/2023	ACH6385	HAZEN AND SAWYER	$	19,078.10
07/28/2023	ACH6341	HDR ENGINEERING INC	$	2,950.00
07/14/2023	39883	HOME DEPOT	$	1,137.74
07/28/2023	39889	HOME DEPOT	$	42.97
08/11/2023	39901	HOME DEPOT	$	978.17
07/14/2023	ACH6295	HVMI LLC	$	37,975.95
08/11/2023	ACH6386	HVMI LLC	$	29,533.95
07/14/2023	ACH6296	IDEXX DISTRIBUTION INC	$	972.61
08/11/2023	ACH6387	IDEXX DISTRIBUTION INC	$	355.97
07/14/2023	ACH6297	Jacobi Carbons Inc	$	212,299.20
07/28/2023	ACH6342	Jacobi Carbons Inc	$	215,353.60
08/11/2023	ACH6388	Jacobi Carbons Inc	$	350,115.20
08/25/2023	ACH6437	Jacobi Carbons Inc	$	350,041.60
07/14/2023	ACH6298	JANICKI ENVIRONMENTAL INC	$	27,318.00
08/11/2023	ACH6389	JANICKI ENVIRONMENTAL INC	$	26,784.00
07/28/2023	ACH6343	JOHNSON ENGINEERING INC	$	10,255.00
08/11/2023	ACH6390	JOHNSON ENGINEERING INC	$	4,070.00
08/25/2023	ACH6438	JOHNSON ENGINEERING INC	$	24,030.00
08/11/2023	39902	KED GROUP INC	$	28,724.20
07/14/2023	ACH6299	KIMLEY-HORN AND ASSOCIATES INC	$	1,317.96
08/25/2023	ACH6439	LLumin INC	$	2,250.00
07/14/2023	ACH6300	MADER ELECTRIC INC	$	1,400.00
07/28/2023	39890	Manatee County Utilities Department	$	249.93
08/11/2023	39903	Manatee County Utilities Department	$	222.24
07/28/2023	ACH6344	MANSON BOLVES DONALDSON TANNER	$	28,117.16
08/11/2023	ACH6391	MANSON BOLVES DONALDSON TANNER	$	30,446.47
08/25/2023	ACH6440	MANSON BOLVES DONALDSON TANNER	$	16,375.00
07/28/2023	ACH6345	Matt's Lawn Service	$	775.00
08/25/2023	ACH6441	Matt's Lawn Service	$	775.00
08/11/2023	ACH6392	McDade Waterworks Inc	$	52,515.00
08/25/2023	ACH6442	McDade Waterworks Inc	$	539,469.00
07/14/2023	ACH6301	MCMASTER-CARR SUPPLY CO	$	149.00
08/11/2023	ACH6393	MCMASTER-CARR SUPPLY CO	$	2,468.71
08/11/2023	ACH6394	MIS Moss Integration Solutions Inc	$	3,122.94
08/25/2023	ACH6443	MIS Moss Integration Solutions Inc	$	895.00
07/14/2023	ACH6302	MOCK ENGINEERING TECHNOLOGIES	$	330.00
07/28/2023	ACH6346	MOCK ENGINEERING TECHNOLOGIES	$	280.00
08/11/2023	ACH6395	MOCK ENGINEERING TECHNOLOGIES	$	180.00
07/28/2023	ACH6347	MSC INDUSTRIAL SUPPLY CO	$	274.33
08/11/2023	ACH6396	MSC INDUSTRIAL SUPPLY CO	$	1,252.70
07/28/2023	ACH6348	Natural Resources LLC	$	101,016.56
07/28/2023	39891	NaturZone Pest Control	$	83.79
08/11/2023	39904	NaturZone Pest Control	$	63.00
08/25/2023	39913	NaturZone Pest Control	$	83.79
07/28/2023	ACH6349	NAVITAS CREDIT CORP	$	211.58

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JULY & AUGUST 2023

Alphabetically by Vendor

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
08/11/2023	ACH6397	NAVITAS CREDIT CORP	$	211.58
08/25/2023	ACH6444	Pitney Bowes- Lease	$	80.48
07/28/2023	39892	PNC Bank	$	2,243.83
07/14/2023	ACH6303	Precision Gate & Security Inc	$	400.00
08/25/2023	ACH6445	Precision Gate & Security Inc	$	595.00
08/25/2023	ACH6446	PRESTI & NAEGELE	$	2,584.80
07/28/2023	ACH6350	PRO-CHEM INC	$	869.90
08/11/2023	ACH6398	PRO-CHEM INC	$	639.40
07/13/2023		QuickBooks Payroll Service	$	109,870.79
07/27/2023		QuickBooks Payroll Service	$	107,867.41
08/10/2023		QuickBooks Payroll Service	$	106,896.04
08/24/2023		QuickBooks Payroll Service	$	108,641.71
07/28/2023	ACH6351	RESPEC Company LLC	$	4,925.00
08/11/2023	ACH6399	RESPEC Company LLC	$	12,662.50
08/25/2023	ACH6447	RESPEC Company LLC	$	735.00
07/14/2023	ACH6304	Risk Management Associates Inc	$	533.00
07/28/2023	ACH6352	Risk Management Associates Inc	$	471.00
07/28/2023	ACH6353	Rite Technology	$	1,852.51
08/25/2023	ACH6448	ROGERS PETROLEUM INC	$	1,931.75
07/28/2023	39893	SAM'S CLUB	$	144.18
08/11/2023	39905	SAM'S CLUB	$	536.62
08/11/2023	ACH6400	SARASOTA CHAMBER OF COMMERCE	$	495.00
07/28/2023	39894	SARASOTA COUNTY UTILITIES	$	7,736.31
07/28/2023	ACH6354	SARASOTA HERALD TRIBUNE	$	341.00
08/11/2023	39906	SMITH RANCH & GARDEN INC	$	833.00
08/25/2023	39914	SMITH RANCH & GARDEN INC	$	199.98
08/11/2023	ACH6401	SOUTHWEST MOBILE MECHANIC	$	588.94
07/14/2023	ACH6305	STANTEC CONSULTING SERVICES	$	3,199.50
07/28/2023	ACH6355	STANTEC CONSULTING SERVICES	$	55,518.30
07/14/2023	ADBT071423	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
07/28/2023	ADBT072823	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
08/11/2023	ADBT081123	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
08/25/2023	ADBT082523	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
08/11/2023	ACH6402	SUNSHINE ACE HARDWARE	$	294.96
08/25/2023	ACH6449	SUNSHINE ACE HARDWARE	$	337.48
07/28/2023	ACH6356	SUNSHINE STATE ONE CALL OF FL INC	$	50.54
08/25/2023	ACH6450	SUNSHINE STATE ONE CALL OF FL INC	$	50.54
08/11/2023	ACH6403	TAMPA ARMATURE WORKS INC	$	3,124.98
07/14/2023	ACH6306	Tanner Industries, Inc	$	6,361.41
07/28/2023	ACH6357	Tanner Industries, Inc	$	6,429.52
08/25/2023	ACH6451	Tanner Industries, Inc	$	6,361.41
07/28/2023	39895	THE SUN	$	204.49
08/25/2023	ACH6452	THERMO ELECTRON NORTH AMERICA LLC	$	1,271.25
07/14/2023	ACH6307	TOI TOI USA	$	433.48
07/14/2023	ACH6308	TRINOVA INC.	$	3,848.28
08/25/2023	ACH6453	TRINOVA INC.	$	693.63
07/14/2023	39884	TRULY NOLEN Branch 093	$	303.00
07/28/2023	ACH6358	TRULY NOLEN BRANCH 079	$	303.00
07/14/2023	ACH6309	ULINE	$	4,687.70
08/25/2023	ACH6454	ULINE	$	1,604.66
07/14/2023	DBT071423	United States Treasury	$	35,098.22
07/28/2023	Dbt072823	United States Treasury	$	34,413.60

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JULY & AUGUST 2023

Alphabetically by Vendor

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
08/11/2023	DBT081123	United States Treasury	$	33,966.50
08/25/2023	DBT082523	United States Treasury	$	33,494.06
07/14/2023	ACH6310	UNIVAR SOLUTIONS USA INC	$	43,188.00
07/28/2023	ACH6359	UNIVAR SOLUTIONS USA INC	$	32,721.99
08/11/2023	ACH6404	UNIVAR SOLUTIONS USA INC	$	87,017.64
08/25/2023	ACH6455	UNIVAR SOLUTIONS USA INC	$	86,407.88
07/14/2023	ACH6311	USA Bluebook	$	1,390.04
07/28/2023	ACH6360	USA Bluebook	$	1,765.39
08/11/2023	ACH6405	USA Bluebook	$	3,229.20
07/14/2023	dbt071423	Valic	$	8,580.43
07/28/2023	DBT072823	Valic	$	8,575.90
08/11/2023	dbt081123	Valic	$	8,584.83
08/25/2023	dbt08252023	Valic	$	8,537.61
07/14/2023	ACH6312	Vanguard Cleaning Systems of SW Florida	$	2,400.00
08/11/2023	ACH6406	Vanguard Cleaning Systems of SW Florida	$	2,400.00
07/28/2023	39896	VERIZON WIRELESS	$	72.14
07/28/2023	39897	VERIZON WIRELESS	$	22.52
08/25/2023	39915	VERIZON WIRELESS	$	92.29
07/14/2023	ACH6313	VOYAGER FLEET SYSTEMS INC	$	3,941.71
08/11/2023	ACH6407	VOYAGER FLEET SYSTEMS INC	$	4,101.51
08/11/2023	ACH6408	WALES SCIENTIFIC SOLUTIONS, LLC	$	3,050.00
07/14/2023	39885	Waste Pro Bradenton/Sarasota	$	190.00
08/11/2023	39907	Waste Pro Bradenton/Sarasota	$	190.00
08/25/2023	39916	WESTRA CONSTRUCTION CORP.	$	189,400.00
07/14/2023	ACH6314	WOMACK SANITATION INC	$	1,202.00
08/11/2023	ACH6409	WOMACK SANITATION INC	$	1,654.00
07/14/2023	ACH6315	YSI Inc A XYLEM Brand	$	2,985.13
		Total	**$**	**5,595,276.27**

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JULY & AUGUST 2023

By Amount Largest to Smallest

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
08/25/2023	ACH6414	BALLARD MARINE CONSTRUCTION	$	712,341.03
08/25/2023	ACH6442	McDade Waterworks Inc	$	539,469.00
08/11/2023	ACH6388	Jacobi Carbons Inc	$	350,115.20
08/25/2023	ACH6437	Jacobi Carbons Inc	$	350,041.60
07/28/2023	ACH6342	Jacobi Carbons Inc	$	215,353.60
07/14/2023	ACH6297	Jacobi Carbons Inc	$	212,299.20
07/28/2023	39888	FLORIDA POWER & LIGHT COMPANY	$	207,247.35
08/25/2023	39916	WESTRA CONSTRUCTION CORP.	$	189,400.00
07/13/2023		QuickBooks Payroll Service	$	109,870.79
08/24/2023		QuickBooks Payroll Service	$	108,641.71
07/27/2023		QuickBooks Payroll Service	$	107,867.41
08/11/2023	ACH6368	C & S CHEMICALS INC	$	106,904.00
08/10/2023		QuickBooks Payroll Service	$	106,896.04
07/14/2023	ACH6281	C & S CHEMICALS INC	$	105,133.00
08/25/2023	ACH6417	C & S CHEMICALS INC	$	104,179.88
07/14/2023	ACH6286	CHARLOTTE COUNTY BD OF COMMISSIONER	$	103,613.94
08/11/2023	ACH6371	CHARLOTTE COUNTY BD OF COMMISSIONER	$	101,191.61
07/28/2023	ACH6348	Natural Resources LLC	$	101,016.56
07/28/2023	ACH6323	C & S CHEMICALS INC	$	100,950.22
08/11/2023	ACH6404	UNIVAR SOLUTIONS USA INC	$	87,017.64
08/25/2023	ACH6455	UNIVAR SOLUTIONS USA INC	$	86,407.88
08/25/2023	ACH6413	ALLIED UNIVERSAL CORP	$	71,714.50
08/25/2023	ACH6424	DESOTO COUNTY (V)	$	66,333.33
07/28/2023	ACH6361	FLORIDA DIVISION OF RETIREMENT	$	58,380.22
08/25/2023	DBT8252023	FLORIDA DIVISION OF RETIREMENT	$	58,049.40
07/28/2023	ACH6355	STANTEC CONSULTING SERVICES	$	55,518.30
08/11/2023	ACH6392	McDade Waterworks Inc	$	52,515.00
07/14/2023	ACH6274	ALLIED UNIVERSAL CORP	$	43,218.89
07/14/2023	ACH6310	UNIVAR SOLUTIONS USA INC	$	43,188.00
08/11/2023	ACH6364	ALLIED UNIVERSAL CORP	$	43,024.41
07/14/2023	ACH6280	Brown and Caldwell	$	40,855.95
07/14/2023	ACH6295	HVMI LLC	$	37,975.95
07/14/2023	DBT071423	United States Treasury	$	35,098.22
07/28/2023	Dbt072823	United States Treasury	$	34,413.60
08/11/2023	DBT081123	United States Treasury	$	33,966.50
08/25/2023	DBT082523	United States Treasury	$	33,494.06
07/28/2023	ACH6359	UNIVAR SOLUTIONS USA INC	$	32,721.99
07/28/2023	ACH6324	CAROLLO ENGINEERS INC	$	32,132.60
08/11/2023	ACH6391	MANSON BOLVES DONALDSON TANNER	$	30,446.47
08/11/2023	ACH6386	HVMI LLC	$	29,533.95
08/11/2023	39902	KED GROUP INC	$	28,724.20
07/28/2023	ACH6344	MANSON BOLVES DONALDSON TANNER	$	28,117.16
07/14/2023	ACH6298	JANICKI ENVIRONMENTAL INC	$	27,318.00
08/11/2023	ACH6389	JANICKI ENVIRONMENTAL INC	$	26,784.00
08/25/2023	39912	FLORIDA POWER & LIGHT COMPANY	$	25,328.74
08/25/2023	ACH6438	JOHNSON ENGINEERING INC	$	24,030.00
08/25/2023	ACH6430	Extreme Divers	$	21,957.08
08/11/2023	ACH6385	HAZEN AND SAWYER	$	19,078.10
08/25/2023	39910	D M CONSTRUCTION CORP	$	18,780.62
08/11/2023	39898	D M CONSTRUCTION CORP	$	18,140.01
08/11/2023	ACH6366	ASRUS LLC	$	17,550.00
08/25/2023	ACH6440	MANSON BOLVES DONALDSON TANNER	$	16,375.00

