City of Port St. Lucie
Procurement Management Division
Nathaniel Rubel, Assistant Director
121 SW Port St. Lucie Blvd,, Port St. Lucie, FL 34984

[JACOBS] RESPONSE DOCUMENT REPORT

RFQu No. 20250143

Progressive Design-Build of the Rangeline Road Water Treatment Facility

RESPONSE DEADLINE: November 4, 2025 at 3:00 pm

Report Generated: Monday, November 10, 2025

Jacobs Response

CONTACT INFORMATION

Company:
Jacobs

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Palm Beach Gardens, FL 33418

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www.jacobs.com

Submission Date:
Nov 4, 2025 2:12 PM (Eastern Time)

ADDENDA CONFIRMATION

Addendum #1
Confirmed Oct 28, 2025 12:21 PM by Dave Schoster

QUESTIONNAIRE

1. Mandatory Forms

PROPOSAL UPLOAD*
Jacobs_PSL_Rangeline_WTP_RFQu_20250143.pdf
Jacobs_PSL_Rangeline_WTP_Contract_Terms_Conditions.pdf

PROOF THAT CONSULTANT QUALIFIES AS A DESIGN CRITERIA PROFESSIONAL UNDER SECTION 287.055, FLORIDA STATUTES*
DBPR_-_JACOBS_PROJECT_MANAGEMENT_CO_Engineering_Business_Registry.pdf

CONTRACTOR'S GENERAL INFORMATION WORKSHEET*
It is understood and agreed that the following information is to be used by the City to determine the qualifications of prospective Contractor to perform the work required. The Contractor waives any claim against the City that might arise with respect to any decision concerning the qualifications of the Contractor.

The undersigned attests to the truth and accuracy of all statements made on this questionnaire. Also, the undersigned hereby authorizes any public official, Engineer, Surety, bank, material or equipment manufacturer, or distributor, or any person, firm or corporation to furnish the City any pertinent information requested by the City deemed necessary to verify the information on this questionnaire.

Please download the below documents, complete, and upload.

- PSL- Consultant's General I...
- PSL- Consultant's General I...

1.3_Jacobs_General_Information_Worksheet_Signed.pdf

E-VERIFY FORM *
Please download the below documents, complete, and upload.

- E-Verify_Form.pdf

1.4_Jacobs_E-Verify_Form_Signed.pdf

NON-COLLUSION AFFIDAVIT*
Please download the below documents, complete, and upload.

- Non-Collusion_Affidavit-fil...

1.5_Jacobs_Non-Collusion_Affidavit_Signed.pdf

TRUTH-IN-NEGOTIATION CERTIFICATE AND AFFIDAVIT*
Please download the below documents, complete, and upload.

- Truth-In-Negotiation-fillab...

1.6_Jacobs_Truth-in-Negotiation_Certificate_and_Affidavit_Signed.pdf

DEBARMENT FORM*
Please download the below documents, complete, and upload.

- Debarment_form-fillable.pdf

1.7_Jacobs_Debarment_Form_Signed.pdf
1.7_Jacobs_Subconsultant_Debarment_Forms_Signed.pdf

LOBBYING FORM*
Please download the below documents, complete, and upload.

- Lobbying_form-fillable.pdf

1.8_Jacobs_Lobbying_Form_Signed.pdf
1.8_Jacobs_Subconsultant_Lobbying_Forms_Signed.pdf

TRENCH SAFETY ACT COMPLIANCE STATEMENT*
Please download the below documents, complete, and upload.

- Trench_Safety_Act_Complianc...

1.9_Jacobs_Trench_Safety_Act_Compliance_Statement_Signed.pdf

BUY AMERICA CERTIFICATE OF COMPLIANCE*
Please download the below documents, complete, and upload.

- BABA_Certificate_-_Construc...
- BABA_Certificate_-_Engineer...

1.10_Jacobs_Buy_America_Certificate_of_Compliance_Construction_Signed.pdf
1.10_Jacobs_Buy_America_Certificate_of_Compliance_Engineer_Signed.pdf

COPY OF W-9*
JPMCo_W9_2025.pdf

COPY OF CERTIFICATE OF INSURANCE*
JPMCo_COI.pdf

2. Electronic Confirmation

CONE OF SILENCE AND COMMUNICATION DOCUMENT*
To ensure fair consideration is given for all Proposers, it must be clearly understood that upon release of the proposal and during the proposal process, firms and their employees of related companies as well as paid or unpaid personnel acting on their behalf shall not contact or participate in any type of contact with City employees, department heads or elected officials, up to and including the Mayor and City Council. The “Cone of Silence” is in effect for this solicitation from the date the solicitation is advertised on the OpenGov Portal,

until the time an award decision has been approved by City Council and fully executed by all parties. Information about the Cone of Silence can be found under the City Code of Ordinances, Section 35.13. Contact with anyone other than the Issuing Officer may result in the vendor being disqualified. All contact must be coordinated through the Issuing Officer, for the procurement of these services.

Confirmed

CONTRACTOR'S CODE OF ETHICS*

The City of Port St Lucie ("City), through its Procurement Management Division ("Procurement Management Division") is committed to a procurement process that fosters fair and open competition, is conducted under the highest ethical standards and enjoys the complete confidence of the public. To achieve these purposes, Procurement Management Division requires each vendor who seeks to do business with the City to subscribe to this Contractor's Code of Ethics.

- A Contractor's bid or proposal will be competitive, consistent and appropriate to the bid documents.
- A Contractor will not discuss or consult with other Vendors intending to bid on the same Contract or similar City Contract for the purpose of limiting competition. A Vendor will not make any attempt to induce any individual or entity to submit or not submit a bid or proposal.
- Contractor will not disclose the terms of its bids or proposal, directly or indirectly, to any other competing Vendor prior to the bid or proposal closing date.
- Contractor will completely perform any Contract awarded to it at the contracted price pursuant to the terms set forth in the Contract.
- Contractor will submit timely, accurate and appropriate invoices for goods and/or services actually performed under the Contract.
- Contractor will not offer or give any gift, item or service of value, directly or indirectly, to a City employee, City official, employee family member or other vendor contracted by the City.
- Contractor will not cause, influence or attempt to cause or influence, any City employee or City Official, which might tend to impair his/her objectivity or independence of judgment; or to use, or attempt to use, his/her official position to secure any unwarranted privileges or advantages for that Vendor or for any other person.

◆ Contractor will disclose to the City any direct or indirect personal interests a City employee or City official holds as it relates to a Vendor contracted by the City.