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JULY & AUGUST 2023

By Amount Largest to Smallest

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
08/25/2023	ACH6432	FEL-FT MYERS WATERWORKS	$	16,100.00
08/11/2023	ACH6399	RESPEC Company LLC	$	12,662.50
08/25/2023	ACH6416	Brown and Caldwell	$	11,556.43
07/28/2023	ACH6343	JOHNSON ENGINEERING INC	$	10,255.00
08/25/2023	ACH6422	CORONADO LAWN SERVICE OF FL	$	8,843.00
08/11/2023	dbt081123	Valic	$	8,584.83
07/14/2023	dbt071423	Valic	$	8,580.43
07/28/2023	DBT072823	Valic	$	8,575.90
08/25/2023	dbt08252023	Valic	$	8,537.61
07/14/2023	ACH6293	Hach Company	$	8,156.01
07/28/2023	39894	SARASOTA COUNTY UTILITIES	$	7,736.31
07/28/2023	ACH6331	CORONADO LAWN SERVICE OF FL	$	7,668.00
07/14/2023	ACH6294	HAZEN AND SAWYER	$	7,150.50
07/28/2023	ACH6337	FLUID CONTROL SPECIALTIES INC	$	7,062.00
07/28/2023	ACH6318	ALLIED UNIVERSAL CORP	$	7,004.14
07/14/2023	ACH6289	Entech Computer Services LLC	$	6,683.12
08/11/2023	ACH6377	Entech Computer Services LLC	$	6,664.45
07/28/2023	ACH6357	Tanner Industries, Inc	$	6,429.52
07/14/2023	ACH6306	Tanner Industries, Inc	$	6,361.41
08/25/2023	ACH6451	Tanner Industries, Inc	$	6,361.41
07/28/2023	39887	FLORIDA DEPT OF ENVIRONMENTAL PROT	$	6,000.00
07/14/2023	ACH6285	CHARLOTTE COUNTY BCC - LANDFILL	$	5,830.00
08/25/2023	ACH6419	CHARLOTTE COUNTY BCC - LANDFILL	$	5,666.60
08/11/2023	ACH6365	AMAZON Business	$	5,209.66
07/28/2023	ACH6332	DESOTO COUNTY BOCC	$	5,084.24
08/25/2023	ACH6410	ADVANTAGE COMMUNICATIONS INC	$	4,925.00
07/28/2023	ACH6351	RESPEC Company LLC	$	4,925.00
08/11/2023	ACH6372	Cimtec Automation, LLC	$	4,852.29
07/14/2023	ACH6309	ULINE	$	4,687.70
07/28/2023	ACH6334	EARTH BALANCE	$	4,505.63
08/11/2023	ACH6407	VOYAGER FLEET SYSTEMS INC	$	4,101.51
08/11/2023	ACH6390	JOHNSON ENGINEERING INC	$	4,070.00
07/14/2023	ACH6313	VOYAGER FLEET SYSTEMS INC	$	3,941.71
07/14/2023	ACH6308	TRINOVA INC.	$	3,848.28
07/28/2023	ACH6327	Cimtec Automation, LLC	$	3,770.10
08/25/2023	ACH6420	Cimtec Automation, LLC	$	3,337.68
08/11/2023	ACH6405	USA Bluebook	$	3,229.20
07/14/2023	ACH6305	STANTEC CONSULTING SERVICES	$	3,199.50
07/28/2023	ACH6321	ASRUS LLC	$	3,190.00
08/11/2023	ACH6403	TAMPA ARMATURE WORKS INC	$	3,124.98
08/11/2023	ACH6394	MIS Moss Integration Solutions Inc	$	3,122.94
08/11/2023	ACH6408	WALES SCIENTIFIC SOLUTIONS, LLC	$	3,050.00
07/14/2023	ACH6315	YSI Inc A XYLEM Brand	$	2,985.13
07/28/2023	ACH6341	HDR ENGINEERING INC	$	2,950.00
08/25/2023	ACH6434	FLUID CONTROL SPECIALTIES INC	$	2,936.00
07/28/2023	ACH6325	CED - Port Charlotte	$	2,692.06
07/14/2023	ACH6278	BENCHMARK ENVIROANALYTICAL INC	$	2,685.00
08/25/2023	ACH6446	PRESTI & NAEGELE	$	2,584.80
08/11/2023	ACH6393	MCMASTER-CARR SUPPLY CO	$	2,468.71
08/25/2023	ACH6427	ENDRESS+HAUSER, INC.	$	2,405.32
07/14/2023	ACH6312	Vanguard Cleaning Systems of SW Florida	$	2,400.00
08/11/2023	ACH6406	Vanguard Cleaning Systems of SW Florida	$	2,400.00

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JULY & AUGUST 2023

By Amount Largest to Smallest

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
08/25/2023	ACH6436	Hach Company	$	2,311.94
08/25/2023	ACH6433	Fisher Scientific	$	2,269.22
08/25/2023	ACH6439	LLumin INC	$	2,250.00
07/28/2023	39892	PNC Bank	$	2,243.83
08/11/2023	ACH6384	Hach Company	$	2,209.80
07/28/2023	ACH6336	Fisher Scientific	$	2,051.19
07/28/2023	ACH6319	AMAZON Business	$	2,010.86
08/25/2023	ACH6426	EARTH BALANCE	$	2,008.50
07/14/2023	ACH6279	BLACK & VEATCH	$	1,974.80
08/25/2023	ACH6448	ROGERS PETROLEUM INC	$	1,931.75
08/25/2023	AH6415	Barney's Pumps, Inc.	$	1,875.00
07/28/2023	ACH6353	Rite Technology	$	1,852.51
07/28/2023	ACH6360	USA Bluebook	$	1,765.39
07/14/2023	ACH6272	Air Mechanical & Service Corp	$	1,735.00
08/25/2023	39911	DESOTO AUTOMOTIVE ENTERPRISES INC	$	1,695.02
08/11/2023	ACH6409	WOMACK SANITATION INC	$	1,654.00
07/14/2023	ACH6291	Fisher Scientific	$	1,652.95
07/14/2023	ACH6284	CenturyLink-6358	$	1,638.01
08/11/2023	39900	DESOTO COUNTY WATER UTILITY	$	1,606.59
08/25/2023	ACH6454	ULINE	$	1,604.66
08/11/2023	ACH6381	FLUID CONTROL SPECIALTIES INC	$	1,500.00
07/14/2023	ACH6277	Apple Video & Photography Studio	$	1,495.00
07/28/2023	ACH6330	Core & Main LP	$	1,472.74
08/25/2023	ACH6411	Air Mechanical & Service Corp	$	1,451.80
07/14/2023	ACH6300	MADER ELECTRIC INC	$	1,400.00
07/14/2023	ACH6311	USA Bluebook	$	1,390.04
07/14/2023	ACH6292	FLUID CONTROL SPECIALTIES INC	$	1,358.00
07/14/2023	ACH6299	KIMLEY-HORN AND ASSOCIATES INC	$	1,317.96
08/25/2023	ACH6452	THERMO ELECTRON NORTH AMERICA LLC	$	1,271.25
08/11/2023	ACH6396	MSC INDUSTRIAL SUPPLY CO	$	1,252.70
07/14/2023	39882	DESOTO AUTOMOTIVE ENTERPRISES INC	$	1,231.00
07/14/2023	ACH6314	WOMACK SANITATION INC	$	1,202.00
07/14/2023	39883	HOME DEPOT	$	1,137.74
08/11/2023	39899	DESOTO AUTOMOTIVE ENTERPRISES INC	$	1,000.00
08/11/2023	39901	HOME DEPOT	$	978.17
07/14/2023	ACH6296	IDEXX DISTRIBUTION INC	$	972.61
08/25/2023	ACH6421	COOL TODAY	$	970.10
08/25/2023	ACH6443	MIS Moss Integration Solutions Inc	$	895.00
08/11/2023	ACH6375	DMS-FINANCIAL MGMT SERVICES	$	893.78
08/11/2023	ACH6369	CED - Port Charlotte	$	883.27
07/28/2023	ACH6350	PRO-CHEM INC	$	869.90
08/25/2023	39909	CHARLOTTE PLUMBING & BATH INC	$	850.00
08/11/2023	ACH6367	BENCHMARK ENVIROANALYTICAL INC	$	849.00
08/11/2023	39906	SMITH RANCH & GARDEN INC	$	833.00
07/28/2023	ACH6345	Matt's Lawn Service	$	775.00
08/25/2023	ACH6441	Matt's Lawn Service	$	775.00
08/25/2023	ACH6447	RESPEC Company LLC	$	735.00
07/14/2023	ACH6287	CINTAS	$	729.22
08/11/2023	ACH6383	GRAINGER	$	704.04
07/28/2023	ACH6320	Apex	$	698.97
08/25/2023	ACH6453	TRINOVA INC.	$	693.63
08/11/2023	ACH6379	Fisher Scientific	$	659.10

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JULY & AUGUST 2023

By Amount Largest to Smallest

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
08/25/2023	ACH6425	DONALDSON COMPANY INC	$	640.00
08/11/2023	ACH6398	PRO-CHEM INC	$	639.40
08/25/2023	ACH6445	Precision Gate & Security Inc	$	595.00
08/11/2023	ACH6401	SOUTHWEST MOBILE MECHANIC	$	588.94
07/14/2023	ACH6273	ALLIED ELECTRONICS INC	$	546.80
07/28/2023	ACH6322	BENCHMARK ENVIROANALYTICAL INC	$	544.00
08/11/2023	39905	SAM'S CLUB	$	536.62
07/14/2023	ACH6304	Risk Management Associates Inc	$	533.00
08/11/2023	ACH6400	SARASOTA CHAMBER OF COMMERCE	$	495.00
07/28/2023	ACH6352	Risk Management Associates Inc	$	471.00
07/28/2023	ACH6316	Air Mechanical & Service Corp	$	468.00
08/11/2023	ACH6378	FEDERAL EXPRESS	$	461.03
07/14/2023	ACH6290	FEDERAL EXPRESS	$	456.45
08/25/2023	ACH6423	DESOTO CO CHAMBER OF COMMERCE	$	450.00
07/14/2023	ADBT071423	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
07/28/2023	ADBT072823	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
08/11/2023	ADBT081123	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
08/25/2023	ADBT082523	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
07/14/2023	ACH6288	Daniel J Roberts (V)	$	439.76
07/14/2023	ACH6307	TOI TOI USA	$	433.48
08/11/2023	ACH6370	CENTURYLINK	$	412.25
07/14/2023	ACH6303	Precision Gate & Security Inc	$	400.00
07/14/2023	ACH6283	CENTURYLINK	$	396.10
07/14/2023	ACH6276	Apex	$	373.19
08/11/2023	ACH6387	IDEXX DISTRIBUTION INC	$	355.97
07/28/2023	ACH6354	SARASOTA HERALD TRIBUNE	$	341.00
08/11/2023	ACH6373	CINTAS	$	338.70
08/25/2023	ACH6449	SUNSHINE ACE HARDWARE	$	337.48
07/14/2023	ACH6302	MOCK ENGINEERING TECHNOLOGIES	$	330.00
07/14/2023	ACH6282	CED - Port Charlotte	$	329.68
07/14/2023	39884	TRULY NOLEN Branch 093	$	303.00
07/28/2023	ACH6358	TRULY NOLEN BRANCH 079	$	303.00
08/11/2023	ACH6402	SUNSHINE ACE HARDWARE	$	294.96
07/28/2023	ACH6346	MOCK ENGINEERING TECHNOLOGIES	$	280.00
07/28/2023	ACH6347	MSC INDUSTRIAL SUPPLY CO	$	274.33
08/11/2023	ACH6382	FRONTIER-941	$	263.90
08/11/2023	ACH6376	EARTH BALANCE	$	262.50
08/25/2023	ACH6412	AIRGAS SPECIALTY PRODUCTS	$	257.19
07/28/2023	39890	Manatee County Utilities Department	$	249.93
07/14/2023	39881	CHARLOTTE PLUMBING & BATH INC	$	247.00
07/28/2023	ACH6338	FRONTIER-941	$	245.98
07/28/2023	ACH6339	FRONTIER COMMUNICATIONS-305	$	240.98
08/25/2023	ACH6435	FRONTIER COMMUNICATIONS-305	$	240.98
07/28/2023	ACH6317	AIRGAS USA LLC	$	229.63
07/14/2023	ACH6275	ANN LEE (V)	$	229.00
08/11/2023	39903	Manatee County Utilities Department	$	222.24
07/28/2023	ACH6349	NAVITAS CREDIT CORP	$	211.58
08/11/2023	ACH6397	NAVITAS CREDIT CORP	$	211.58
07/28/2023	39895	THE SUN	$	204.49
08/25/2023	39914	SMITH RANCH & GARDEN INC	$	199.98
07/14/2023	39885	Waste Pro Bradenton/Sarasota	$	190.00
08/11/2023	39907	Waste Pro Bradenton/Sarasota	$	190.00

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JULY & AUGUST 2023

By Amount Largest to Smallest

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
07/28/2023	ACH6340	Hach Company	$	188.00
08/25/2023	ACH6431	FEDERAL EXPRESS	$	186.25
08/11/2023	ACH6395	MOCK ENGINEERING TECHNOLOGIES	$	180.00
08/11/2023	ACH6363	ALLIED ELECTRONICS INC	$	164.55
08/25/2023	ACH6428	ENVIRONMENTAL EXPRESS INC.	$	160.43
08/11/2023	ACH6362	ADVANTAGE CARE INC.	$	160.00
08/25/2023	ACH6418	Centurylink 3363	$	149.61
07/28/2023	ACH6326	Centurylink 3363	$	149.21
07/14/2023	ACH6301	MCMASTER-CARR SUPPLY CO	$	149.00
07/28/2023	39893	SAM'S CLUB	$	144.18
07/28/2023	ACH6328	CINTAS	$	107.00
07/28/2023	39886	Braden River Utilities LLC	$	102.87
08/25/2023	39915	VERIZON WIRELESS	$	92.29
08/25/2023	39908	Braden River Utilities LLC	$	86.49
07/28/2023	39891	NaturZone Pest Control	$	83.79
08/25/2023	39913	NaturZone Pest Control	$	83.79
08/25/2023	ACH6444	Pitney Bowes- Lease	$	80.48
07/28/2023	39896	VERIZON WIRELESS	$	72.14
08/11/2023	ACH6374	COLE-PARMER INSTRUMENT CO	$	65.67
07/28/2023	ACH6329	COLE-PARMER INSTRUMENT CO	$	65.12
08/11/2023	39904	NaturZone Pest Control	$	63.00
07/28/2023	ACH6356	SUNSHINE STATE ONE CALL OF FL INC	$	50.54
08/25/2023	ACH6450	SUNSHINE STATE ONE CALL OF FL INC	$	50.54
07/28/2023	39889	HOME DEPOT	$	42.97
07/14/2023	39880	BILL'S BOTTLED WATER SERVICE	$	42.00
07/28/2023	ACH6335	FEDERAL EXPRESS	$	30.17
07/28/2023	39897	VERIZON WIRELESS	$	22.52
		Total	**$**	**5,595,276.27**

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
CHECK REGISTER: JULY & AUGUST 2023

CONSTRUCTION CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
07/11/2023	2786	SOUTHWEST FLA WATER MGMT DIST	$	3,412.50
07/14/2023	2785	Woodruff & Sons, Inc.	$	461,635.71
07/14/2023	CACH252	Ardurra Group (CIP)	$	2,516.25
07/14/2023	CACH253	Brown and Caldwell	$	8,730.03
07/14/2023	CACH254	STANTEC CONSULTING SERVICES	$	220,755.94
07/28/2023	CACH255	Brown and Caldwell	$	207,520.34
07/28/2023	CACH256	HDR ENGINEERING INC	$	213,412.93
07/28/2023	CACH257	Manson Bolves Donaldson Tanner PA CIP	$	32,387.50
07/28/2023	CACH258	DMK ASSOCIATES	$	7,493.70
08/11/2023	2788	TLC Diversified Inc	$	45,125.00
08/11/2023	CACH259	Brown and Caldwell	$	148,594.85
08/11/2023	CACH260	CAROLLO ENGINEERS INC	$	20,974.44
08/11/2023	CACH261	GARNEY CONSTRUCTION	$	177,946.65
08/11/2023	CACH262	Manson Bolves Donaldson Tanner PA CIP	$	43,725.00
08/25/2023	2789	Woodruff & Sons, Inc.	$	388,655.16
08/25/2023	CACH263	Ardurra Group (CIP)	$	320.00
08/25/2023	CACH264	Brown and Caldwell	$	23,074.50
08/25/2023	CACH265	DMK ASSOCIATES	$	5,037.36
08/25/2023	CACH266	FEL-FT MYERS WATERWORKS	$	181,361.00
08/25/2023	CACH267	GARNEY CONSTRUCTION	$	1,114,462.07
08/25/2023	CACH268	HDR ENGINEERING INC	$	437,875.83
08/25/2023	CACH269	MANSON BOLVES DONALDSON TANNER	$	74,741.94
		Total	**$**	**3,819,758.70**

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JULY & AUGUST 2023

Alphabetically by Vendor

CONSTRUCTION CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
07/14/2023	CACH252	Ardurra Group	$	2,516.25
08/25/2023	CACH263	Ardurra Group	$	320.00
07/14/2023	CACH253	Brown and Caldwell	$	8,730.03
07/28/2023	CACH255	Brown and Caldwell	$	207,520.34
08/11/2023	CACH259	Brown and Caldwell	$	148,594.85
08/25/2023	CACH264	Brown and Caldwell	$	23,074.50
08/11/2023	CACH260	CAROLLO ENGINEERS INC	$	20,974.44
07/28/2023	CACH258	DMK ASSOCIATES	$	7,493.70
08/25/2023	CACH265	DMK ASSOCIATES	$	5,037.36
08/25/2023	CACH266	FEL-FT MYERS WATERWORKS	$	181,361.00
08/11/2023	CACH261	GARNEY CONSTRUCTION	$	177,946.65
08/25/2023	CACH267	GARNEY CONSTRUCTION	$	1,114,462.07
07/28/2023	CACH256	HDR ENGINEERING INC	$	213,412.93
08/25/2023	CACH268	HDR ENGINEERING INC	$	437,875.83
08/25/2023	CACH269	MANSON BOLVES DONALDSON TANNER	$	74,741.94
07/28/2023	CACH257	Manson Bolves Donaldson Tanner PA CIP	$	32,387.50
08/11/2023	CACH262	Manson Bolves Donaldson Tanner PA CIP	$	43,725.00
07/11/2023	2786	SOUTHWEST FLA WATER MGMT DIST	$	3,412.50
07/14/2023	CACH254	STANTEC CONSULTING SERVICES	$	220,755.94
08/11/2023	2788	TLC Diversified Inc	$	45,125.00
07/14/2023	2785	Woodruff & Sons, Inc.	$	461,635.71
08/25/2023	2789	Woodruff & Sons, Inc.	$	388,655.16
		Total	**$**	**3,819,758.70**

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JULY & AUGUST 2023

By Amount Largest to Smallest

CONSTRUCTION CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
08/25/2023	CACH267	GARNEY CONSTRUCTION	$	1,114,462.07
07/14/2023	2785	Woodruff & Sons, Inc.	$	461,635.71
08/25/2023	CACH268	HDR ENGINEERING INC	$	437,875.83
08/25/2023	2789	Woodruff & Sons, Inc.	$	388,655.16
07/14/2023	CACH254	STANTEC CONSULTING SERVICES	$	220,755.94
07/28/2023	CACH256	HDR ENGINEERING INC	$	213,412.93
07/28/2023	CACH255	Brown and Caldwell	$	207,520.34
08/25/2023	CACH266	FEL-FT MYERS WATERWORKS	$	181,361.00
08/11/2023	CACH261	GARNEY CONSTRUCTION	$	177,946.65
08/11/2023	CACH259	Brown and Caldwell	$	148,594.85
08/25/2023	CACH269	MANSON BOLVES DONALDSON TANNER	$	74,741.94
08/11/2023	2788	TLC Diversified Inc	$	45,125.00
08/11/2023	CACH262	Manson Bolves Donaldson Tanner PA CIP	$	43,725.00
07/28/2023	CACH257	Manson Bolves Donaldson Tanner PA CIP	$	32,387.50
08/25/2023	CACH264	Brown and Caldwell	$	23,074.50
08/11/2023	CACH260	CAROLLO ENGINEERS INC	$	20,974.44
07/14/2023	CACH253	Brown and Caldwell	$	8,730.03
07/28/2023	CACH258	DMK ASSOCIATES	$	7,493.70
08/25/2023	CACH265	DMK ASSOCIATES	$	5,037.36
07/11/2023	2786	SOUTHWEST FLA WATER MGMT DIST	$	3,412.50
07/14/2023	CACH252	Ardurra Group	$	2,516.25
08/25/2023	CACH263	Ardurra Group	$	320.00
		Total	**$**	**3,819,758.70**

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

ROUTINE STATUS REPORTS
ITEM 3

Peace River Regional Reservoir No. 3 (PR3) – Preliminary Design

ROUTINE STATUS REPORTS
ITEM 3

Project Status Report

Project: Peace River Regional Reservoir No. 3 (PR3) Project – Preliminary Engineering

Date: October 4, 2023

Prepared by: Terri Holcomb, PE, Director of Engineering

Project Description

The key to use of seasonally available surface water as a reliable public water supply is the ability to harvest and store large volumes of water during relatively short periods of availability. The Peace River facility utilizes off-stream raw water reservoirs, and an aquifer storage and recovery system to support use of supplies skimmed from the Peace River as an alternative water supply, reliably meeting much of the drinking water needs in the District's southern water planning area. The Peace River Reservoir No. 3 (PR3) Project will include a third off-stream raw water reservoir (minimum 6 BG capacity) at the Peace River site in DeSoto County, expanded river intake capacity and connecting pipelines.

The Reservoir No. 3 Project is supported by the Authority's Water Use Permit (20 010420.010) issued February 26, 2019 which authorized increasing the maximum daily withdrawal from the Peace River from 120 MGD to 258 MGD to enhance the capture and storage of excess flows during the wet season. The increase in withdrawal will facilitate gaining additional drinking water supply yield from this system. In addition, the Authority's 2020 Master Water Supply Plan identified an additional 15 MGD in alternative water supply capacity development is available from the Peace River Facility Expansion Project, inclusive of the PR3 Project. The Southwest Florida Water Management District is funding this portion of the PR3 Project in the amount of $3,625,000.

Current status

Work Order No. 2 'Peace River Regional Reservoir (PR3) Project Preliminary Design, Permitting and Third-Party Review' with HDR Engineering, Inc. includes environmental and geotechnical site characterization; 15% and 30% Design Documents; Development of the Basis of Design Report; environmental permit applications and mitigation strategy development. Board Approval of the Work Order No. 2 – Peace River Regional Reservoir (PR3) Project Preliminary Design, Permitting and Third-Party Review in the amount of $7,249,966.00 occurred on February 3, 2022, with a completion date of June 31, 2023. The Project is currently on schedule and on budget.

Project History Briefing

Project: **Peace River Regional Reservoir (PR3) Project Preliminary Design, Permitting and Third-Party Review**

Date: October 4, 2023

Prepared by: Terri Holcomb, PE, Director of Engineering

The following information summarizes the historical milestones and key events to date for Work Order No. 2 - Peace River Regional Reservoir (PR3) Project Preliminary Design, Permitting and Third-Party Review Project.

February 2022 Board approved the Peace River Regional Reservoir (PR3) Project Preliminary Design, Permitting and Third-Party Review Work Order No. 2 on February 3, 2022.

March 2022 The Site Characterization Task commenced with the Geotechnical Kick-Off meeting on March 1st. The Wetland Delineations began on March 17th and continued on March 18th and again on March 28th – 30th. The first Monthly Progress Meeting was held on March 17th. Geotechnical field investigations began on March 14th with the equipment being mobilized to the Reserve. Soil/auger borings and other geotechnical investigations will continue through June.

April 2022 The Monthly Progress Meeting was held on April 14th. Wetland delineations continued April 11th – 14th; and April 20th – 22nd. Geotechnical field investigations continued throughout the month of April.

May 2022 The Monthly Progress Meeting was held on May 10th. The Consultant held a System Conveyance Workshop on May 2nd with Operations, Engineering and Water Resources staff. An Environmental Permitting / Mitigation Strategy meeting was held virtually on May 12th. Geotechnical field investigations continued through the month of May.

June 2022 The Monthly Progress Meeting was held on June 9th, 2022. Geotechnical and Environmental field investigations continued through the month of June. A site visit to the existing intake structure was held on June 2 by the Consultant Team to coordinate siting and intake orientation design efforts.

July 2022 The Monthly Progress Meeting was held on July 14, 2022. 15 % Design Drawings and Basis of Design Report was received on July 15th, 2022. On July 25th a Communications Workshop was held to review the Authority's goals and messaging objectives for the PR3 Project. Authority staff met

with FWC staff in Tallahassee on July 27th to discuss the benefits of restoration efforts on Orange Hammock.

August 2022 A 15% Design – Review Workshop was held on August 16th with Consultant and Authority Staff to go over comments from Authority staff on the conceptual design. The Monthly Progress Meeting was held on August 18th via MS Teams in conjunction with a meeting on the conceptual, preliminary mitigation strategy. The consultant attended a discussion on the preparation of presentation items for the upcoming Professional Staff Meeting. The Consultant provided a 15% Cost Estimate for the PR3 Project on August 31st and also provided an MS Teams presentation on the basis of the estimates also on August 31st.

September 2022 The Consultant presented an update on the PR3 Project – 15% Preliminary Design Milestone at the Professional Staff Meeting held on September 7th in Sarasota County. The Consultant provided a Communications Project Fact Sheet on the PR3 Project on September 12th. The Consultant performed additional geotechnical work, including piezometer water quality testing on the PR3 site on September 15th.

October 2022 The Consultant presented an update on the PR3 Project – 15% Preliminary Design Milestone at the Board Meeting on October 5, 2022. The Consultant held a meeting on October 11th to discuss conceptual ERP Permitting strategy and milestones. A 15% Design Review Workshop was held at the PRF on October 18th to review comments received on the 15% Design Plans and Cost Estimate and was in conjunction with the Monthly Progress Meeting. On October 25th the Consultant held meetings on easement acquisition and mitigation efforts.

November 2022 The Consultant held a 30% Design and Conveyance Pipeline Workshop at the PRF on November 1st. A PR3 Cost Savings Alternative Discussion was held on November 9th. The Monthly Progress Meeting was held on November 10th. A Preliminary Design Cost Reduction Measure Memorandum was received on November 16th. The

December 2022 On December 1st, the Consultant Team held a preparation meeting for FDEP pre-application meeting held on December 6th. A Permitting Coordination Meeting was held with Authority staff and GC on December 9th. On December 12th, Authority staff met to discuss delivery methods for both the PR3 Project and the WTP Expansion Project. On December 14th – PR3 Project Manager and Authority Project Manager met to discuss obtaining a sub-consultant to assist with permitting agency coordination. There was no monthly progress meeting held in December.

January 2023 The monthly progress meeting was held on January 12th. On January 20th, The Consultant met with Green Source to develop a scope and fee for

assistance with environmental permitting coordination.

February 2023 The monthly progress meeting was held on February 15th. A meeting was held on February 13th to discuss the wetland mitigation approach and recent field investigations. Ongoing species surveys and geotechnical investigations occurred throughout the month.

March 2023 The monthly progress meeting and 30% design review workshop were held on March 20th. The 30% design deliverables were delivered on March 10th. A follow-up meeting on wetland mitigation and permitting updates was held on March 14th.

April 2023 The 30% Design Progress Update was presented to the Board at the April 5th meeting. The monthly progress meeting was held in conjunction with the SWFWMD Third-Party Review Kick-Off meeting held on April 14th. A Preapplication Meeting with the Army Corp of Engineers (ACOE) was held on April 13th to discuss Section 404 and the ERP Permitting approach.

May 2023 A meeting with FDEP was held on May 2nd to discuss the environmental permitting approach for the CDV site. The Third-Party Review Draft Comments meeting was held with the SWFWMD and TPR Consultant on May 15th. The monthly progress meeting was held in conjunction with the 30% Design Review Workshops. The Reservoir Design Workshop was held on May 23rd, and the Pipeline Design Workshop was held on May 24th.

June 2023 A meeting was held on June 2nd to review the FDEP 404 Preapplication strategy. The monthly progress meeting was held on Thursday, June 8th. A 30% Design Review discussion was held with the SWFWMD on June 19th. A follow-up to the June 2nd FDEP permitting meeting was held on June 21st. A meeting was held with the Consultant on June 22nd to review the Demand Projections Technical Memorandum. A meeting was held on June 30th to coordinate the Design/Permitting team for the July 12th FDEP 404 Preapplication Meeting.

July 2023 A meeting was held on July 6th to coordinate the Team for the July 12th FDEP 404 Preapplication Meeting. A meeting with FDEP was held on July 12th . The PR3 CMAR Mandatory Pre-SOQ Meeting was held on Friday July 14th. The Monthly Progress Meeting was held on July 18th. An ERP Preapplication meeting was held with the SWFWMD on July 31st.

August 2023 ERP coordination meetings were held on August 3rd, 16th, and 30th for the ERP Application Submittal on September 15th. The PR3 CMAR SOQ's were submitted on August 17th and 4 Firms submitted: Archer Western; Garney; Kiewit and PCL. The PSEC meeting to review, rank and shortlist

the firms was held on August 29th – all 4 firms were recommended to proceed to Presentation.

September 2023 ERP coordination meetings were held on September 7th and September 14th. The PR3 CMAR SOQ PSEC presentations were given on September 12th, with the rankings as follows: Archer Western, PCL, Garney, and Kiewit. The staff recommendation to approve Archer Western as the selected CMAR Firm for the PR3 Project will go to the October 4th, Board Meeting. The ERP Package was submitted to the SWFWMD on September 15th – completing the final deliverable for the Preliminary Design efforts. The Monthly Progress meeting was held on September 14th.

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

ROUTINE STATUS REPORTS
ITEM 4

Regional Integrated Loop System Phase 2B Pipeline Project
Progressive Design-Build

Project Status Report

Project: **Regional Integrated Loop System Phase 2B Pipeline Project**

Date: October 4, 2023

Prepared by: Mike Knowles, P.E., Project Manager

The following information summarizes the project description and status. (see attached general project area figure).

Project Description

The Phase Regional Integrated Loop System Phase 2B Pipeline is approximately 13-miles of 42-inch diameter pipe beginning near the western end of the existing Phase 2 Regional Interconnect and 36-inch diameter Charlotte County Regional Transmission Main (CCTM), near the intersection of Harbor Boulevard and Veterans Boulevard in Charlotte County. As currently envisioned, based on the recently completed Phase 2B/2C Feasibility and Routing Study, the Phase 2B Pipeline will extend generally west and south, crossing the Myakka River terminating at or in the vicinity of the Charlotte County Utilities Gulf Cove Booster Station. The Phase 2B Pipeline Project will be delivered (designed, permitted, and constructed) via Progressive Design-Build (PDB). The project includes metering facilities, telemetry, and other appurtenances appropriate to make the Phase 2B Project fully functional for transfer and delivery of finished water, and support a future connection with the Regional Integrated Loop Phase 2C Interconnect. As pointed out at the April 2022 Board Meeting, Phase 2B/2C implementation will be subdivided into two separate projects. The Phase 2C Interconnect is anticipated to begin in 2029.

Progressive Design-Build Team Selection Process

On June 24th, 2022, the Authority received four Statements of Qualification proposals on a timely basis for Progressive Design-Build Services. The first Professional Services Evaluation Committee (PSEC) meeting was held on June 30th and all four Teams were shorted-listed and proceed to the interview stage. One short-listed Team declined the opportunity to interview. PSEC interviews with presentations were held on July 14th, 2022, and the top two (2) Teams were recommended to the Board on August 3, 2022, for delivery of the Regional Integrated Loop System Phase 3C Pipeline Project and the Regional Integrated Loop System Phase 2B Pipeline Project.

Current Status

Regional Integrated Loop System Phase 2B Project Schedule Overview

The Project will be subdivided into 2 Phases. The schedule includes:

- Phase 1 – Includes - Contract for Progressive Design Build Services - scope and fee. Scope includes 60% design, property and permitting and GMP for Phase 2 Services. Scope/fee and Phase 1 Services are due September 20, 2022, for consideration at the October 5th, Board Meeting.
- Phase 2 – final scope and fee/GMP. Final scope and Phase 2 GMP includes, final design, construction, permitting, property acquisition, testing, and final completion. The Phase 2 GMP will be added to the Contract by Addendum and brought to the Board for consideration in December 2023.
- Phase 2B Pipeline Project substantial completion is scheduled for March 1, 2026.

On October 5, 2022, the Board approved the Contract with Woodruff and Sons Inc. for the Phase Phase 2B Pipeline, and Phase 1 Design Services for 60% Design and development of the Guaranteed Maximum Price, in the amount of $5,067,144.81.

Woodruff and Sons, Inc. submitted all insurance requirements for the Phase 2B Contract. The Contract was executed by the Authority and the Notice-to-Proceed for the project was issued to Woodruff and Sons, Inc., November 10, 2022.

Woodruff and Sons, Inc. November/December 2022 submitted Technical Memorandum No. 1 – Pipe Material and Size and Technical Memorandum No. 2 – Alignment and Easement including 10% Design Plans. Field services for the first 7-miles of the alignment from the termination of the Phase 2A Pipeline west along Hillsborough Blvd. to US-41. Field work including survey, geotechnical and subsurface utility engineering are underway.

In mid-February 2023, Woodruff and Sons, Inc. submitted 30% Design Drawings for the first 7-miles of the alignment and Technical Memorandums 3-to-6, on hydraulic analysis, water and road crossings, corrosion control and the Gulf Cove Booster Station. W&S anticipates completing the draft Basis of Design Report (30%) design in early April 2023.

In April 2023, Woodruff and Sons, Inc. submitted the 30% Basis of Design Report and 30% Design Drawings updates to the Authority for review.

On June 16, 2023, the 30% design package (BODR & Design Drawings) was forwarded to the District Project Manager for Third Party Review in accordance with the Cooperative Funding Agreement.

On September 15, 2023, the draft 60% Design Package and GMP was submitted to the Authority and Charlotte County. The following Monday, SWFWMD received the draft 60% package.

Project History Briefing

Project: Regional Integrated Loop System Phase 2B Pipeline Project

Date: October 4, 2023

Prepared by: Ford Ritz, P.E., Project Engineer

The following information summarizes the historical milestones and events of the Regional Integrated Loop System Phase 2B Project.