◆ Contractor must comply with all applicable laws, codes or regulations of the countries, states and localities in which they operate. This includes, but is not limited to, laws and regulations relating to environmental, occupational health and safety, and labor practices. In addition, Contractor must require their suppliers (including temporary labor agencies) to do the same. Contractor must conform their practices to any published standards for their industry. Compliance with laws, regulations and practices include, but are not limited to, the following:

o Obtaining and maintaining all required environmental permits. Further, Contractor will endeavor to minimize natural resource consumption through conservation, recycling and substitution methods.

o Providing workers with a safe working environment, which includes identifying and evaluating workplace risks and establishing processes for which employee can report health and safety incidents, as well as providing adequate safety training.

o Providing workers with an environment free of discrimination, harassment and abuse, which includes establishing a written antidiscrimination and anti-bullying/harassment policy, as well as clearly noticed policies pertaining to forced labor, child labor, wage and hours, and freedom of association.

DISCLAIMER: This Code of Ethics is intended as a reference and procedural guide to Contractors. The information it contains should not be interpreted to supersede any law or regulation, nor does it supersede the applicable Contractor Contract. In the case of any discrepancies between it and the law, regulation(s) and/or contractor contract, the law, regulatory provision(s) and/or vendor contract shall prevail.

Confirmed

DRUG FREE WORKPLACE*
The undersigned Contractor in accordance with section 287.087, Florida Statutes, hereby certifies that they comply fully with the below requirements.

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

3. Give each employee engaged in providing the commodities or contractual services that are under proposal a copy of the statement specified in subsection (1).

4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under proposal, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 Florida Statutes or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.

5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.

6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

Confirmed

AFFIDAVIT OF NONGOVERNMENT ENTITY ANTI-HUMAN TRAFFICKING LAWS*
In accordance with section 787.06(13), Florida Statutes, the representative of the nongovernmental entity bidder (“Entity”), attests under penalty of perjury that the Entity does not use coercion for labor or services as defined in section 787.06.

Confirmed

VENDOR SCRUTINIZED COMPANIES LIST CERTIFICATION*
Sections 287.135 and 215.473, Florida Statutes, prohibit Florida municipalities from contracting with companies, for goods or services over $1,000,000 that are on either the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or to engage in any Business operations with Cuba or Syria. Sections 287.135 and 215.4725 also prohibit Florida municipalities from contracting with companies, for goods or services in any amount that are on the list of Scrutinized Companies that Boycott Israel.

The list of "Scrutinized Companies" is created pursuant to Section 215.473, Florida Statutes. A copy of the current list of "Scrutinized Companies" can be found at the following link:

https://www.sbafla.com/media/mqodaonn/2024_12_17_-israel-scrutinized-companies-list-for-web.pdf

As the person authorized to sign on behalf of the Respondent Vendor, I hereby certify that the company identified above in the section entitled "Respondent Vendor Name" is not listed on either the Scrutinized Companies with Activities in Sudan List; or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List; is not participating in a boycott of Israel; and does not have any business operations with Cuba or Syria. I understand that pursuant to Sections 287.135 and 215.473, Florida Statutes, the submission of a false certification may subject the Respondent Vendor to civil penalties, attorney's fees, and/or costs.

I understand and agree that the City may immediately terminate any contract resulting from this solicitation upon written notice if the company referenced above are found to have submitted a false certification or any of the following occur with respect to the company or a related entity: (i) for any contract for goods or services in any amount of monies, it has been placed on the Scrutinized Companies that Boycott Israel List, or is engaged in a boycott of Israel, or (ii) for any contract for goods or services of one million dollars ($1,000,000) or more, it has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or it is found to have been engaged in business operations in Cuba or Syria.

Confirmed

COMPLIANCE WITH 2 C.F.R. 200.318 THROUGH 200.326*
The Contractor will comply with all applicable federal and state laws and regulations, to include 2 C.F.R. 200.318 through 200.326 as well as Appendix II to 2 C.F.R. Part 200 entitled “Contract Provisions for Non-Federal Entity Contracts Under Federal Awards".

Confirmed

I CERTIFY THAT I HAVE READ, UNDERSTOOD, AND AGREED TO THE TERMS OUTLINED IN THIS SOLICITATION, INCLUDING ALL ADDENDA, NOTICES, AND THE QUESTION & ANSWER SECTION. FURTHERMORE, I CONFIRM THAT I AM AUTHORIZED TO SUBMIT THIS RESPONSE ON BEHALF OF MY COMPANY.*
Confirmed

Statement of Qualifications

Progressive Design-Build

of the Rangeline Road Water Treatment Facility (RFQu 20250143)

November 4, 2025

Jacobs

Statement of Qualifications

Progressive Design-Build

of the Rangeline Road Water Treatment Facility (RFQu 20250143)

November 4, 2025

Dave Schoster, PE, DBIA
7108 Fairway Drive, Suite 170
Palm Beach Gardens, FL 33418
352.284.1863
Dave.Schoster@jacobs.com

Jacobs

We've **Listened.**
We're **Ready.**
We're **Committed.**

The Rangeline WTP represents a vital investment in Port St. Lucie's water future. We understand how important this project is to sustain growth and your long history of customer service excellence. Our proven design-build team is committed to delivering a reliable, flexible, and future-ready facility that is viable for decades to come.

"This project signifies more than just delivering a new WTP—it's about partnership. Our team genuinely loves what we do, and we thrive working with owners who are open, transparent, and collaborative. Every time we've met with the City, we've come away energized by your engagement and teamwork. I can't wait to bring together our Florida design-build team, our membrane experts, and the City's talented staff to make this a resounding success."

– **Grant Misterly, PE, DBIA**
Project Manager

Grant Misterly, PE, DBIA
Project Manager

Dave Schoster, PE, DBIA
Project Director

Ashley Currey, PE, DBIA
Executive Sponsor

Jacobs

Jacobs

7108 Fairway Drive, Suite 170
Palm Beach Gardens, FL 33418
United States

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www.jacobs.com

November 4, 2025

Mr. Nate Rubel, DBIA
Procurement Assistant Director
City of Port St. Lucie
121 SW Port St. Lucie Blvd.
Port St. Lucie, FL 34984

Dear Mr. Rubel and Selection Committee Members,

RE: Jacobs Qualifications for Progressive Design-Build of the Rangeline Water Treatment Facility (Project ID.20250143)

The City of Port St. Lucie is pursuing one of its most critical infrastructure projects in decades—one that will deliver a high-performing, future-ready water treatment facility. To ensure your objectives for regulatory compliance, schedule certainty, O&M reliability, and cost-effectiveness are met, you require the services of a design-builder you can trust to balance risk with innovation.

Trust Jacobs. As an industry leading water company that has designed and built $26 billion in water and wastewater infrastructure nationwide, we offer several unique benefits for delivery of your project:

- **PROVEN Florida design-build team** has delivered $3 billion in water and wastewater design-build projects over the past 20 years, promoting teamwork and efficiency.
- **UNIQUE integrated delivery model,** with the Contractor and Engineer under "one roof," makes Jacobs 100% responsible for the entire project delivery and performance providing true single source accountability.
- **TOP treatment experts from Jacobs and Tetra Tech,** with in-depth Port St. Lucie knowledge, bring lessons learned from designing more than 50 municipal membrane treatment facilities in Florida.