- Project History – The Board approved the Contract for Professional Services with Kimley Horn Associates, Inc. (KM) for the 'Regional Integrated Loop System Phase 2B and Phase 2C Feasibility and Routing Study' on December 2, 2020, in the amount of $399,960. Kimley Horn was issued the Notice-to-Proceed on January 6, 2021. The Project was completed on time and within budget. Subsequently, the project was subdivided into two separate pipeline projects, the Phase 2B and Phase 2C.

- April 6, 2022, Board Meeting – KH presented the recommended route for the Phase 2B Interconnect Pipeline (2B.1) to the Board. The Authority stated that going forward the PH2B/2C project would proceed as two separate Projects, the PH2B Interconnect Pipeline and the PH2C Interconnect Pipeline. The PH2B Pipeline will use a Progressive Design Build Delivery approach for design and construction of the project. Final construction completion for the Phase 2B Pipeline Project is anticipated to be March 1, 2026. The PH2C Pipeline Project has been deferred until 2029 based upon projected water demands from Regional Customers/Members per the Authority's Capital Improvements Project (CIP) and Capital Needs Assessments (CNA) planning. The Board approved, a Motion for the Recommended PH2B Route, and a Motion for the Interlocal Agreement between Charlotte County and the Authority for the PH2B Project.

- May 24, 2022 - The Authority advertised for Statements of Qualifications (SOQs) for Progressive Design-Build Services for the Regional Integrated Loop Phase 2B and Phase 3C Pipelines. Per the Information Package, the Authority will make two awards, one for the Phase 2B Project and one for the Phase 3C Project. The top-rated Progressive Design-Build Team will select either the Phase 2B Project or the Phase 3C Project. The second highest rated Team will be select the other pipeline project.

- June 7, 2022 – Addendum No. 1 – Updates to Information Package - was posted for Progressive Design-Teams expressing interest.

- June 7, 2022 – Addendum No. 2 – Response to Questions – was posted.

- June 14, 2022 – Addendum No. 3 – Response to Questions (final) – was posted.

- June 24, 2022 – Four Progressive Design-Build Team SOQ packages were timely received. Each PDB Team consists of a Prime Contractor and Prime Engineer. Teams in alphabetical order include:
    - Garney Companies and Ardurra Group
    - Quality Enterprises and GradyMinor & Associates
    - Westra Construction and McKim & Creed
    - Woodruff & Sons and Kimley Horn

- June 30, 2022 – The first Professional Selection Evaluation Committee (PSEC) meeting was held, and all four Design Build Teams were short listed. The PSEC included 3-Authority representatives and one representative each, from Charlotte and Sarasota Counties. Per Committee Member evaluations of SOQ Proposals:
    - Garney Companies and Ardurra Group – rated first
    - Westra Construction and McKim & Creed – rated second
    - Woodruff & Sons and Kimley Horn – rated third
    - Quality Enterprises and GradyMinor & Associates – rated four (declined presentation and interview)

- July 14, 2022 – The second PSEC meeting was held for presentations and interviews. Woodruff & Sons, Inc. was recommended for the Phase 2B Regional Integrated Loop System Interconnect Project.

- August 3, 2022 – The Board Approved the PSEC's recommendation of Woodruff & Sons Inc., Design-Build Team for delivery of the Regional Integrated Loop System Phase 2B Pipeline. Staff began preparation of the Contract Documents on August 5th, 2022.

- September – Staff continues to negotiate Contract Documents including the Agreement, General Conditions, Exhibits, and Phase 1 Design Services Fee for the Project. The Regional Integrated Loop System Phase 2B Pipeline Project – Phase 1 Services Contract will be presented to Board for approval at the October 5, 2022 meeting.

- October 5, 2022 – Board approved the Contract with Woodruff and Sons Inc. for the Phase 2B Pipeline Project and Phase 1 Design Services for the 60% Design and development of the Guaranteed Maximum Price in the amount of $5,067,144.81.

- November 1, 2022 – Woodruff and Sons submitted final insurance requirements for the Contract.

- November 8, 2022 – Woodruff and Sons submitted Technical Memorandum No.1 - Pipeline Material and size and draft 10% design drawings. Woodruff and Sons will be collecting bids from Ductile Iron Pipe vendors, Steel Pipe vendors, and HDPE vendors for the Horizontal Directional Drill (HDPE) under the Myakka River. After Woodruff receives bid prices, they will compare the cost of the material and the cost installation for each type of Pipe (ductile or steel) and select most cost-effective approach.

- November 10, 2022 – The Authority executed the Contract and issued the Notice-to-Proceed for the Phase 2B Pipeline, Progressive Design-Build Project to Woodruff and Sons, Inc.

- December 1, 2022 – The Authority and Kimley Horn met (virtual) with Charlotte County Utilities staff & Jones Edmunds to discuss the Charlotte County Hydraulic Model for the Phase 2B Pipeline being developed.

- December 21, 2022 – Tech. Memo 2 PH 2B Pipeline - Alignment & Easement Requirements and updated 10% Design Drawings.

- January 11, 2023 – The Authority, and Woodruff and Sons met (virtual) with Charlotte County Public Works and the City of North Port Pump works to discuss the PH 2B pipeline along Hillsborough Blvd and Chancellor Blvd. and requested additional information.

- January 17, 2023 – The Authority and Woodruff and Sons met (virtual) to discuss Authority comments on Technical Memorandums No. 1 - Pipe Material and Size and Technical Memorandum No. 2. - Alignment & Easement Requirements.

- January 17, 2023 – Woodruff and Sons submitted their Order of Magnitude for Owner Direct Purchase of pipe, gaskets, fittings, and line valves for the first 7-miles of the Phase 2B Pipeline, beginning at the termination of the Phase 2A Pipeline west along Hillsborough Blvd. to US41. They anticipate receiving vendor bid quotes by February from pipe vendors.

- January 18, 2023 – The Authority and Woodruff and Sons and Kimley Horn met (virtual) with Charlotte County Utilities & Jones Edmunds to discuss Hydraulic Modeling. Based on the meeting flow projections to the Charlotte County Gulf Cove Pumping Station (south end of PH 2B) were determined to be within acceptable limits and a 42-diameter Phase 2B pipeline could convey flows to Gulf Cove including up-to 7-interconnects to the Charlotte County water distribution system along the alignment of the Phase 2B primarily along Hillsborough Blvd.

- February 16, 2023 – Woodruff and Sons submitted Technical Memorandums (TM), TM3 Hydraulic Modeling, TM4 Water and significant Roadway Crossings, TM5 Pipeline and Corrosion Control and TM6 Gulf Cove Booster Pump Station.

- February 22, 2023 – A 30% Design and ROM meeting was held with Authority and Woodruff and Sons staff to discuss the 30% design drawings and ROM development in preparation for the schedule Owner Direct Purchase meeting with Charlotte County schedule on March 2nd.

- March 2, 2023 – Owner Direct Purchase (ODP) Meeting with Charlotte County to discuss 30% ROM Projections and not to exceed amount for Owner Direct Purchase. Discussed project status (30% design), project schedule and development of the 10% design and 30% design drawings. Noted that the ODP of pipeline material will save about $1.25 million in taxes. Based upon vendor cost estimates of pipeline materials for 56,000 lf of 42-inch steel pipe, adjacent pipe and appurtenances, 42-inch isolation valves, adjacent valves and appurtenances. Woodruff and Sons explained that the current construction schedule start on the east end of the

project (Hillsborough Blvd.) was October-November 2023. Therefore, pipe material has to be ordered in late April due to a 6-month+/- lead time. An agreed upon amount for a not-to-exceed ODP cost for materials was $20-million and will be taken to the April 5, 2023, Board Meeting for Board Approval. The meeting included Charlotte County Utilities, Authority and Woodruff and Sons staff.

- March 3, 2023 – Army Corps of Engineering Pre-application meeting (virtual). The meeting was attended by Authority, Woodruff & Sons and ACOE staff. The purpose of the meeting was to discuss project design parameters, required permitting and schedules, associated with water body crossings, including navigable and non-navigable waters along Hillsborough Blvd. and Chancellor Blvd., and the pipeline crossing of the Myakka River.

- March 8, 2023 - Florida Department of Environmental Protection Permitting Pre-application meeting (virtual). The purpose of the meeting was to discuss project design parameters, required permitting and schedules. The meeting was attended by Authority, Woodruff & Sons and FDEP staff.

- March 9, 2023 – A Workshop was held with Charlotte County and City of North Port, Utilities and Public Works Departments, respectively. The purpose of the meeting was to update the County and City on the status of the project and to discuss and answer design questions or identify the person to obtain follow-up information.

- March 28, 2023 – A meeting was held with the Sarasota County Parks and Land Management Departments to discuss the PH 2B Pipeline crossing the Myakka Islands Point Preserve and process to obtain easements.

- April 5, 2023 – The Authority Board approved Owner Direct Purchase for Phase 2B project long lead items with a total estimated cost of materials, including steel pipe (raw materials and finished products), yard piping, line valves, flow meter and pipeline materials suitable for subaqueous installation under the Myakka River, for an amount not-to-exceed $20 Million. Woodruff and Sons will solicit bids for these items while meeting the Authority's owner direct purchase policy requirements.

- April 10, 2023 – W&S/KH submitted the 30% Basis of Design Report and 30% Design Drawing for segments 1 and 2 (east-west alignment drawings) to the Authority for review. Segment 3 (north-south) 30% design drawings are pending completion of field work. The SWFWMD 30% Design Package will be forwarded to the District in June for Third Party Review in accordance with the Cooperative Funding Agreement.

- May 2, 2023 – An Operations meeting was held with W&S and the Authority to discuss the 30% design of the PH2B pipeline. Items discussed included connection of the 2B to the existing 2A pipeline, 2B meter assembly, horizontal directional drill (HDD) crossing of the Myakka River, termination of the 2B pipeline at the Charlotte County Gulf Cove Booster Pump Station and cathodic protection of the 2B pipeline (steel).

- May 10, 2023 – A meeting was held with the City of North Port, Authority and W&S to discuss a potential emergency interconnect with the 2B at the City Hillsborough Booster Pump Station located in Charlotte County (south side of Hillsborough Blvd.). The City currently has an emergency interconnect off an existing Charlotte County 12" WM at this location. The City suggested that an additional 2B interconnect at this location may reduce Charlotte County distribution line pressure fluctuations when the existing emergency interconnect is used. The Authority will follow up with Charlotte County Utilities.

- May 19, 2023 – A meeting was held with Charlotte County Utilities to discuss the Phase 2B alignment along Hillsborough Blvd. and Charlotte County's plans to construct a future 8-inch diameter CCU water pipeline along Hillsborough Blvd.

- June 16, 2023 – Woodruff & Sons submitted a Rough Order of Magnitude (ROM) 30% design cost comparison for the Phase 2B north-south (segment 3) from Chancellor Blvd. to the Charlotte County Gulf Cove Booster Pump Station approximately 3-miles in length. The alternative A alignment includes Phase 2B installation on District and Sarasota County property and was estimated to be $ 14,336,600. Alternative B includes installation in Campbell Street and private property and was estimated to be $19,878,000. Both alternatives include a horizontal directional drill (HDD) across the Myakka River.

- June 16, 2023 – The 30% Design Package was submitted to the SWFWMD Phase 2B Project Manager for the District's Third Party Review (TPR) in accordance with the CFI Agreement 23CF0004096 (Q355).

- June 20, 2023 – Mike Coates (Executive Director) and Doug Manson (Authority Attorney) met with officials from the Florida Forest Services in Tallahassee to discuss installation of the north/south segment of the Phase 2B pipeline in SWFWMD/State Forest Services, Lands. A follow up meeting in anticipated to be held in early July.

- July 7, 2023 – The Authority met with the SWFWMD and Florida Forest Services representatives (virtual meeting) to discuss the installation of the Phase 2B Pipeline in State property. The Florida Forest Service and SWFWMD are amicable to the installation of the Phase 2B pipeline within the District property north of the Myakka River. South of the Myakka River the Forest Service and SWFWMD prefer the Phase 2B pipeline be installed on private property. The Authority will work with Woodruff & Sons to determine the alignment for the horizontal directional drill subaqueous crossing of the Myakka River.

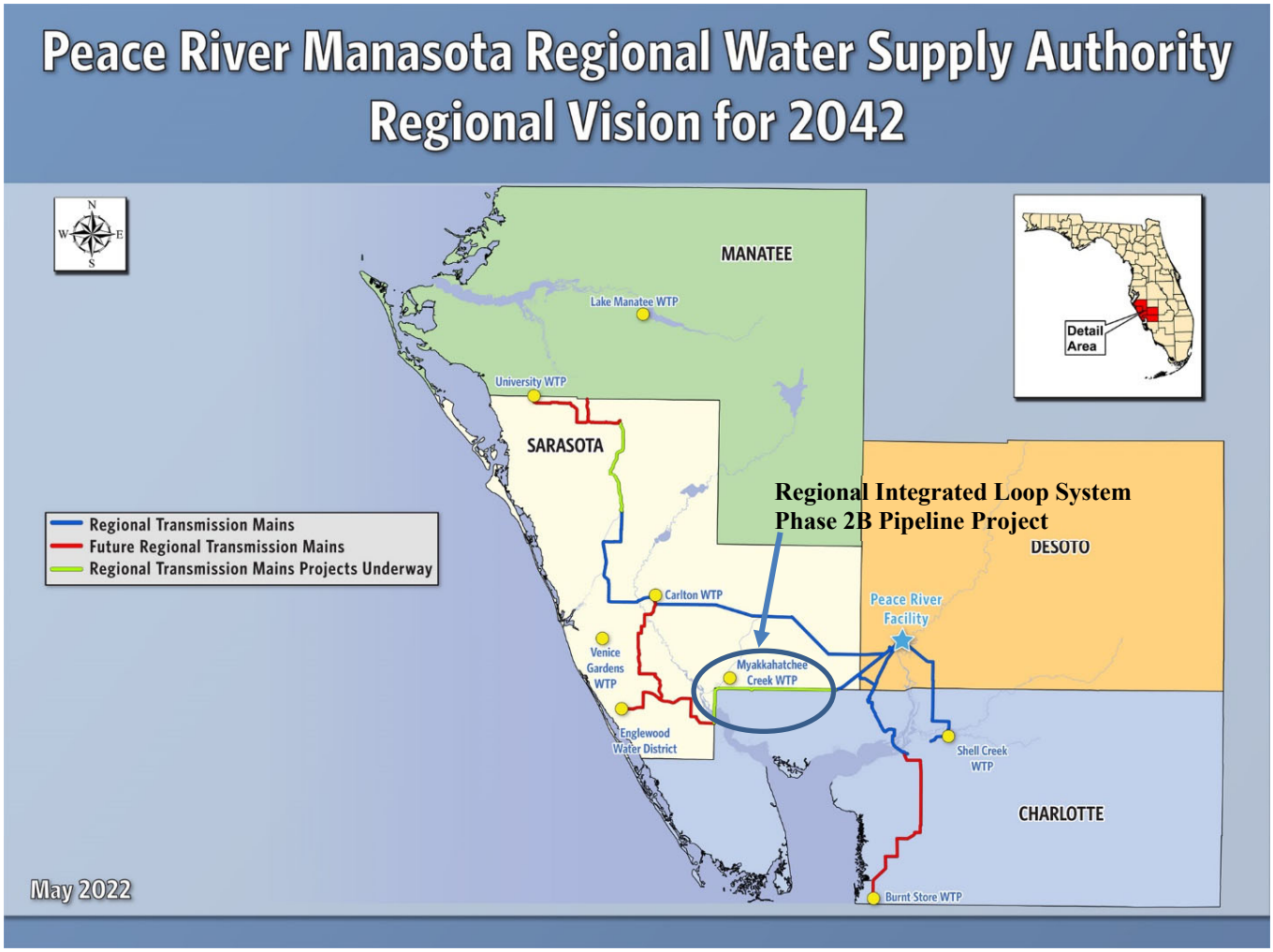
- July 12, 2023 – A meeting has been scheduled with Sarasota County to discuss installation of the Phase 2B pipeline in Sarasota County property on the north side of the Myakka River. Attendees will include Sarasota County Parks and Utilities Departments, Woodruff & Sons and the Authority.

- July 14, 2023 – A 60% Guaranteed Maximum Price (GMP) Kick Off meeting will be held with Woodruff & Sons, SWFWMD and the Authority.

During this period regularly scheduled bi-weekly progress meetings were held as well as preparation meetings for discussions with regulatory agencies, workshops, and submittal review meetings with Woodruff and Sons.

- August 14, 2023 – The Design-Build Team prepared a pre-60% GMP and shared the submittal at a coordination meeting with Charlotte County Utilities. During this meeting, the approach of the County's parallel 8-inch diameter water main and the coordination of both projects was discussed.

- September 15, 2023 – The Design-Build team submitted the draft Guaranteed Maximum Price (GMP) and the draft 60% plans. The Authority shared the draft GMP with Charlotte County Utilities and is preparing to share the GMP with their Board on October 10, 2023.


Peace River Manasota Regional Water Supply Authority
Regional Vision for 2042
MANATEE
Lake Manatee WTP
University WTP
SARASOTA
Regional Integrated Loop System
Phase 2B Pipeline Project
DESOTO
Carlton WTP
Peace River
Facility
Venice
Gardens
WTP
Myakkahatchee
Creek WTP
Englewood
Water District
Shell Creek
WTP
CHARLOTTE
Burnt Store WTP
Detail
Area
Regional Transmission Mains
Future Regional Transmission Mains
Regional Transmission Mains Projects Underway
May 2022

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

ROUTINE STATUS REPORTS
ITEM 5

Regional Integrated Loop System Phase 3C Pipeline Project
Progressive Design-Build

Project Status Report

Project: **Regional Integrated Loop System Phase 3C Pipeline Project**

Date: October 4, 2023

Prepared by: Ford Ritz, P.E., Project Engineer

The following information summarizes the project description and status (see attached general project area figure).

Project Description

The Regional Integrated Loop System Phase 3C Pipeline Project (Project) includes the design and construction of approximately 42,500 LF of 42-inch diameter pipe, a new 10 MGD pumping facility (expandable to 30 MGD) located near the northern end of the Project, and one finished water ground storage tank (estimated 5 MG). The project includes metering facilities, chemical adjustment, telemetry, backup power supply, and other appurtenances as deemed appropriate to make the project fully functional for water transfer and delivery. The pipeline begins at the northern end of the existing Regional Integrated Loop Phase 3B pipeline within Sarasota County near State Road 72 immediately east of Cow Pen Slough Canal. The pipeline will then extend generally north to the approximate vicinity of the intersection of Fruitville and Lorraine Roads where it will terminate at a delivery location with Sarasota County utilities existing infrastructure. The delivery of potable water through this pipeline needs to offer a high degree of flexibility to enable the delivery of the required supply and facilitate a future extension/expansion of the regional water transmission system to support future regional supply and connectivity goals.

Current Status

Since the August 2, 2023, Board meeting update, Sarasota County Row-of-Way Permit has been approved. Based upon approval of the Sarasota County Row-of-Way Permit, the Design-Builder has mobilized to the site and has begun staging early procurement materials for a portion of the pipeline and isolation valves, and other project materials. Construction of the Phase 3C Pipeline is scheduled to begin after the SWFWMD approval of the Third-Party Review, anticipated in late October. Construction will begin along the project alignment from the intersection of Bee Ridge Road and Lorraine Road north to Phillipp Creek, approximately 2.2 miles. The Authority has met with the District and their Third-Party Review consultant. Voluntary easement acquisition is on-going, and ten permanent and ten temporary easements have been Board approved to date. The Phase 2 Amendment to the Contract covering final design and construction of the pipeline was approved by the Board on April 5, 2023, and the Amendment was executed on April 19, 2023.

Regional Integrated Loop System Phase 3C Project Schedule Overview

The Project will be subdivided into 2 Phases. The schedule includes:

- Phase 1 – Includes - Contract for Progressive Design Build Services - scope and fee to produce a Guaranteed Maximum Price (GMP). Scope includes 60% design, property and permitting. Scope/fee for Phase 1 due September 20, 2022, and approved at the October 5, 2022, Board Meeting.
- Early Procurement Package – Initial order of long lead items by owner direct purchase approved at the December 7, 2022, Board Meeting.
- Phase 2 – Final scope and fee/GMP. Final scope and GMP includes, final design, construction, permitting, property acquisition, testing, and final completion. The Phase 2 GMP was added to the Contract by Addendum and approved by the Board on April 5, 2023.
- Regional Integrated Loop Phase 3C Pipeline Project substantial completion is scheduled for March 1, 2025.

Project History Briefing

Project: Regional Integrated Loop System Phase 3C Pipeline Project

Date: October 4, 2023

Prepared by: Ford Ritz, P.E., Project Engineer

The following information summarizes the historical milestones and events of the Regional Integrated Loop System Phase 3C Project.

History of Project Development

Phase 3C Feasibility and Routing Study Solicitation for Qualifications

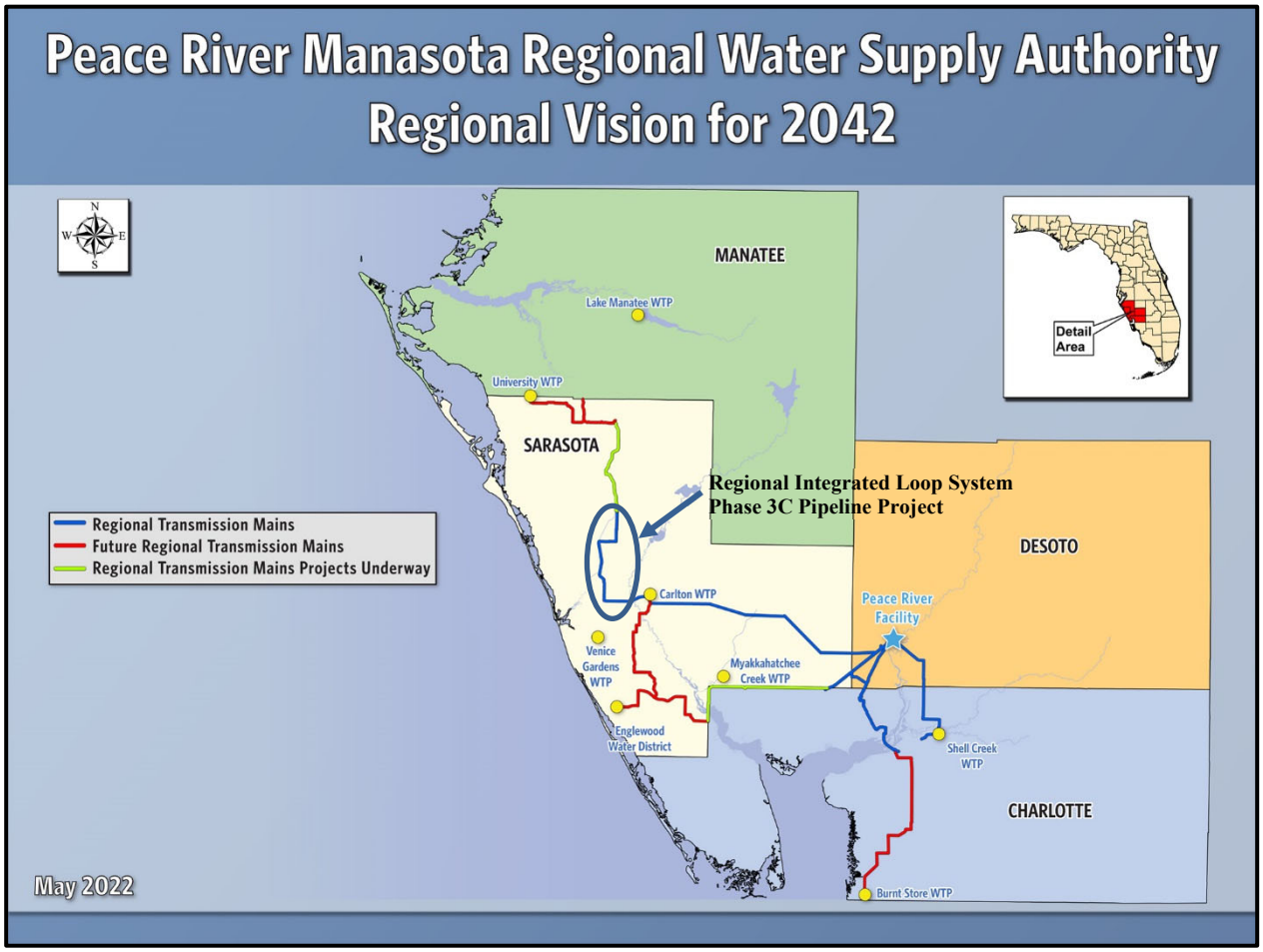
On June 23, 2020, a request for qualifications for a feasibility and routing study was advertised. Eight firms submitted qualifications on time. On August 11, 2020, three firms were shortlisted, based on Statement of Qualification, by the Authority Professional Selection Evaluation Committee (PSEC) for presentations and interviews. On September 2, 2020, Wade-Trim, Inc. was selected by the PSEC after presentations and interviews. The PSEC selection was approved by the Board on September 30, 202 and the professional services contract for Wade-Trim, Inc. on the feasibility and routing study was approved by the Board in December of 2020. The study was completed, and the results accepted by the Board in April 2022. The milestones of this study are detailed in the June 2022 Routine Status Report, Item 6.

Progressive Design-Build Solicitation for Qualifications

On May 24, 2022, a request for qualifications for Progressive Design-Build Services was advertised. Four Design-Build Teams submitted qualifications on time. On June 30, 2022, all four teams were shortlisted, based on the Statement of Qualification, by the Authority Professional Selection Evaluation Committee (PSEC) for presentations and interviews. On July 14, 2022, the Garney Companies, Inc., Progressive Design Build Team was selected by the PSEC after presentations and interviews for the Phase 3C project. On August 3rd, 2022 the Board approved the PSEC recommendation of Garney Companies, Inc. Design-Build Team for the Regional Integrated Loop System Phase 3C Pipeline Project.

- August 3, 2022 – The Board Approved the PSEC's recommendation of Woodruff & Sons Inc., Design-Build Team for delivery of the Regional Integrated Loop System Phase 2B Pipeline. Staff began preparation of the Contract Documents on August 5th, 2022.
- September 2022 – Staff continues to negotiate Contract Documents including the Agreement, General Conditions, Exhibits, and Phase 1 Design Services Fee for the Project. The Regional Integrated Loop System Phase 3C Pipeline Project – Phase 1 Services Contract will be presented to the Board for approval at the October 5, 2022, meeting.

- December 2022 – The Board Approved the Early Procurement Package not-to-exceed $10M. The Design-Build Team submitted 30% Design to the Authority and SWFWMD. Subsequent coordination meetings were held with the Authority, Sarasota County Utilities, Sarasota County Public Works, City of Sarasota, Florida Power & Light, and private land owners.
- April 2023 – The Board Approved the amendment to the progressive design build contract that takes the project thru final design and construction of the pipeline.
- June 2023 – The Board Approved Phase 3C Regional Interconnect – Second Amendment to Resolution 20022-03 (Necessity to Construct a Transmission Pipeline and Appurtenant Facilities) and approved the purchase of eight permanent and eight temporary easements (Phase 3C Easements Package No. 1).
- August 2023 – The Board Approved the purchase of two permanent and two temporary easements (Phase 3C Easements Package No. 2).



PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

ROUTINE STATUS REPORTS
ITEM 6

DeSoto Booster Pumping Station Project

Project Status Report

Project: **Desoto Booster Pump Station Modifications**
Formerly Known As – PRMRWSA Project Prairie Pump Station Acquisition and Modification Project

Date: October 4, 2023

Prepared by: Ford Ritz, P.E., Project Engineer/Manager, Brian Bates, P.E., Project Engineer III

The following information summarizes the project description and current status. (see attached general project area figure).

Project Description

The Project Prairie Pump Station Acquisition and Modification project includes the regional purchase of the Pump Station and Storage Facilities from DeSoto County, and modifications to integrate the facility into the regional transmission system. The Facility is strategically located to support current and future regional water supply operations. The project is co-funded by the SWFWMD and the State of Florida. The estimated project cost including the purchase from Desoto County, Design and Construction of Facility modifications is $1,275,000. This is a Capital Improvements Project (CIP).

The Facility is located on the corner of U.S.17 and S.W. Enterprise Blvd. in DeSoto County and is adjacent and connected to the regional DeSoto County RTM and the bi-directional Phase 1 Regional Interconnect Pipeline. The Phase 1 provides a plant-to-plant connection between the Peace River Facility, and the Punta Gorda Shell Creek Water Treatment Facility located in Charlotte County.

Current Operations:

- Regional pipelines (DeSoto RTM or Phase 1) fill the 0.5-MG finished water storage tank – water source either the Peace River Facility or the Shell Creek Facility. Under normal operational conditions water is received from Peace River.

- DeSoto County trims chemical disinfection as needed and pumps water from the storage tank north into their distribution pipeline.

Future Operation:

- Increase Facility flexibility to be able to receive water from Peace River, Shell Creek or DeSoto County, trim and repump water, north, south, or east as needed.

- Provide capabilities to bypass the storage tank and repump, or bypass the facility; as determined by, operations and maintenance, or emergency conditions.

- Provide other capabilities per the Project Prairie Facilities Operational Protocol.

Project Scope:

- Modifications to facility piping and yard piping.
- Upgrades to disinfection chemical(s) storage and feed capabilities.
- Upgrades to SCADA interface, including a new radio and antenna.
- Evaluate existing meters and meter assemblies and make necessary modifications.

Current status

The Interlocal Agreement, between the Authority and Desoto County for the Acquisition of the Project Prairie Facilities has been executed and recorded. Additionally:

- Contract for Sale Purchase of the Property has been executed
- Ingress/Egress Easement for the Wastewater Lift Station (for Desoto County) has been executed

The Authority's Engineer-of-Record (Ardurra) was issued the Notice-to-Proceed for Work Order No. 1 - Design, Permitting and Construction Phase Services on March 25, 2022.

The Project Bid Opening was August 17, 2022. Three Contractors submitted bids on a timely basis. The apparent low bidder was TLC Diversified, Inc. (TLC) at a bid price of $1,1196,000. Ardurra the EOR reviewed the bids forms, checked TLC references and recommends Award of the Construction Contract to TLC.

At the October 5, 2022, Board Meeting – Board approved the TLC Construction Contract. The P.O. for the Work Order, under TLC's Continuing Services Contract was executed on October 12, 2022, and forwarded to TLC. The Notice-to-Proceed will be issued in early January 2023. Substantial Completion is 145 calendar days from the date of Notice-to-Proceed. Final Completion is 175 calendar days from the date of Notice-to-Proceed.

TLC was issued the Notice-to-Proceed on January 5, 2023, and anticipates mobilizing to the site in July 2023.

As of early May 2023, the SWFWMD FDEP grant agreement is still with District Counsel under review before execution. Once executed by the District, the Cooperative Funding Agreement No. 22CF0003733 will be amended to include pass through Grant Provisions (federal funds), revised total cost and task budgets, and a revised agreement expiration date of March 1, 2024.

September 2023, anticipate the amended SWFWMD FDEP grant agreement to be finalized over next several weeks.

Project History Briefing

Project: **Desoto Booster Pump Station Modifications**
Also Known As – PRMRWSA Project Prairie Pump Station Acquisition and Modification Project

Date: October 4, 2023

Prepared by: Ford Ritz, P.E., Project Engineer

The following information summarizes the historical milestones and events of the Project Prairie

- October 1, 2021 – The Interlocal Agreement, Purchase and Sale Agreement, and Operational Protocol for the acquisition of the Facility from DeSoto County was presented to the Board. Proposed funding sources include $200,000 from the State of Florida, and $537,500 each from the Authority and SWFWMD. The total project cost is $1,275,000.

- October 12, 2021 – Authority staff had a meeting to discuss the project and potential modification to the facility. Next steps include an internal meeting with Authority Operations and Maintenance staff, and meeting with DeSoto Operations staff. Upon Board approval of the project, a meeting with be held with the Ardurra (FKA King Engineering). Ardurra designed the Phase 1 Pipeline project which originally included yard piping alternates. The alternates were subsequently removed from the Phase 1 Pipeline final design package due to overall project cost uncertainty. Ardurra (Engineer of Record) is an Authority as needed consultant.

- October 12, 2021 – The FDEP Grant Agreement (LPA0208) for $200,000 was executed by the State. The Grant Agreement will be included on the December 1, 2021 Board Meeting agenda for Board approval.

- November 23, 2021 – A meeting between Authority staff and DeSoto County staff was held to discuss the upcoming project and operations of the Facility. In accordance with the acquisitional agreements between the Authority and DeSoto County, DeSoto County Utilities will continue to operate the Facility, subsequent to the purchase.