Jacobs Provides Delivery CERTAINTY

ENR 2025 **#2** Design

ENR 2025 **#3** Water

$3B water/wastewater DB in Florida

12 Florida offices

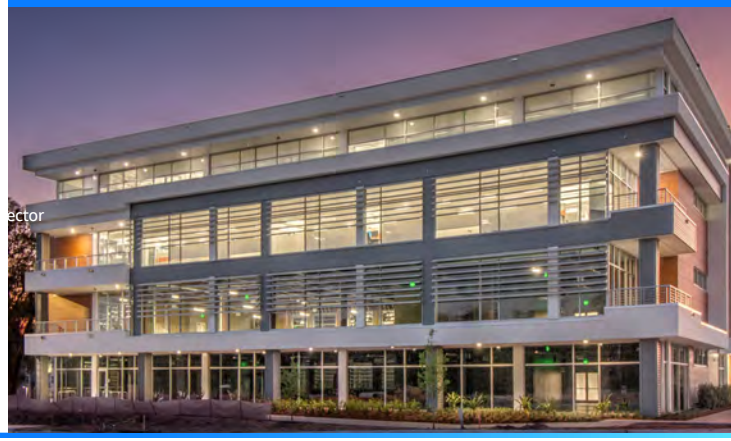
1,650 Florida staff

42,000 staff company-wide

200+ membrane treatment projects globally

23 designed and operating NF/RO facilities in Florida

Florida Design-Build Center of Excellence



- **INNOVATIVE design concepts,** such as obtaining 4 MGD by December 2028 and as early as January 2028 without the cost of temporary facilities, reduced capital, and life-cycle costs.
- **FULLY transparent,** open book cost model and GMP process promotes informed decision making and will include NO hidden costs or fees and approximately 30% more construction work that is competitively bid to the market when compared to the other non-integrated teams saving the City significant money.
- **IN-HOUSE operators integrate ease of O&M into facility design and construction,** ensuring a smooth startup, training, and handoff to the City. If requested, we can also provide operational resources.

In summary, the Jacobs team brings the experience, innovation, and accountability needed to deliver a water treatment facility that exceeds your expectations, now and for decades to come. We're ready to begin.

Sincerely,

Grant Misterly, PE, DBIA
Design-Build Project Manager

Ashley Currey, PE, DBIA
Executive Sponsor

Dave Schoster, PE, DBIA
Project Director

Note: Dollar figures listed throughout the proposal reflect today's dollar valuation of project cost, rather than actual cost at time of completion. Listing project values in today's cost account for inflationary impacts and better represents the scale and complexity of the project if delivered today. Federal Reserve Economic Data (FRED), consisting of price indices for water project related construction commodities, were utilized in calculating the historical project costs in today's dollars.

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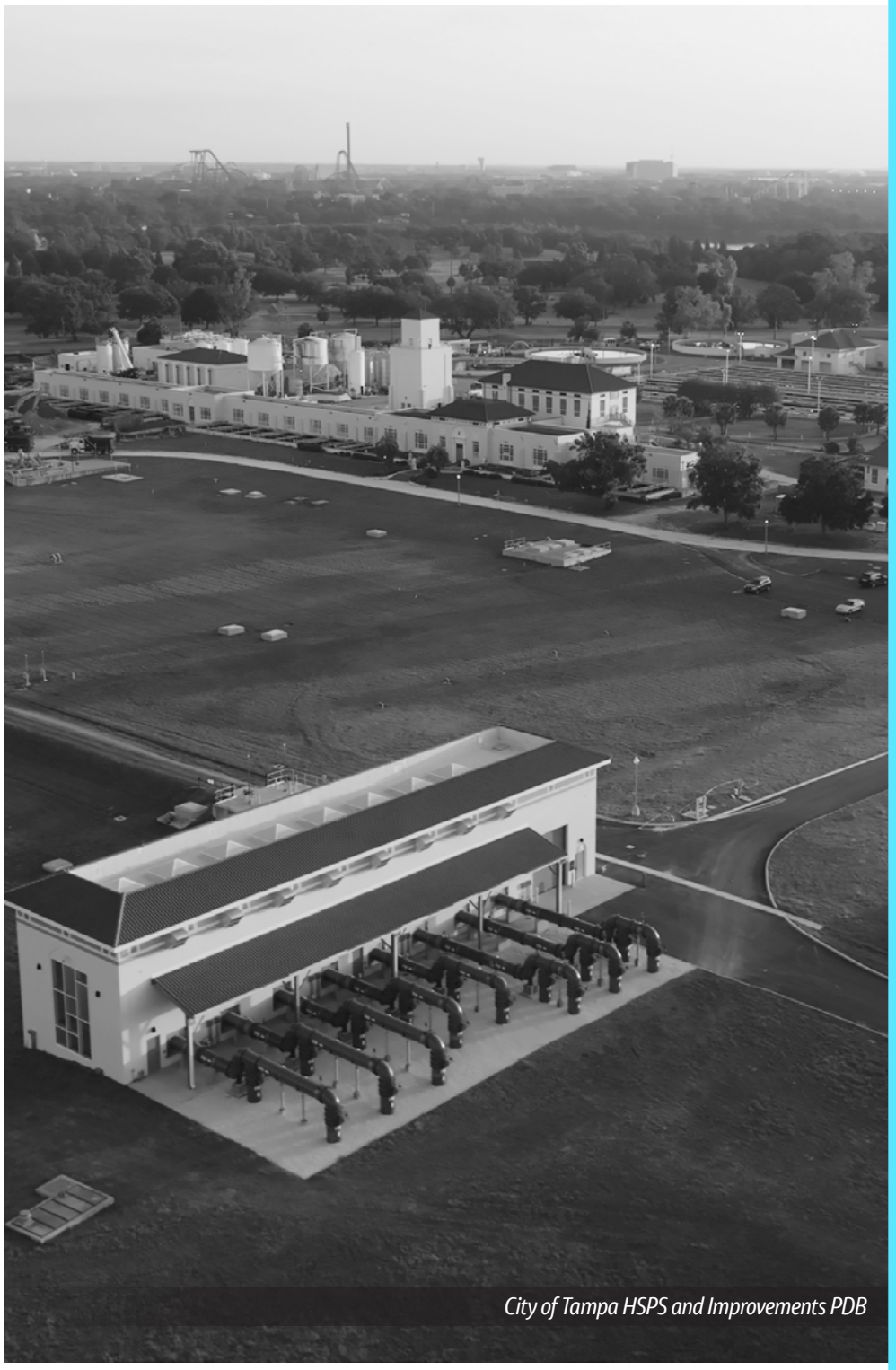


City of Tampa HSPS and Improvements PDB

1 Project Team Structure

1 Project Team Structure

As your design-build partner, the Jacobs team will deliver a future-ready treatment facility that meets Port St. Lucie's needs for decades.