- December 2021 – The Interlocal Agreement between the Authority and DeSoto County for the Acquisition of the Project Prairie Facilities, generally consisting of a 500,000-gallon ground storage tank and associated piping, a 5 MGD booster pump station and chemical feed system, yard piping and emergency generator was Board approved on December 1, 2021, and by the DeSoto County BOCC on December 14, 2021. The Document includes:

    - Interlocal Agreement providing for Authority acquisition of the Facilities for $748,731.53 – which will be co-funded by SWFWMD and the State of Florida.
    - Contract for the Sales and Purchase of the site property parcel by the Authority for $36,000 from DeSoto County.

- January 25, 2021 – Closing on the purchase/sale of the property with Desoto County was completed.

- January 28, 2021- Authority held a scoping meeting with Ardurra (Engineer-of-Record) at the Project Prairie Facility, to tour the facility and discuss items to be included in Ardurra's scope of work for modifications/upgrades to be included in Ardurra's Work Order for Engineering Services. In general, items discussed included:

    - Underground repumping piping
    - Meter upgrades
    - Radio and antenna for Authority to monitor facility operations
    - SCADA/PLC Systems integration
    - Walmart fire flow pipeline – connect directly to Regional Piping
    - Chemical feed/trim facilities improvements

  It is anticipated that Ardurra will submit their draft scope of work in mid-March.

- March 10, 2021- The SWFWMD Q248, Funding Agreement-22CF0003723 for Project Prairie Facilities Acquisition and Modification Project entered into.

- March 25, 2022 – Ardurra was issued the Notice-to-Proceed for Work Order 1., for the DeSoto County Pumping Station Modification Project (DCBPS). W.O.1 lump sum cost is $85,300.

- April 1, 2022 - PRMRWSA Staff and Ardurra Staff met with DeSoto Counties Utilities at the DCBPS site to discuss day-to-day operations of the Facility. DeSoto County will continue to operate the Facility for the Authority per the Interlocal Agreement.

- April 14, 2022 – The SWFWMD Co-Funding Agreement (Q248) "Task Schedule and Budget Adjustment" was entered into. Construction and Engineering costs were adjusted, and the construction schedule was extended. The total cost for acquisition, design and construction of Facility Improvements did not change.

- May 11, 2022 – A Teams meeting was held with Ardurra and Authority staff to discuss progress on the 60% design. Per discussion, the tank inlet meter will be upgraded, and the pump station discharge meter upgrade will most likely be included as an alternative. Ardurra stated that the technical specifications have been completed.

- May 25, 2022 – Ardurra Instrumentation and Controls (I & C) Engineer met with Authority staff at the DeSoto Booster Pump Station to gather additional information and discuss existing operation. Discussions included how DeSoto County operates the facility currently, the County SCADA system and a potential new location for the radio antenna tower.

- May 27, 2022 – Ardurra and Authority met via teams with the Operations Manager at the Walmart Distribution Center (Stewart Heintz) to discuss the connection and water delivery

for fire flow from the DeSoto Booster Pump Station (DBPS) to the Walmart Distribution Center. Mr. Heintz discuss in general how the Walmart Fire Protection system works, how often they test their fire protection system and the components of the fire protection system. Mr. Heintz stated that Walmart has no issues with the fire flow connection and water delivery service from DBPS. The Authority and Ardurra discussed components of the upcoming project with Mr. Heintz and potential schedule.

- June 5, 2022 – Ardurra submitted 90% Interim Drawings and Div. 13 Instrumentation & Control Specifications, based on feedback from the Authority on the 60% Design Drawings and Specifications.

- June 7, 2022 – A Design review meeting was held at the Peace River Facility. The meeting attended by Ardurra and Authority staff. Design elements, instrumentation and controls/SCADA, Contract documents/bid form, permitting and the project schedule were discussed.

- June 10, 2022 – The Ardurra Interim 90% Design and Div. 13 Instrumentation & Control Specifications were forwarded to the District for review.

- June 17, 2022 – The Authority staff held a conference call with Ardurra Instrumentation and Control staff to discuss, equipment upgrades, and coordination between the existing DeSoto County SCADA system and Authority SCADA system.

- June 27, 2022 – Ardurra submitted 90% Design Contract Documents for the DeSoto County Pump Station Modifications to the Authority for review.

- July 6, 2022 – The Authority forwarded review comments of 90% Design Contract Documents submittal to Ardurra.

- July 13, 2022 – Ardurra submitted the Bidding Documents to the Authority for review. The Documents were forwarded to the SWFWMD.

- July 18, 2022 - The Invitation to Bid was posted on the Authority Webpage by Procurement. Contractors in the Authority's library of As Needed Construction Contractors: Water Treatment Process & Pipeline Construction, Repair & Replacement were invited to Bid.

- July 18, 2022 – Ardurra applied for the FDEP 62-555.900 Specific Permit to Construct PWS Components.

- August 1, 2022 – The pre-bid conference was held at the PRF followed by a site visit. Attendees include Authority Staff, Ardurra Staff, SWFWMD Staff and Contractors.

- August 5, 2022 – Addendum 1 was posted on the Authority Webpage by Procurement.

- August 17, 2022 – Three Bids were timely submitted. The apparent low bidder was TLC Diversified Inc. at $1,1196,000. Other Contractor Bids included Garney at $1,500,000 and Kiewit at $1,432,000.

- August 30, 2022 – The Notice of Intended Decision (NOID) was posted on the Authority webpage by Procurement.

- September 8, 2022 – FDEP issued the Permit to Construct – Permit No. 78714-028-WC. The permit was forwarded to SWFWMD.

- September 19, 2022 – Ardurra submitted the Engineers Recommendation Letter for Award Approval to TLC Diversified Inc. Back up included bid forms, bid tab and reference conformations.

- October 5, 2022 – The P.O. for the Desoto Booster Pump Station Modifications Project Construction Contract to TLC Diversified was Board Approved. The P.O. is incorporated by reference to the December 1, 2022, Agreement for As Needed Water Treatment and Pipeline Construction, Repair & Replacement services between TLC and the Authority. Funding for the construction includes $220,484 from SWFWMD and $975,516 from the Authority system-wide benefit Capital Improvements Project (CIP).

- October 19, 2022 – The executed P.O. for the Work Order under TLC's Continuing Services Contract was forwarded to TLC and SWFWMD. The Notice-to-Proceed will be issued to TLC in January 2023. Currently TLC is working on materials submittals and federal funding waivers. SWFWMD and FDEP are currently finalizing the agreement for American Rescue Plan Act federal funds being funneled to SWFWMD via FDEP.

- November 10, 2022 – The Authority sent a request to SWFWMD to extend the co-funding agreement expiration date for the following reasons:

    - impacts of hurricane Ian - TLC ongoing projects
    - hurricane impacts at the Peace River Facility
    - finalization of the agreement between FDEP and SWFWMD for federal funding

  In discussions, all parties Authority, SWFWMD, Ardurra and TLC agreed to a delay of the Notice-to-Proceed until early January 2023.

- January 5, 2023 – The preconstruction meeting was held and attended by TLC, Ardurra, Authority, SWFWMD and DeSoto County, staff. TLC has been providing shop drawing submittals for the project. To date, TLC has sent 23 submittals to Ardurra for review. The Notice to Proceed was issued to TLC on January 5, 2023, the District was copied. TLC anticipates mobilizing to the DeSoto Booster Pump Station project site in July pending material availability (as soon as they have materials to begin Work). Per discussion SWFWMD is going to Amend the CFA (co-funding) Agreement No. 22CF0003733 to

include the full amount of the bid price and extend the co-funding expiration date to March 1, 2024, to address potential supply chain issues.

- January 12, 2023 – The Grant Agreement (federal funds) between the FDEP and SWFWMD, is currently with the District General Counsel for review and approval. Once approved and subsequently signed by the District Executive it will go to the District Board, for execution. The CFA amendment will follow and include pass through grant provisions, revised total cost and task budgets, and a revised agreement expiration of March 1, 2024.

- February 15, 2023 – Ardurra (EOR) conducted a soil boring at the project radio tower antenna location to confirm foundation design. The report was submitted to Authority for review and forwarded to the Contractor on February 28, 2023.

- February 21, 2023 – A meeting was held on site with Authority, TLC and Desoto County Utilities staff. The purpose of the meeting was to review existing Desoto County SCADA/I&C configurations with the TLC I&C subcontractor and review existing facilities and project design upgrades with TLC.

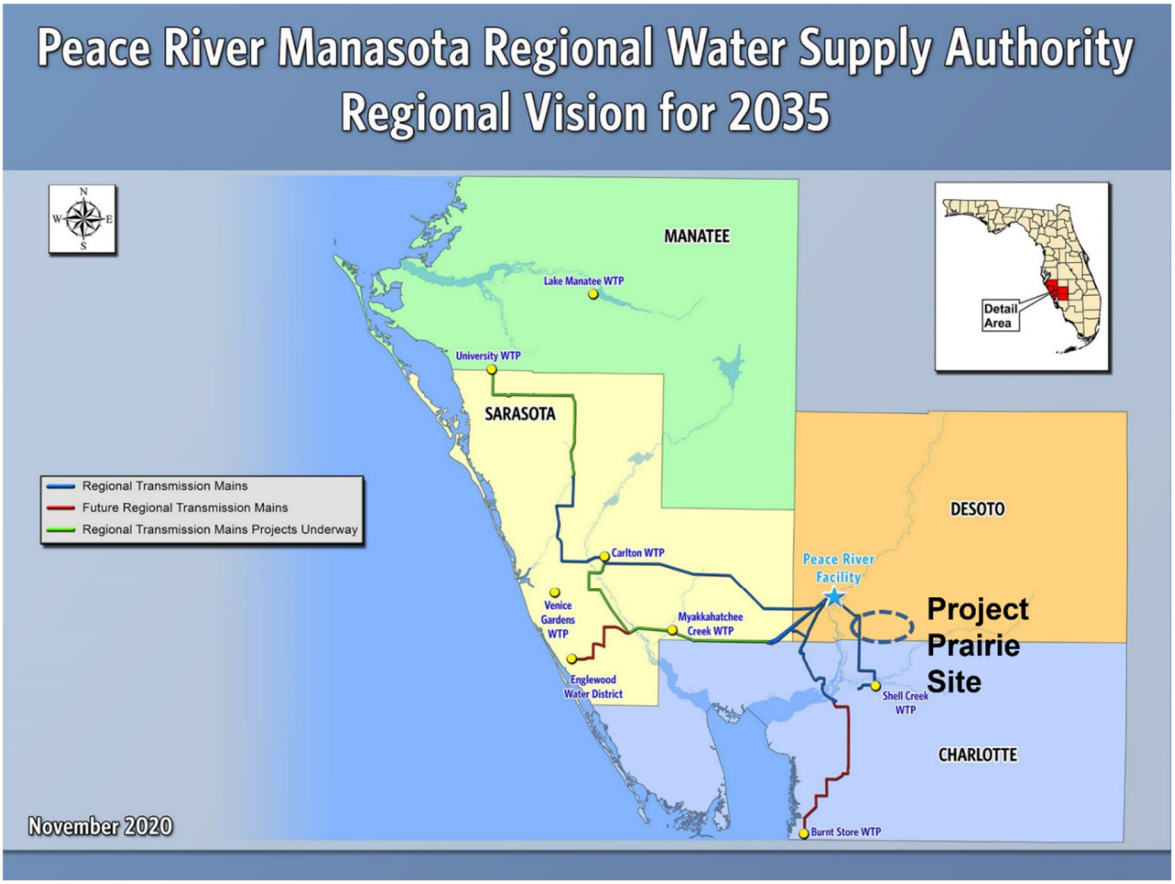
- April 18, 2023 – A meeting was held on site with TLC, Authority, Ardurra (EOR) and DeSoto County Utilities staff. The purpose of the meeting was to discuss operations of the DBPS by DeSoto County Utilities, to assist TLC with development of their Construction Sequencing Plan. TLC submitted their Construction Sequencing Plan on April 26th and it is currently under review by Ardurra (EOR) and the Authority. TLC is scheduled to begin construction in July 2023.

- May 9, 2023 - TLC has submitted 28 shop drawings to Ardurra for review to date. TLC anticipates mobilization for construction in July 2023.

- August 2023 Contractor flagged existing on-site pipework & began delivering pipe and equipment to the project. Hurricane Idalia interrupted progress. Anticipate TLC to continue on-site activities by the end of September.

- September 13, 2023, received updated schedule from TLC which shows Final Completion of project to be February 12, 2024.


U.S. 17
S.W. Enterprise Blvd.
PROJECT PRAIRIE PUMP STATION
DESOTO COUNTY


Peace River Manasota Regional Water Supply Authority
Regional Vision for 2035
MANATEE
Lake Manatee WTP
University WTP
SARASOTA
DESOTO
CHARLOTTE
Detail Area
Regional Transmission Mains
Future Regional Transmission Mains
Regional Transmission Mains Projects Underway
Carlton WTP
Peace River Facility
Venice Gardens WTP
Myakkahatchee Creek WTP
Englewood Water District
Shell Creek WTP
Project Prairie Site
Burnt Store WTP
November 2020

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

ROUTINE STATUS REPORTS
ITEM 7

Brackish Groundwater Reverse Osmosis Project at the Peace River Facility

Project Status Report

Project: **Brackish Groundwater Reverse Osmosis Project at Peace River Facility**

Date: October 4, 2023

Prepared by: James P. Guida, P.G., Director of Water Resources and Planning

---

Project Description

The Authority's Water Use Permit (WUP) for the Peace River Facility (PRF) was modified in October 2022 to authorize withdrawal of up to 9 MGD of brackish groundwater from wells on the RV Griffin Reserve, which would yield an estimated 5 MGD average annual day of finished water for allocation to Customers.

On February 10, 2023, the Authority requested proposals from firms for the purpose of providing professional design, engineering, inspection and geological services for feasibility, siting, capacity, design, permitting and construction management for the 'Peace River Brackish Groundwater Facility Project' (Project). At the April 5, 2023, meeting the Board approved the selection of Carollo Engineers to conduct the preliminary design and testing for the Brackish Groundwater Project (Project) at the PRF. On July 7, 2023, the Board approved the Professional Services Contract, Scope, and Fee for Work Order No. 1 for the Project. Negotiated costs for Work Order No. 1 are not to exceed $5,488,750, which includes a $500,000 Owners Allowance for out-of-scope work if authorized by the Executive Director. The Project is intended to inform the Authority in the selection of its next water supply development project.

This work is included in the CIP portions of the Authority's Amended FY 2023 and Tentative FY 2024 Budgets. Funds are proposed to come initially from the $100M line of Credit with PNC Bank. Staff recommends these costs be included in any permanent financing that is obtained for the next regional water supply project.

Current Status

Work Order No. 1 (Preliminary Design and Testing for Peace River Brackish Groundwater Supply Project) with Carollo Engineering, was issued on June 8, 2023, and includes well construction, aquifer and groundwater quality testing, and preliminary design of: 1) raw water mains and well sites; 2) injection well(s); and 3) brackish groundwater treatment facilities. The Project also includes permitting services, development of a 30% Design Package, and an engineer's opinion of probable cost. Preliminary Design and Testing for the Brackish Groundwater Project is scheduled for completion in March 2024. The Project is currently on schedule and on budget.

Project History Briefing

Project: **Brackish Groundwater Reverse Osmosis Project at Peace River Facility**

Date: October 4, 2023

Prepared by: James P. Guida, P.G., Director of Water Resources and Planning

---

The following information summarizes the historical milestones and key events to date for Work Order No. 1 - Preliminary Design and Testing for Peace River Brackish Groundwater Supply Project.

June 2023

Board approved Work Order No. 1 for the Preliminary Design and Testing for Peace River Brackish Groundwater Supply Project on June 7, 2023. A Pre-Construction Meeting with Project hydrogeologists, engineers and the well drilling contractor was conducted on June 22, 2023, to facilitate Well construction permitting, mobilization of drilling equipment, and initiation of well construction to allow for brackish groundwater testing as soon as possible. A Project Kick-off Meeting was held with the Carollo Team on June 26, 2023. A Brackish Groundwater Drilling and Testing Program authorization request was submitted to the SWFWMD on June 28, 2023, and was approved by the SWFWMD on June 29, 2023.

July 2023

The well drilling and testing program got underway in early July. The Surficial Aquifer System (SAS) test well (BW-SAS-1) was constructed on July 6, 2023. The 4-inch well was completed to a total depth of 40 ft below land surface (bls) with a screened interval of 20 to 40 ft bls. Construction of the Lower Arcadia Aquifer (LAA) 16-inch test well (BW-LAA-1) commenced on July 18, 2023.