The Rangeline Road Water Treatment Plant (WTP) is one of the City's most significant investments—requiring a delivery partner with the expertise and resources to achieve long-term reliability, sustainability, and value. With more than 75 years of experience delivering complex water projects that set industry standards for quality and innovation, **Jacobs is the RIGHT partner for the City of Port St. Lucie.**

TRUE SINGLE SOURCE DESIGN-BUILDER ACCOUNTABILITY

Jacobs operates as a single-entity design-builder, meaning that design, construction, commissioning, and operations expertise all reside within one organization under a single contract. Unlike traditional joint ventures or contractor-led teams that combine multiple firms under separate agreements, we bring all disciplines—engineers, constructors, operators, and commissioning specialists—under one roof.

The value to Port St. Lucie is that we maintain direct control over quality, safety, and cost from concept through startup, eliminating barriers between the designer and builder to deliver one fully aligned team dedicated to the City's success. We also self-perform all project components with the highest impact on project performance, including process and electrical equipment procurement, SCADA and I&C integration, design, general conditions, and commissioning.

INTEGRATED PROGRESSIVE DESIGN-BUILD MODEL

Within our single-entity framework, we deliver projects through an Integrated Progressive Design-Build (PDB) model founded on collaboration, transparency, and shared accountability. Unlike contractor-led PDB models, where the City must communicate through multiple entities to reach the engineer, we provide a single point of accountability.

This integrated structure eliminates barriers between designer and builder, streamlines decision making, and accelerates resolution of issues. It also promotes more accurate information sharing (we know what 30% design has or doesn't have), better cost estimating, engagement of O&M early in design decisions, and a life-cycle focus. With Jacobs' engineers, constructors, and operators aligned under one roof, the City gains:

Jacobs Provides Delivery Certainty

Established in 1947 and headquartered in Dallas, we're a **Fortune 500** company that delivers **$11.5B** in revenue per year making us one of the largest and most diverse water companies in the industry

Jacobs is the largest integrated design, construction, and operations company in North America

Jacobs by the Numbers

1,650 multi-disciplinary staff in Florida

42,000 worldwide staff

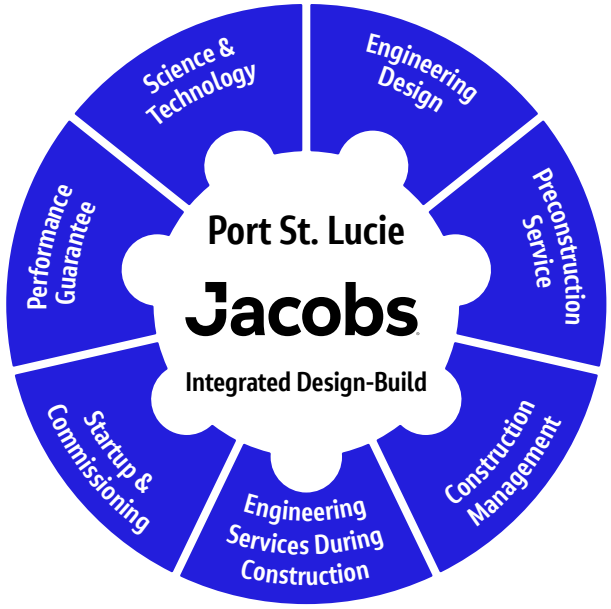
200+ membrane treatment projects

23 operational NF/RO plants in Florida

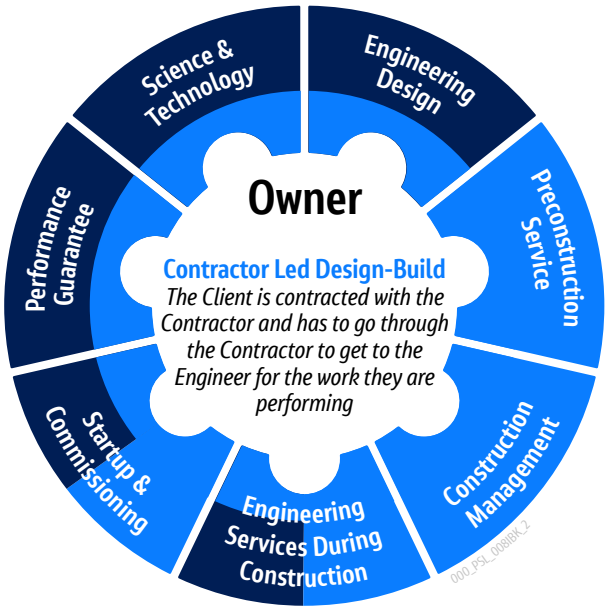
- Direct access to decision-makers without layers of contractual separation
- Full transparency through open-book Guaranteed Maximum Price (GMP) processes
- Improved efficiency and collaboration by engaging design, construction, and O&M expertise from Day One
- Reduced risk by eliminating hand-offs between separate firms
- Greater value from a model proven on $26 billion in design-build water and wastewater projects
- Enables every project decision to be evaluated holistically—balancing cost, schedule, constructability, and long-term reliability—ultimately delivering a best-for-City solution

Using our integrated PDB model, we'll partner with the City early to define scope, establish priorities, and refine design concepts while design, estimating, and construction teams work concurrently to optimize technical performance, constructability, and cost. Through open book estimating, shared digital tools, and continuous City engagement, we'll collaboratively develop a GMP based on clearly defined design and performance criteria.

Jacobs' Integrated PDB Delivery Model



Contractor-led or JV PDB Delivery Model



Jacobs | Contractor | Designer

As an integrated design-builder, Jacobs leads all delivery components making us 100% accountable for the project and in turn eliminates barriers between designer and builder, streamlines decision making, and accelerates resolution of issues.

INDUSTRY LEADING DESIGN

Jacobs is the No. 2 Design Company and No. 3 Water Company (*Engineering News-Record*, April 2025), with water infrastructure comprising a substantial portion of our project portfolio.

Our design services encompass the broad range of expertise required for your project, including per- and polyfluoroalkyl substances (PFAS) treatment, for a holistic response to your WTP design needs.

During our more than 75-year history, we've delivered thousands of water treatment facilities, including more than **200 membrane treatment projects**, 23 of which were for clients right here in Florida. This experience brings proven designs, valuable lessons learned, and the ability to innovate on your project.

The City's project will be designed by our **Florida Design-Build Center of Excellence** located in Gainesville, which has designed all 102 of our Florida design-build projects.

Many of our Port St. Lucie team members are located there, including Project Director Dave Schoster and Design Production Manager Gaibey Zreibi, promoting efficiency and teamwork.

WE BUILD THE PROJECTS WE DESIGN

Jacobs is unique among similar-sized contractors in that we build the projects we design as part of our integrated design-build delivery model. **Company-wide, we've delivered more than 300 water and wastewater projects valued at $26 billion by design-build.** Our delivery capacity is made possible by our large pool of construction experts and support staff, including ~1,300 construction managers, ~800 project control experts, and ~450 estimators.

Another benefit of our integrated delivery model is that we'll develop work packages that promote competition from qualified, competent subcontractors. Then we'll select based upon best value and not price alone.