August 2023

BW-LAA-1 was completed with casing and total depths of 240 ft bls and 350 ft bls, respectively, on August 18, 2023. Preliminary step-drawdown testing was conducted on the well and indicated the well can produce approximately 570 gpm (about 861,000 gpd).

Drilling of the Upper Floridan Aquifer (UFA) test production well (BW-UFA-1) commenced on August 25, 2023. Surface casing installation was completed on August 29, 2023, to a depth of 55 ft bls. Pilot-hole drilling of well continues.

The original configuration of the wellfield was updated to allow for increased production capacity, enhanced sustainability, and to allow for greater flexibility in well construction characteristics. A total of 15 Upper Floridan Aquifer (UFA) production wells are now proposed to serve as the

raw water sources for the brackish groundwater Reverse Osmosis (RO) water treatment facility.

September 2023

An Application for modification of the Authority's Water Use Permit (WUP) was submitted on September 1, 2023, and was deemed completed for issuance on September 15, 2023. Assuming approval by the SWFWMD Governing Board at their November 14 meeting, the permit will authorize Annual Average and Peak Month withdrawals of 11.2 MGD (increase of 2.2 MGD) and 15 MGD (increase of 6.0 MGD), respectively. Assuming an 80% RO treatment efficiency, the authorized withdrawal quantities would be capable of yielding Annual Average and Peak Month finished water quantities of approximately 9.0 MGD and 12.0 MGD, respectively.

As of 9/22/23 the drilling and testing program was about 10 days ahead of schedule.

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
October 4, 2023

ROUTINE STATUS REPORTS
ITEM 8

Peace River Basin Report

Manson Bolves Donaldson Tanner

Attorneys at Law

Integrity•Intelligence•Diligence

MEMORANDUM

TO: Board Members and Mike Coates

FROM: Doug Manson, Laura Donaldson, and Paria Shirzadi Heeter

RE: Peace River Basin Report

DATE: September 15, 2023

Mosaic Fertilizer, LLC- South Fort Meade Mine Eastern Extension

In August 2022, Mosaic Fertilizer, LLC ("Mosaic") submitted an application to the Florida Department of Environmental Protection ("DEP") for an environmental resource permit ("ERP") (No. 0398010-002/003) for its South Fort Meade Eastern Extension (the "SFM-EE") Mine. On August 17, 2023, DEP issued its notice of intent to approve ERP No. 0398010-002/003. The proposed project is to conduct phosphate mining activities on approximately 4,315 acres of uplands, wetlands, and other surface waters within a 4,404-acre project area and to reclaim approximately 1,083 acres of wetlands and other surface waters, 3,232 acres of uplands, and 20,161 linear feet of streams following the completion of mining activities. The project boundary consists of the mine boundary (3,170 acres), an access/utility corridor (989 acres), a dragline walk path (202 acres), and the construction of three borrow pits (43 acres).

SFM-EE is located east of Mosaic's South Fort Meade Mine-Hardee County and South Fort Meade Mine-Eastern Reserves ("SFM-ER"). The proposed project includes the mining of phosphate ore within the SFM-EE Mine boundary to extend operation of the South Fort Meade Mine

beneficiation plant, as well as construct necessary infrastructure. More specifically, the proposed access/utility corridor is 8.0-miles long, extending from the existing South Fort Meade Mine boundary to the proposed SFM-EE Mine boundary, and the proposed dragline walk path corridor extending from the SFM-ER Mine boundary to the access/utility corridor is 4.2-miles long.

The SFM-EE project will impact 627 acres of wetlands and other surface waters. Mosaic's application includes permittee-responsible off-site mitigation plans to fully offset impacts of the proposed disturbance within the SFM-EE project area. The proposed mitigation is located in the same drainage basin as the proposed impacts—the Peace River Basin. The existing South Fort Meade Mine water management system will be extended to service the SFM-EE property. Mosaic will construct a berm around the perimeter of all active mining areas to sever the mining operations from waters of the state. Process water from the mine will be released to waters of the state only through outfalls permitted by DEP under its Industrial Wastewater ("IW") Facilities Programs and Rules (i.e. the National Pollution Discharge Elimination System ("NPDES") program), following treatment. A controlled outfall to surface waters will be installed as authorized by IW Permit No. FL0037958. The application identifies two potential outfall locations, and explains that one of these two locations will be selected following completion of an ongoing water quality based effluent limitations study if approved by the DEP in the IW permit.

In the application, Mosaic also stated that it continues to evaluate future additions to the SFM-EE Mine boundary as well as lands that adjoin existing mine boundaries. If properties are acquired that will be mined, separate applications will be filed in the future.

On September 2, 2022, DEP issued a request for additional information ("RAI") to Mosaic, and Mosaic responded on September 26, 2022. On October 17, 2022, DEP staff provided hydrologic and engineering review comments in response to the application and RAI response, and requested additional information from Mosaic related to hydrology and engineering issues (including a request to provide assurance that the additional flow through the new proposed outfall location would not negatively impact Charlie Creek or adjacent wetlands). DEP issued a second RAI on November 22, 2022, and Mosaic submitted its response on February 27, 2023. Mosaic's response to the RAI includes revisions to, clarification of, and/or additional information on: UMAM issues, mitigation to offset the wetlands/surface water impacts from the project, the construction and reclamation of the access corridor and walk path, two potential locations for new surface water discharge outfall (in order to beneficially return water to Charlie Creek), the proposed functional stream channel, the on-site stream mitigation, number of years that mining and reclamation will be ongoing (12 years), the engineering report, the Long Island Marsh mitigation plan, the Little Charlie Creek offsite mitigation plan, the conceptual reclamation plan, and responses to DEP's hydrologic and engineering review comments. On April 5 and 19, 2023, DEP issued comments and questions in response to Mosaic's February 27th submittal. The questions and comments requested clarification or additional information on the following: the compensatory stream mitigation plan; the Little Charlie Creek offsite mitigation plan; the Long Island Marsh offsite mitigation plan; financial assurance; long term management plan; revised ERP tables; the onsite stream restoration design plan and restoration plan; the SFM-EE stream report; and conservation easements. Mosaic responded to, and provided additional application information in response to, DEP's questions and

comments in April and May, 2023. As stated above, on August 17, 2023, DEP gave notice of its intent to issue the ERP to Mosaic. Additionally, on August 17, 2023, DEP also issued its approval of Mosaic's September 26, 2022 application seeking approval of a conceptual reclamation plan ("CRP") for its SFM-EE Mine in Hardee County, Florida.

Finally, on August 31, 2023, Mosaic submitted the final designs for 9 temporary crossings within the SFM-EE access/utility corridor over the streams and major wetlands to DEP for its review and approval. The submittal explained that construction of the 9 temporary crossings is scheduled to begin upon issuance of the ERP and State 404 permits and DEP's approval of the attached final designs.

All of the SFM-EE Mine drains west and southwest into Charlie Creek (Charlie Creek flows south until it connects into the Peace River), and the project area is wholly located in the Peace River watershed.

Mosaic Fertilizer, LLC- South Fort Meade Mine Phosphate Management Facility Permit

On November 17, 2022, Mosaic submitted an application for a permit modification (No. FL0037958-024) to its existing phosphate management facility permit for its South Fort Meade ("SFM") Mine. On August 17, 2023, DEP gave notice of its preparation of the permit modification (No. FL0037958-024). This modification adds additional acreage into the SFM Mine boundary. The project includes the mining of phosphate ore within the SFM-EE Mine boundary to extend operation of the SFM Mine beneficiation plant. Additionally, the project includes the construction of necessary infrastructure such as a utility corridor and a dragline walk path to relocate draglines from the existing SFM-ER to the SFM-EE mine boundary. The SFM-EE Project Area totals approximately

3,170 acres and includes approximately 2,203 acres to be mined. With the addition of the mining and project area for SFM-EE, the total acreage of the SFM Mine will increase to approximately 36,309 acres. Construction of the SFM-EE access/utility corridor is set to begin in 2023 and mining to begin in 2025. The permit modification explains that: proposed mining is not expected to cause any changes or issues for the existing SFM Mine outfalls; there are no proposed changes in processing nor increase production rates; no new clay settling areas or outfalls are requested as a result of this permit modification; mining and reclamation in the additional areas will not be materially different from before; and discharge water at the permitted outfalls will remain in compliance with existing permit limitations.

On May 18, 2023, Mosaic published notice of DEP's issuance of another minor permit revision (No. FL0037958-025) to Mosaic's existing phosphate management facility permit for its SFM Mine. This permit revision (No. FL0037958-025) authorizes Mosaic to add additional acreage to the SFM Mine boundary. The proposed project includes the mining of phosphate ore within a portion of the SFM-Infills Parcels, which will add approximately 132 acres of land to the SFM Mine boundary. The notice states that the proposed mining is not expected to cause any changes or issues for the existing SFM Mine outfalls, and there are no proposed changes in processing or any increase in production rates.

Additionally, on May 26, 2023, Mosaic submitted another permit modification request for the construction of a Clay Settling Area ("CSA") designated as SFM-11 at its SFM Mine (No. FL0037958-026). On June 23, 2023, DEP issued a RAI to Mosaic requesting additional information regarding the proposed high-level spillway between CSAs SFM-9 and SFM-11, the fill volume

calculations/design for the embankment, the seepage flows, the proposed piezometer locations, the design drawings, culvert capacities, and water drainage systems. On June 23, 2023, DEP issued a RAI, which Mosaic responded to on July 21, 2023.

Finally, on May 31, 2023, DEP received another minor permit modification request (No. FL0037958-027) from Mosaic to allow the temporary and limited transfer of wastewater from Lake Branch Dairy (NPDES Permit No. FLA183075) into the mine boundary for the Mosaic SFM Mine. The proposed transfer of this wastewater will be discharged in the north-eastern section of CSA SFM-9. On July 28, 2023, Mosaic submitted its response to DEP's June 29, 2023 RAI requesting additional information regarding: the dairy waste slurry transfer rates; what will happen to the pipeline upon completion of the slurry transfer; locations for additional monitoring and associated monitoring parameters; if applicable, what operational procedures Mosaic will implement to ensure that during the transfer the facility will only discharge to Outfall D-002 and not to Outfall D-001; the methods of waste solids transfer; volume of dairy waste stream to be transferred; if any background monitoring for fecal coliform or e-coli bacteria is in progress; the waste pipeline corridor work; and e-coli values for each of the waste storage ponds.

The SFM Mine is located at 5880 Manley Road, Fort Meade, Florida in Polk and Hardee Counties, within the Peace River watershed.

Mosaic Fertilizer, LLC- South Fort Meade Mine Warning Letter

On August 31 and September 1, 2023, DEP conducted an inspection at the SFM Mine facility in response to a notification from Mosaic of its discovery on August 30, 2023 of a turbid water discharge to Little Charlie Creek, a tributary of the Peace River. The discharge was discovered

during Mosaic's best management practices inspection during Hurricane Idalia, and occurred at a reclamation parcel (SFMH-LC(4)) where a reclaimed upland area had been reconnected to Little Charlie Creek in Hardee County.

During DEP's inspection, it conducted turbidity monitoring where the reported discharge from the reclamation area was entering Little Charlie Creek—on August 31, 2023, the reading was 146 NTUs, and on September 1st, it was 44.4 NTU. Results from turbidity monitoring downstream of the location of the turbid water discharge at the Heard Bridge Road Bridge indicated low turbidity (i.e., 4.49 and 5.57 NTUs, respectively), visibly clear water, and no deposition of any solids in this location. The observed discharge was not authorized under Wastewater Permit No. FL0037958. Additionally, during the DEP inspection, sediment deposition was observed in a wetland preserve area directly adjacent to the discharge. Mosaic's ERP requires that best management practices or any other DEP approved practices for turbidity and erosion control shall be implemented and maintained to prevent siltation and turbid discharges outside of the disturbance area. At the inspection, DEP noted that best management practices for the ditch and berm system were not followed as required by the ERP. In addition, the ERP does not authorize the dredging or filling of wetlands or other surface waters outside the approved area of disturbance.

On September 7, 2023, DEP issued a warning letter to Mosaic regarding these potential violations of Chapters 373 and 403, Florida Statutes, Chapters 62-330, 62-302, 62-620, and 62C-16, Florida Administrative Code, and ERP No. MMR_221122-019, and Wastewater Permit No. Permit No. FL0037958. The warning letter requests that Mosaic contact DEP within 15 days of receipt of

the letter to arrange a meeting to discuss the matter and bring any information that may assist DEP in determining whether any violations have occurred.

Mosaic Fertilizer, LLC- Green Bay Facility

On May 5, 2021, DEP issued a final permit to Mosaic in response to its application (NPDES FL0000752-020-IW1S/RA) to DEP for a major modification of the wastewater discharge permit for its Green Bay Facility (the "2021 Permit"). The Green Bay Facility permanently discontinued all manufacturing activities and was idled in 2006, with plant closure initiated in 2012. The 2021 Permit authorized reactivation of the then inactive lined Green Bay Lined North Gypsum Stack ("Lined North Gypstack") to re-initiate or resume its use to accommodate ongoing phosphate manufacturing. The 2021 Permit for resuming operation of the Lined North Gypstack was limited to the dimensions that were previously permitted for construction by DEP (under PA File No. FL0000752-003-IW1N/RA) and included modifications to specific operations to incorporate the transfer of phosphogypsum from the Bartow Facility for use at the Green Bay Facility.

On August 25, 2022, DEP received an application from Mosaic to modify its NPDES Permit No. FL0000752 for its Green Bay Facility (PA File No. FL0000752-023-IW1N/RO) to include: a modification to the North Stack's west ditch to improve runoff and seepage water conveyance into the regional holding pond; enhancement to the 30-acre South surge pond ("SSP"); and improvements to the foundation drainage within the closed cooling pond area. The application explains that this minor modification will provide enhanced and continued operation of the gypsum stack system and the construction work is not expected to cause any substantial change in phosphate processing. On September 23, 2022, DEP issued a RAI to Mosaic requesting additional

information on the following: the capacity of Lined West Pond; the capacity of the SSP and how process water will be transferred to the SSP; a sequence chart for construction activities for this permit modification; and the turbidity controls and drainage systems that will be utilized for the storage of the proposed soil cover stockpile area. Mosaic responded to the RAI on October 10, 2022. On February 10, 2023, DEP issued notice of its preparation of the requested permit modification (FL0000752-023-IW1N/RO), which became final agency action of issuance.

On January 9, 2023, Mosaic submitted another application for modification of its NPDES Permit No. FL0000752. This permit modification application is for the Green Bay Facility Phase II gypsum stack extension ("GB Phase II") (PA File No. FL0000752-024-IW1S/RA). The application explains that the GB Phase II extension will consist of an approximately 300-acre lined addition to the existing Phase I North Gypsum Stack. The engineering report submitted in support of the permit application includes: the background of the existing Green Bay phosphogypsum stack system; facility and area information; key design features of the GB Phase II extension and enhanced control and performance monitoring systems; the results of field geotechnical and geophysical explorations undertaken to evaluate subsurface conditions relevant to the potential for sinkhole development; laboratory testing; design criteria, construction provisions and technical specifications; operation, groundwater monitoring and surface water monitoring plans; and a general closure plan and closure cost estimate. On February 20, 2023, DEP issued a RAI to Mosaic requesting additional information on the following issues: water elevations, the Gypsum Stack Extension boundary, the water balance diagram, the microseismic foundation monitoring system, the drainage system, the hydraulic connection of the west drainage ditch to the existing decant structure, hydrogeologic

setting and the potential for sinkhole development, and groundwater and surface water monitoring plans. Mosaic responded to the RAI on March 22, 2023. DEP deemed the application complete on April 28, 2023 and estimated that a draft permit would be ready on or around May 23, 2023 and a notice of intent (to issue or deny the permit) would be issued on or around July 5, 2023. On May 4, 2023, notice of the application (PA File No. FL0000752-024-IW1S/RA) was published in a newspaper of general circulation in Polk County.

The only document added to the permit file for the Green Bay Facility since the prior Basin Report is a correspondence from Mosaic to DEP dated August 14, 2023 containing monitoring well coordinates for "monitoring wells that were installed per this modification" (but no permit modification number is specified).

The Green Bay Facility is located in Bartow, Polk County, just outside of, but near the boundary of, the Peace River watershed, and the Bartow Facility is located in Bartow, Polk County at the boundary line of the Peace River watershed. The receiving waters for some of the Bartow Facility project's outfalls are located within the Peace River watershed. The topography within the GB Phase II areas to the east gently slope to elevations around 140 feet NGVD governed by the Sweetwater Branch and Six Mile Creek flowing easterly to the Peace River.

Mosaic Fertilizer, LLC- South Pierce Complex

On August 14, 2018, DEP gave notice of issuance of a NPDES permit renewal (FL0000370) to Mosaic for its existing South Pierce facility, which was undergoing closure at the time. The permit renewal allowed continuation of closure activities at the facility and the discharge of treated process cooling pond water, excess fresh cooling pond water, and excess stormwater via Outfall D-001 into

Hookers Prairie and then to the South Prong of the Alafia River. Operations at the facility include the production of sulfuric acid and co-generation of electricity, and support operations include sulfur storage and lime treatment for process wastewater operations.

On February 14, 2023, Mosaic submitted an application to DEP for renewal of its permit (FL0000370). In addition to renewing its permit, the application also requests the following changes to the permit: removal of any permit language relating to completed closure of the phosphogypsum stack; a minor change to the monthly discharge monitoring report; and some changes to the groundwater monitoring program. The renewal application package includes facility maps, narrative descriptions of current monitoring requirements, discussion of the five-year history of all permit-required monitoring, and sampling results and data.

On March 16, 2023, DEP issued a RAI to Mosaic requesting additional information on the following: the stormwater outfalls; the water balance diagram; the groundwater monitoring plan; project operations contributing to flow; and outfall and flume coordinates. The RAI stated that during DEP's reconnaissance inspection on March 3, 2023, a suspected liner tear was observed in an area of the closed stack, and requested that Mosaic provide a report/update on the condition and the expected timeline for completion of repairs. Finally, the RAI explained that the previous permit contained schedule items in a permit condition for a biological evaluation, which has been submitted but not approved. Since a plan has not been approved and is still under review, the RAI states that a site visit and meeting will need to be conducted. As of the date of this report, no documents have been added to the DEP online database for this permit renewal application.

The facility is located at 7450 County Road 630, North of Cr 630, East of SR 37, in Polk County, and is on or near the border of the Peace River Watershed.

CPG-01, LLC—CPP Sand Mine ERP

On August 16, 2023, DEP issued a RAI in response to an application from CPG-01, LLC, Margrette Stuart, and Lenore Crosland for a new ERP for construction of a borrow pit. The proposed project (CPP Sand Mine) consists of 96.4 acres (of which 0.79 acres of impacts are proposed) and is for mining of soils (non-phosphate, non-limestone) for use in local construction projects. The application states that stormwater will be routed to either on-site wetlands or the low-lying off-site wetlands west of the project that ultimately drain to Lake Hancock. Among other things, the RAI from DEP requests the following: to schedule a joint site visit with DEP to verify the wetland and/or surface water limits and review the submitted wetland impact; a letter of reservation from the mitigation bank proposed to be used by the applicant; additional information for reasonable assurance that there will be no adverse hydrologic impacts to wetlands associated with the proposed activities; the total volume of encroachment in acre-feet based on fill volume calculations related to existing drainage ditches and depressions that will be removed; a site-specific geotechnical report; to demonstrate proper consideration of any off-site runoff by means of a properly designed conveyance systems and to add corresponding callouts and construction details on plans for the conveyance system; dynamic stormwater modeling to demonstrate no adverse impacts on offsite properties; to demonstrate that excavation of the mining areas does not breach an aquitard; clarification about the baseline criteria that will be used to measure the effectiveness

of the recharge system; additional information regarding wells on the site; and to contact DEP's Mining and Mitigation Program concerning the reclamation requirements for the project.

The proposed project is located in Polk County, Florida and within the Peace River basin.

Alico, INC—Orange Co Excavation ERP

On or around July of 2023, Alico, INC submitted an ERP application to DEP for its 79.82-acre Orange Co Excavation project. The application explains that the excavation project will be done in two phases and entails extracting sand and shell to be used on future development projects for public and private development. The application states that the site will produce no offsite discharge other than the moisture in the soil leaving the site from excavation. The estimated life of the mine, including reclamation, will be 10 years from the start date (which will be upon issuance of the ERP from DEP and the excavation permit from Charlotte County).

The subject property is currently an active excavation site under SWFWMD ERP No. 33845 (the application documents explain that before the existing mining operation started on this property in 2013, it was vacant pastureland). This project is located in Punta Gorda in Charlotte County and is within the Shell Creek portion of the Lower Peace River.

Mosaic Fertilizer, LLC- New Wales Facility

On January 31, 2023, Mosaic submitted an application to DEP to renew its NPDES permit (FL0036421-023) for its New Wales Facility. The application also requests a revision of the permit for authorization to construct the Phase IV Gypsum Stack Extension in accordance with the Phosphogypsum Stack System Construction/Operation Permit Application submitted concurrent with this renewal application. The Phase III Gypsum Stack Extension was authorized as part of the

revised permit issued on October 15, 2021, in conjunction with the 3-tiered Subsurface Activity Early Detection System ("SAEDS"). The Phase IV Extension will incorporate the same 3-tiered SAEDS as installed in the Phase III Extension. The proposed Phase IV Gypsum Stack Extension has a total area of 320 acres and abuts the south side of the Phase III portion of the South Gypsum Stack. The Phase IV Extension is comprised of: (i) a lined area of 226 acres for gypsum stacking; (ii) 23 acres of perimeter earthen containment dikes and toe roads; (iii) 45 acres of below-grade stormwater drainage ditches and access roads around the exterior perimeter of the ditch; and (iv) 26 acres of at-grade stormwater drainage ditches to route runoff from the west side of the Phase IV Extension. Of the total area of 320 acres, 35 acres are coincident with the existing Phase III portion of the South Gypsum Stack, resulting in a net change in area of 285 acres from the Phase IV Extension. The application states that a geophysical investigation of the Phase IV Extension identified several locations requiring further exploration with test borings and piezometer installations. This further exploration activity is underway, and a supplement to the Phase IV Gypsum Stack Extension Construction/Operation Permit Application is scheduled for submittal to DEP in July 2023.

The application also requests a change to the Outfall D-006 wastewater system to relocate an existing 4,100-foot-long reach of the Area A-11 to Area K-4 drainage ditch to accommodate construction of the proposed Phase IV Gypsum Stack Extension. The only change requested to the groundwater monitoring requirements is to revise the inventory of monitoring wells in a permit condition, in accordance with the Construction/Operation Permit Application for the Phase IV Gypsum Stack Extension.

On March 2, 2023, DEP issued a RAI requesting additional information on the following issues: outfall design, the proposed wastewater treatment system, systems the facility has instituted to ensure in the event of upset conditions that the conveyance ditch system that conveys any spilled process water is functional, the water balances, and stabilization operations. The RAI also stated that the information provided does not appear to be based on sufficient hydrogeological and geotechnical investigations to address the required application information for an expansion of the phosphogypsum stack system pursuant to the applicable rule provisions. The RAI asked whether sufficient requisite Phase IV area investigations by Mosaic are expected to be completed in time for DEP's review and subsequent processing of an agency action on the pending wastewater permit renewal application. Mosaic's April 7, 2023 RAI response states that Mosaic has now elected to withdraw the request to revise the existing permit to include authorization to construct the Phase IV Gypsum Stack Extension.

On May 3, 2023, DEP deemed the application complete and estimated that a draft permit would be ready on or around June 9, 2023 and a notice of intent (to issue or deny the permit) would be issued on or around August 7, 2023. As of the date of this report, there were no additional documents available on DEP's online database for this permit application. However, there was a Notice of Completion of Construction ("NOCC") of Phase III East-South submitted on June 8, 2023, and subsequent clarification requests and responses made during a DEP site visit on June 21, 2023 regarding the status of the foundation monitoring piezometers within the Phase III Phosphogypsum Stack Expansion footprint. On July 27, 2023, DEP issued a letter in response to the NOCC, notifying Mosaic that it has satisfied its permit requirements for approval of the documentation and

Certification of Completion of Construction, specifically for the East-South Phase III area, in accordance with its permit conditions and may place the Phase III East-South area into operation in accordance with its wastewater permit requirements (FL0036421-022-IW1S/RA).

The New Wales Facility manufactures solid ammoniated phosphate fertilizers and animal feed ingredients and is located on County Road 640 West, southwest of Mulberry, Florida near the Hillsborough County line. The Facility, through the Phase III Gypsum Stack extension, encompasses 2,260 acres, and will increase to 2,545 acres with the proposed Phase IV Extension. The facility has one outfall, designated D-006, located approximately 3 miles southeast of the facility boundary on the South Prong Alafia River.

Spanish Trails Farming & Land, LLC— Chastain Borrow Pit Excavation

On December 14, 2022, Spanish Trails Farming & Land LLC submitted an ERP application (File No. MMR_430512) to DEP for a new mining operation in DeSoto County. On February 9, 2023, DEP issued a RAI, which the applicant responded to on April 18, 2023. On May 22, 2023, DEP issued another RAI, which the applicant responded to on June 8, 2023. On August 15, 2023, DEP gave notice of its intent to issue the ERP.

The project consists of an approximately 202 acre new sand mine in DeSoto County on a 549 acre property. The total acreage of mining extraction and disturbed lands being proposed is apporximately 79 acres. The project includes two phases of excavation and the construction of a hydraulic barrier ditches ("HBD") system. The fill materials consist of predominantly sand, shell, and limestone and is proposed to be excavated to a total depth of up to 30 feet below existing grade in Phase 1, and 25 feet below existing grade in Phase 2. The system will discharge to an unnamed

swale on the property. The applicant's consultant evaluated potential impacts associated with the proposed Chastain borrow pit excavation project on adjacent property owners and environmental features such as wetlands. The results of the groundwater flow simulations indicated that the predicted impact from dewatering of the proposed excavation is effectively contained using the proposed HBD system as designed, and that adverse impacts to environmental features including wetlands and adverse impacts to adjacent property owners are not anticipated if the HBD system is constructed, operated, and maintained as designed.

The project is located on State Road 31 near the intersection of Notts Dairy Farm in DeSoto County, Florida, and is within the watershed of the Peace River Basin.

Mosaic Fertilizer LLC—Agricultural Water Use Permit

On August 22, 2023, the Southwest Florida Water Management District ("SWFWMD") issued a water use permit ("WUP") modification (permit no. 2715.027) to Mosaic. The modification adds three proposed wells and increases the annual average quantity from 3.924 mgd to 4.3487 mgd, the drought annual average from 4.768 mgd to 5.234 mgd, the peak month quantity from 16.5025 mgd to 17.905 mgd, and the crop protection quantity has from 65.3862 mgd to 71.9026 mgd. The WUP modification explains that the change in quantities is due to a self-relocation of 0.427 mgd annual average allocation from WUP No. 20003258.007 and a change in crop plan. The use of groundwater is limited to 3.223 mgd annual average, 3.9639 mgd drought annual average, 14.4768 mgd peak month, and 71.9026 mgd crop protection. The WUP modification also states that Mosaic is using 1.4075 mgd of surface water (representing 32% of the total annual average demand) as an

alternative water supply (the prior version of the permit, issued in 2022, stated that Mosaic was using 1.3439 mgd of surface water).

The permit is for agricultural uses in Polk and Hardee Counties and is located in the Southern Water Use Caution Area, the Central Florida Water Initiative, and Alafia River and Peace River basins.

Manatee County BOCC—Water Use Permit

On February 21, 2023, Manatee County BOCC submitted a WUP modification application (permit no. 13343.005) for the implementation of Groundwater Replacement Credits at East County Field ("ECWF") and Buffalo Creek Well Field ("BCWF"). The application included an Impact Analysis Report prepared to support the requested implementation of Groundwater Replacement Credits ("GWRC"). It explains that the SWFWMD rules require that if a WUP is requesting new groundwater withdrawals that causes impact in the Upper Floridan aquifer ("UFA") within the Most Impacted Area ("MIA"), it must utilize a Net Benefit strategy. Both well fields, ECWF and BCWF, will utilize the Mitigation Plus Recovery Net Benefit strategy, which requires that new drawdown in the UFA within the MIA boundary be offset plus an additional 10% of the drawdown impact provided as recovery in the MIA by use of a mitigation method. The application states that both well fields will utilize recharge of the UFA via GWRC and quantity retirement as mitigation. The GWRC and quantity retirement are earned by Manatee County supplying reclaim water to WUPs to offset groundwater withdrawals that cause impact in the UFA within the MIA. Both well field sites are under the management of the Manatee County Utilities.

The Manatee County permit is a consolidated WUP including all their groundwater and surface water sources. The current total annual average quantity and peak month quantity for the entire permit is 54.836 mgd and 70.734 MGD. The current permitted quantity allotted to the ECWF is 15.986 mgd with 3.1 mgd of groundwater flexibility available, bringing the total allotted quantity to 19.086 mgd. The current permitted quantity allotted to BCWF is 3.95 mgd. The flexibility quantity associated with ECWF and the total allotted quantity at BCWF are available due to the net benefit provided by previously calculated GWRC and retirement quantities. A previous GWRC quantity of 2,345,600 gallons per day ("gpd"), calculated in 2016, and a new GWRC quantity of 1,205,265 gpd, calculated in 2022, were used to calculate the new flex quantity associated with the ECWF. A GWRC quantity of 4,976,083 gpd and retirement quantity of 380,500 gpd was used to calculate the new total annual average quantity associated with the BCWF. The report states that the flex quantity at the ECWF and total quantity at the BCWF is feasible due to recharge of the UFA within the MIA from GWRC and retirement quantities.

On March 15, 2023, SWFWMD issued a RAI requesting that Manatee County: reevaluate and recalculate the GWRC associated with the permit; reevaluate all associated WUPs to confirm that the total referenced GWRC are correct; confirm the actual quantity of reclaimed water that is being supplied to all the associated WUPs that are being used to provide GWRC; and provide an estimated schedule of when WUP Nos. 20013354, 20020955, and 20020956 will be modified to reflect the proposed reclaimed water that is to be provided by Manatee County. On June 12, 2023, SWFWMD approved Manatee County BOCC's request for an extension of time to respond to the RAI, granting it until September 11, 2023 to submit its RAI response. On September 11, 2023, SWFWMD granted

a second request for extension of time, granting until November 10, 2023 to submit the RAI response.

The permit is for public supply uses and is located in Manatee County within the MIA, Southern Water Use Caution Area and Manasota Basin.

Taylor Woodrow Communities at Artisan Lakes LLC —Water Use Permit

On June 28, 2023, Taylor Woodrow Communities at Artisan Lakes LLC submitted a WUP modification application (permit no. 3744.013) to SWFWMD. The application requests to increase the irrigated acreage from 227.6-acres to 472.4-acres and explains that the additional irrigated acreage allocation will be met with the same irrigation methodology currently employed at the development (surface water system augmented both intermediate aquifer system and upper Floridan aquifer wells). The application also requests a "temporary 5-year permit" increasing the annual average quantity from 0.452 mgd to 0.9209 mgd, and a peak month quantity of 3.0166 mgd.

A change to the allocation from the UFA is also requested—to 0.459 mgd annual average quantity (it is currently permitted for 0.3861 mgd). The application explains that after 5 years or sooner, the development will be permanently on reclaimed water and the backup to the reclaimed use will be the surface water quantities only. It also states that "hydrogeologic evaluation of the requested allocations indicates there are negligible, temporary impacts to existing legal uses or environmental receptors." On July 19, 2023, SWFWMD issued an RAI which, among other things, included statements related to the requirement that a request for new quantities must be offset with a Net Benefit quantity.

The WUP is for agricultural uses in Manatee County and is located within the Most Impacted Area in the Southern Water Use Caution Area and Manasota basin.

City of Davenport—Water Use Permit

On September 26, 2023, SWFWMD issued a WUP modification (permit no. 20005750.011) to the City of Davenport. The modification increases the annual average quantity from 2.1637 mgd to 3.0 mgd and the peak month quantity from 2.684 mgd to 3.99 mgd, to reflect an increase in population. The WUP modification states that the increase in allocation is supported by 0.786 mgd of aquifer recharge at rapid infiltration basins and 0.3654 mgd from land use transition quantities to offset predicted impacts associated with the increase in groundwater withdrawals. The authorized annual average quantity is less than the City's 2025 demand to avoid environmental impacts to Lake Eva, which has an established minimum lake level. The WUP modification also explains that the City of Davenport is located within the area of the Central Florida Water Initiative ("CFWI") and is expected to receive up to 1.0 mgd in alternative water supply from the Polk Regional Water Cooperative in the future.

The WUP is for public supply uses in Polk County and is located within the Peace River and Green Swamp basins.