This best value subcontractor selection process will result in high-quality construction, with dependable subcontractors at a cost-competitive price.

IN-HOUSE OPERATIONS FOR A SEAMLESS TRANSFER

Jacobs operates more than 250 water and wastewater treatment facilities nationwide.

The added value for the City is that a Florida-certified WTP operator will provide input during design and will be responsible for starting up and commissioning your new WTP for a seamless transfer. We'll make sure your plant operators have all the necessary training, promoting a seamless transfer back to the City. We can also augment your operations staff or even operate the WTP for a period before hand back.

We're a PROVEN Contractor

300+
water/wastewater design-builds

$26B
water/wastewater design-builds (2025 dollars)

102
water/wastewater design-builds in Florida

$2.95B
water/wastewater design-builds in Florida

We've Got Plenty of Construction RESOURCES

1,409
construction managers and superintendents

796
project control experts

484
estimators and risk experts

100
safety managers

KEY PROJECT PARTNERS

We've carefully selected our teaming partners to provide complementary services that provide added value to the City. All our key partners have worked together on previous projects—several for Port St. Lucie—promoting collaboration and greater efficiency on your project. Our partners are:

- **Tetra Tech,** who designed the James E. Anderson (JEA) and Prineville WTPs and who has worked with Jacobs on more than 50 projects, including the City's Desalination Feasibility Study and McCarty Ranch Water Supply Plan
- **CROM Corporation,** Florida's leader in the design and construction of prestressed concrete tanks, with a long history working with both the City and Jacobs on water infrastructure projects
- **The Merchant Company,** a Treasure Coast community outreach expert who's also providing services for your Floridan wellfield design-build project
- **Ardaman & Associates,** a Tetra Tech company with a long history providing geotechnical engineering services for the City and has worked with Jacobs on 40 projects
- **Infrastructure Solution Services,** with a long history working with the City and providing engineering support services for Jacobs' projects
- **InfraMap,** who has provided utility locate services for numerous Port St. Lucie projects, making them familiar with your project sites and facilities

INTEGRATED ORGANIZATION

Our seven member firms are organized to provide the City with a single point of responsibility—Jacobs—for project delivery and performance, streamlining communications and providing direct accountability. Additional subcontractors and vendors will be identified in preparation for construction using our best value selection process, identifying the most qualified firms at a cost-competitive price.

All seven of our member firms are experienced working with the City, providing a unique understanding of your RO WTPs, design preferences, and community outreach needs.

TETRA TECH

Jacobs and Tetra Tech have collaborated on more than 50 shared projects, providing Port St. Lucie's project with exceptional value, creativity, and innovation in several ways:

- **Joint delivery of the Desalination Feasibility Study and McCarty Ranch Water Supply Plan** provides a sound foundation for designing your new future-ready WTP
- **No other team has the collective brain trust** that we do as top tier water treatment and design firms, promoting creativity and innovation during conceptual design
- **Tetra Tech's institutional knowledge from designing the JEA and Prineville WTPs** will help us deliver the Rangeline design more quickly and efficiently
- **Our industry leading resources—including two Florida design centers**—makes it possible to accelerate schedule with no loss in quality

DECADES OF EXCELLENCE FOR THE CITY

For more than 30 years, Tetra Tech has provided engineering and consulting services for the City. In 1994, they acted as your representative during acquisition of St. Lucie County's water and wastewater infrastructure, and they went on to design the original JEA and Prineville WTPs, as well as their expansions.

Team members Jarrett Kinslow and James Christoper—who designed the JEA and Prineville facilities—bring valuable institutional knowledge, lessons learned, and relationships to the project. Their years of experience working with the City will help guide our team during design development, confirming your preferences are incorporated.

Tetra Tech and Jacobs teamed on the City's Desalination Feasibility Study and McCarty Ranch Water Supply Plan, providing a deep understanding of your water treatment goals and future plans. In addition to Jacobs' resources, Tetra Tech has a Port St. Lucie office and a regional design center in Orlando to support your project.

INDEPENDENT REVIEWS

The Jacobs-Tetra Tech partnership provides the City with the added value of independent reviews by two industry leading design companies. Many of the design concepts found in our approach are the product of collaboration, demonstrating the innovation and creativity that we bring to your project. We'll also have the opportunity to review each other's work, providing an independent, fresh perspective when checking for accuracy and quality.

SERVICES FOR RANGELINE

- Conceptual design support
- Post-treatment design

Tetra Tech Snapshot

#1 Water Treatment/ Desalination

20 Florida Offices

550 Offices Globally

23 operational RO plants in Florida

1,000+ multi-disciplinary staff in Florida

30,000 staff worldwide

CROM

The Rangeline WTP will require multiple water tanks, so we've engaged our trusted partner—CROM Corporation—to provide prestressed concrete services. CROM has a long history working with us, having delivered 122 projects with Jacobs over the past 60 years.

As discussed in detail in our approach, their engagement will expedite schedule by installing an additional finished water tank as part of an early work package, providing greater operational flexibility.

Our unique partnership also provides the opportunity for CROM to self-perform specific work items when it would provide schedule or cost savings for the City, such as select process mechanical installations, demolition, fabrications, general construction, and under tank piping. CROM is also no stranger to Port St. Lucie as they've built 25 tanks for the City's projects over the years.

CROM's relationships with both the City and Jacobs will promote collaboration and teamwork on your project.

BROAD PORTFOLIO

With more than 70 years of experience, CROM is Florida's premier provider of prestressed concrete tanks for water and wastewater operations. They're also experts in concrete removal and surface preparation, durability inspections, high-performance coatings, and shotcrete and structural restoration solutions. Their tanks include a wide variety of concrete water-retaining structures, including covered and open circular, oval, or straight-wall storage tanks for water storage and wastewater process, including oxidation ditches, clarifiers, digesters, aeration basins, and membrane bioreactors.

SERVICES FOR RANGELINE

- **Prestressed concrete tanks.** These structures meet or exceed AWWA D110 and ACI 350 standards, providing a 50-year design life with the lowest life-cycle cost in the market.
- **High-performance coatings.** High-performance protective coatings and advanced plural component applications will be executed under the AMMP QP8 program to confirm the highest standards of safety and quality.
- **Select early work.** In collaboration with Jacobs oversight and supervision, CROM can provide labor and equipment to perform under tank piping, rough grading, access roads, mobilization, and other as needed services.

CROM is a Proven, Trusted Partner who will help us get off to a quick start during construction by performing early work packages

70 years in Florida

25 tanks constructed for Port St. Lucie

700+ employees

500+ field staff

60 years working with Jacobs

122 projects delivered with Jacobs

THE MERCHANT STRATEGY

We recognize how important community buy-in is to infrastructure projects like the Rangeline Road WTP, and that's why we've chosen The Merchant Strategy to provide community outreach services.

Merchant is also providing outreach for the City's Floridan well design-build, which will promote synergy and economies on the Rangeline WTP.

A Woman-Owned Small Business owned by Sharon Merchant—a previous member of the Florida House of Representatives—they provide community outreach for public works projects all along the Treasure Coast. Sharon and her local team understand the challenges associated with water supply projects in Florida and can provide any type of outreach service that might be needed, from coordinating public meetings, communicating with the media, and developing social media postings and printed materials.

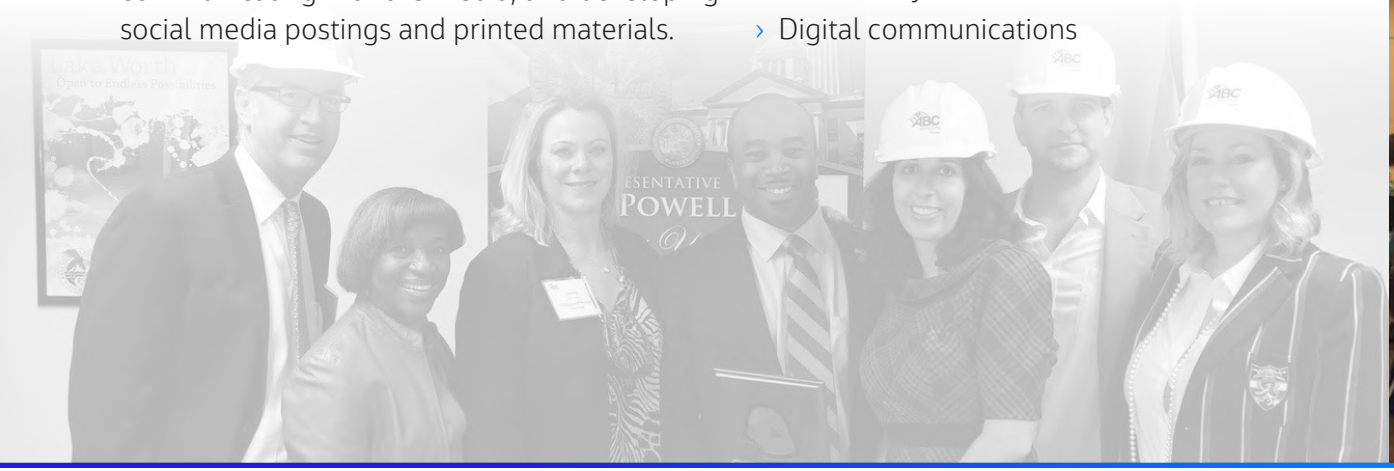
IT STARTS WITH A PLAN

At the outset of the project, Merchant will work with you and our team's leadership to identify the required outreach services. Building on their knowledge of stakeholder values and concerns, they can develop a strategic and accountable communications plan that promotes project understanding and informative materials, such as handouts, presentations, and door hangers, to communicate project progress and construction activities.

Sharon and her team can also work with the City and our construction team to provide outreach to local subcontractors in preparation for project construction, building local capacity and supporting the local economy.

SERVICES FOR RANGELINE

- Community outreach
- Digital communications



Merchant UNDERSTANDS the Community

The Merchant Strategy has a deep understanding of Florida's water issues and growth management challenges along coastal Florida, making them an effective advocate when implementing public works projects in local communities, as they've done for the cities of Delray Beach, Boynton Beach, and Hollywood.

Working in partnership with Port St. Lucie and our leadership team, they can coordinate public meetings, meet with neighborhood associations and other stakeholders, and develop outreach materials that promote consensus and enthusiasm about your new WTP.

Issue Resolution Avoids ESCALATION

Ardaman & Associates, Inc.

A Tetra Tech company, Ardaman & Associates has worked with Jacobs on 40 projects in South Florida. A professional engineering company founded in Orlando in 1959, they are one of Florida's largest geotechnical, materials testing, environmental, and geoscience consulting firms and Jacobs' preferred provider of geotechnical engineering services in South Florida. Their Port St. Lucie office will provide a prompt response to the project's geotechnical engineering needs.

TREASURE COAST EXPERT

Ardaman employs more than 400 professional engineers, scientists, technicians, drilling personnel, technical assistants, and support staff. They've delivered more than 150,000 projects company wide, and in Florida, they've served the cities of Port St. Lucie, West Palm Beach, and Palm Beach Gardens, as well as St. Lucie, Martin, and West Palm Beach counties.

Ardaman staff also provided geotechnical engineering services for the Prineville WTP and wellfields, providing a deep understanding of the local geology and the City's requirements for geotechnical design.

SERVICES FOR RANGELINE

- Geotechnical engineering
- Geotechnical and environmental drilling
- Construction materials testing and inspection

INFRASTRUCTURE SOLUTION SERVICES

Infrastructure Solution Services (ISS) is a full-service professional consulting firm headquartered in Melbourne and also with extensive experience working with Port St. Lucie and Jacobs. Under their on-call services agreement with the City, we jointly developed a Facilities Master Plan for the Utility Systems Department.

The Facilities Master Plan has led to Jacobs' task order for design, bidding, and construction administration services for the Prineville Administration Building renovations, providing a deep understanding of your preferences for facility design. ISS is also providing engineering support services for our design of the City of Melbourne's Joe Mullins RO WTP expansion, and they provided similar services for their John A. Buckley surface water treatment plant, both managed by Jacobs.

DIVERSE PORTFOLIO

ISS's water-related services include water treatment, surface water restoration, water transmission and distribution, reclaimed water and effluent disposal, and energy audits and optimization. In addition to Port St. Lucie and Melbourne, their satisfied clients include the cities of Vero Beach and Titusville, Brevard County, and Florida Power & Light.

SERVICES FOR RANGELINE

- Permitting support
- Surveying

infrastructure

InfraMap was one of the pioneers in subsurface utility engineering and infrastructure mapping, and for 35 years they've been committed to advancing and improving the practice. Their team of professionals makes sure their processes and deliverables adhere to the CI/ASCE 38-02 standard for quality. Their utility infrastructure mapping services include as-built mapping of above-ground utility infrastructures, such as pole-mounted facilities and equipment, and other utility-related surface features as well as subsurface vaults and manholes.

SERVICES FOR RANGELINE

- Utility locates

ADVANTAGES OF OUR UNIQUE ORGANIZATION

Our comprehensive design-build team is organized to provide the City with top talent for the Rangeline WTP project. The most experienced staff from Jacobs and our teaming partners have been identified, all of whom have experience working with Port St. Lucie, providing the City with the following distinct advantages.

THE RIGHT LEADERSHIP TEAM

With nearly 80 years of combined design-build experience, **Grant Misterly, Ashley Currey,** and **Dave Schoster** will all work together to lay the groundwork for successful project delivery. Ashley will confirm that Grant has all the required resources for a fast start and continuous progress. Dave will support Grant in the delivery of the project, with the two of them communicating regularly with the City to make sure we are meeting expectations.

DESIGN TEAM ORGANIZED FOR EFFICIENCY AND INNOVATION

The majority of our design team is located in our **Florida Design-Build Center of Excellence**, promoting collaboration among all the design disciplines as they work together to design your project. Design Production Manager **Gaibey Zreibi** is located there and, as he's done for numerous other design-build projects, he will coordinate their efforts as well as those of our subconsultants to create a cohesive, top-quality work product.

Our technical experts are also integrated with our design team, providing the innovation and creativity that Port St. Lucie seeks for its project. Design Manager **Raul Alfaro** is an expert in the planning, piloting, permitting, and design of membrane treatment systems in South Florida. He's a collaborative leader who brings a hands-on approach to managing multi-disciplinary design teams in the delivery of membrane treatment projects, such as North Miami Beach's Norwood RO WTP improvements design-build. WTP Design Lead **Joe Elarde**, Conceptual Design/QC Leads **GJ Schers** and **James Christopher, and** Post-Treatment Lead **Jarrett Kinslow** will work side-by-side with our design team to transform their concepts into detailed project designs.

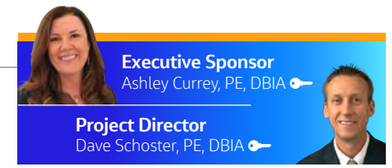
AGGRESSIVE PRECONSTRUCTION CONTROLS BUDGET AND SCHEDULE

Preconstruction will be managed by **Ralph Myers**, a licensed contractor who understands the critical importance of preconstruction to meeting budget and schedule. He'll aggressively manage these processes, while sharing valuable feedback with the design and construction teams. Ralph will also work with our team's leadership and the City to establish the optimal number of GMPs to expedite project work. Ralph will be supported by scheduling, value engineering (VE), constructability, and risk analysis experts, providing the foundation for a seamless construction process.

98% of our team is based in Florida for a fast response

100% of our team members have worked together delivering projects just like the City's, promoting efficient delivery.

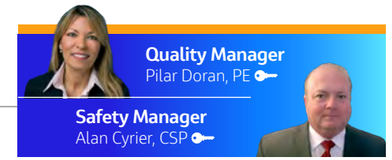
City of Port St. Lucie



Executive Sponsor
Ashley Currey, PE, DBIA

Project Director
Dave Schoster, PE, DBIA

Design-Build Project Manager
Grant Misterly, PE, DBIA



Quality Manager
Pilar Doran, PE

Safety Manager
Alan Cyrier, CSP

Project Controls Manager
Conner Wright, PE, CGC

Engineering (Design Manager)
Raul Alfaro, PE, ENV SP

Design Production Manager
Gaibey Zreibi, EIT

WTP Design Lead
Joe Elarde, PE

Conceptual Design/QC
GJ Schers, PMP
James Christopher, PE, BCEE (TT)

Post-Treatment
Jarrett Kinslow, PE (TT)

Site Master Planning
Kevin Kuehn, AIA, AICP

Architecture
Maureen Kussler, RA, LEED AP

Landscape Architecture
Scott Barber, RLA

Replica™ Process Optimization
Matt Deavenport, PE

Site Civil/Yard Piping
Rich Morrison, PE

Structural
Dave Everson, PE

Process Mechanical
Tao Fu, PE

I&C
Cyrus Saharkhiz, PE

Electrical
Dave Nicholson, PE

HVAC/Plumbing
Brandon Russakis, PE

Preconstruction Manager
Ralph Myers, CGC

Lead Estimator
Ralph Myers, CGC

Scheduling
Ivan Trullenque

Constructability/VE/Risk Analysis
Dean Ressler, CGC
Gary Giordano

Procurement
Patricia Elder

Construction Manager
Dean Ressler

Site Superintendent
Gary Giordano

Process Mechanical
Rick Hegarty

Prestressed Concrete Lead
Alexander Ciasca, PE (CC)
David Harmon, CGC (CC)

Electrical
Don Lythberg

I&C Integration
Bernie Jacobsen, PE

Project Engineers
Avery Fulford
Josue Alvarez

Trade Subcontractors
TBD via best value selection

Start-up & Commissioning Manager
Veronica Llaneza, PhD, PE
FL Class A WTP Operator

Process and Training Lead
Joe Elarde, PE

Operations Support
Carlos Carrazana

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SUPPORT SERVICES

- **Funding Solutions** — Mike Matichich
- **Digital Solutions** — John Rickermann, PE (Intelligent O&M)
- **Permitting** — David Scott, PE; Robert Lee, PE (ISS)
- **Surveying** — Kurt Stafflinger, PSM (ISS)
- **Geotechnical** — Sharmila Pant, PE (AA)
- **Community Outreach** — Sharon Merchant (TMS)
- **Utility Locates** — Andres Garcia (IM)

= Key staff | AA = Ardaman & Associates | CC = CROM Corporation | ISS = Infrastructure Solution Services | TT = Tetra Tech | TMS = The Merchant Strategy | IM = InfraMap

INTEGRATED CONSTRUCTION AND COMMISSIONING

Construction Manager Dean Ressler brings 28 years of experience to the project. He'll be rolling off of our St Johns County SR207 WRF design-build, bringing best practices to the Rangeline WTP. Dean will charter and coordinate the efforts of our construction team, including site supervisor, prestressed concrete experts, I&C integrator, and subcontractors identified through a best-value selection process.

Veronica Llaneza, a Florida Class A WTP operator, will lead the start-up and commissioning processes, working closely with Dean and our engineering team. Early in the design process, she'll develop the commissioning plan, which will provide the roadmap for successful plant start-up and operations. Veronica and our other operations experts can also provide continued operations support, should it be needed.

City of Houston Northeast WPP Design-Build

2 Key Personnel Relevant Experience

2 Key Personnel Relevant Experience

We have delivered numerous successful DB projects in Florida together over the past 20+ years and bring the foresight, experience, and innovation essential for delivery of a future-proof water treatment facility.

Design-build delivery success requires a well-qualified team that can work together collaboratively. Our key personnel represent the most talented and experienced individuals from our member firms, all of whom have worked together to deliver RO WTPs similar to Rangeline.

OUR LEADERSHIP TEAM

Our team's leaders will set the course for successful project delivery, working with the City to establish project goals, chartering our integrated team, and driving our team's efforts through collaborative leadership.

Design-Build Project Manager Grant Misterly has more than 25 years of experience delivering projects for Florida clients. His design-build experience includes project manager for Gainesville Regional Utilities (GRU's) $170 million Main Street Water Reclamation Facility (WRF) and the utilities portion of the $3 billion I-4 Ultimate Project in Orlando.

Executive Sponsor Ashley Currey has 25 years of experience and manages our Florida Design-Build Operation. She's been engaged in the delivery of more than 30 design-build projects, including the City of Houston's $1.8 billion NEWPP.

Project Director Dave Schoster has 27 years of experience in water and wastewater engineering, including 22 years in the Florida design-build market. Representative projects include the City of Tampa's $99.4 million David L. Tippin Water Treatment Facility (DLTWTF) High-Service Pumping System (HSPS) and $192 million St. Johns County Utility Department (SJCUD) SR 207 WRF design-builds.

Quality Manager Pilar Doran has been quality manager or design manager on eight of our Florida design-build projects, including the original design and expansion of Bonita Springs Utilities (BSU's) 10-MGD RO WTP and GRU's Main Street WRF.

Safety Manager Alan Cyrier is a Certified Safety Professional and our Regional Health & Safety Manger responsible for establishing and overseeing safety programs for all Jacobs' design-build projects in Florida.

Project Controls Manager Conner Wright is providing project manager and controls support for the City of Tampa's DLTWTF HSPS. Other experience includes North Miami Beach and Ave Maria DB RO WTPs. His PDB experience for the past 8 years is the right experience needed for the project control manager role on the PSL project.

Meet our Leadership Team

All of our leadership team members are progressive design-build delivery experts who've helped deliver Jacobs' 102 successful PDB projects in Florida.

Grant Misterly | **Ashley** Currey | **Dave** Schoster | **Pilar** Doran | **Alan** Cyrier | **Conner** Wright

Get to Know our PM through Q&A

Grant Misterly, PE, *Project Manager*

ACCOUNTABLE | INNOVATIVE | QUALITY-FOCUSED

***Grant Misterly** is a skilled project manager with more than 25 years of experience in planning, designing, permitting, funding, and constructing water and wastewater projects. He understands the importance of establishing a common understanding at the outset of each project, including client and stakeholder goals, project constraints, and potential pitfalls. He also has a collaborative management style that focuses on organization, documentation, and communication, leading to greater client satisfaction.*

Grant grew up in Florida, and he has provided municipal engineering services for Florida water and wastewater utilities his entire career. During this time, he has successfully managed more than $1 billion in design and at-risk construction projects, including JEA's $150 million Greenland WRF CMAR, GRU's $170 million Main Street WRF Design-Build, and utility management for FDOT's $2.9B I-4 Ultimate Design-Build.

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WE INTERVIEWED GRANT TO SHARE HIS THOUGHTS ON YOUR PROJECT AND HOW HIS EXPERIENCE CAN HELP

Q. What interests you the most about this project?

A. I think it's the people. We had a meeting earlier this year with the City of Port St. Lucie team and they took the whole morning talking with us on site. All the people on the Owner's side were so open, and they were very clear about what they wanted. They also seem easy to work with. At this point in my career, that's who I want to work with. I'm very transparent—if there's a problem, I want to know about it and I want to be able to discuss it openly so we can all work together toward a solution. I really like working with people who think the same way. Project Manager Colleen Jacobsen was very open and easy to talk to, so I'm really looking forward to working with her and the whole team.

Q. What about your background makes you uniquely qualified to do this work?

A. Early in my career, I led the design of a reverse osmosis water plant in southwest Florida like that proposed by the City of Port St. Lucie, with a deep injection well and supply wells. I then went on to lead a seawater desalination plant in South America. So, from a technical standpoint, I have a solid background in membrane treatment for the project.

From a leadership standpoint, I lead progressive design-build projects for Jacobs both as a project manager and project director. I also serve as Owner's Agent for other design-build projects, where I help guide owners during the process. As a result, my background combines the technical aspects of this project with design-build leadership, allowing me to see the project from both the engineer's and contractor's viewpoint, as well as the owner's. By considering all three viewpoints, we can develop a solution that works for everyone.

Q. What's your philosophy for developing a high-performing DB team?

A. The key to design-build success is establishing a culture of collaboration and open communication so that you're sure you're getting the right information from everyone involved. I think that's where I have differentiated myself as a project manager over the years. For example, I recently developed a presentation on building collaborative teams, which was co-authored with GRU's project manager. It outlines how we created a culture of collaboration at the top that has set the tone for the entire team.

Often, engineers are cautious about what they say until they've thoroughly analyzed it. At the same time, many owner's operators are hesitant to speak up for fear of being judged. With that in mind, we work very closely to build a culture within our teams that allows everyone to feel comfortable sharing their input.

MEET OUR KEY DESIGN TEAM MEMBERS

One of the hallmarks of our design team organization is the integration of technology with design, as demonstrated by our organizational chart and the qualifications of our key design team members below. Virtually all our design team is located in our **Florida Design-Build Center of Excellence,** where more than 130 multi-disciplinary staff reside. Our Florida design-build team has designed more than 20 RO/NF facilities together, promoting efficiency and consistent quality on your project.

(Engineering) Design Manager Raul Alfaro is a water process expert with extensive experience working with our Florida design-build team. His representative projects include an expansion to NMB Water's 41-MGD RO/NF WTP and piloting Boynton Beach's 10-MGD West WTP RO facility, working with team members Joe Elarde and GJ Schers. Raul is local and will work closely with Gaibey Zreibi and the rest of the design team to develop a design with details and information needed for a PDB project that offers best value solutions for your new WTP.

Design Production Manager Gaibey Zreibi manages large, multi-disciplinary design teams in our Florida design center. His relevant design-build experience includes St. Johns County's $191.8 million SR 207 WRF and Phase III of BSU's 10-MGD RO WTP and wellfield expansion. Gaibey has strong working relationships with design center staff, promoting teamwork and collaboration on your project.

WTP Design Lead Joe Elarde is a nationally recognized expert in membrane treatment. He develops best-for-project applications of RO technology for clients from Florida to the Middle East and counts NMB Water, BSU, Orlando Utilities Commission, and the cities of Melbourne and Boynton Beach among his satisfied customers.

Post-Treatment Lead Jarrett Kinslow is an expert in post-treatment for RO facilities. As Tetra Tech's technology leader for membrane processes, he stays apprised of the latest developments in the technology, as demonstrated by his design of Port St. Lucie's JEA and Prineville RO WTPs.

Site Master Planning Lead Kevin Kuehn will work closely with the City and our other team members to optimize site layout. He understands the City's preferences from the Utilities Department master planning project and will make sure those preferences are integrated into the project. Both Kevin and teammate Maureen Kussler are experts in architectural design and will make sure your finished facility complements the local setting.

The integration of technical experts within our design team promotes *out-of-the-box thinking* for a **future-ready treatment facility**.

Get to Know our Design Manager through Q&A

Raul Alfaro, PE, *Design Manager*

ACCOUNTABLE | INNOVATIVE | QUALITY-FOCUSED

***Raul** brings the perfect blend of technical and management experience to the design manager role. He's a Senior Water Treatment Technologist and Senior Project Manager with extensive experience in water treatment, including membrane treatment—and specifically RO. He also has hands-on experience leading multi-disciplinary design teams on complex membrane treatment projects delivered by design-build, such as the City of North Miami Beach's 41-MGD Norwood RO WTP expansion.*

Raul, a resident of southeast Florida, is a team-builder with a collaborative management style. He's also an out-of-the-box thinker, who excels in brainstorming technical solutions with diverse teams. In 2023, he won Best Technical Poster Presentation at the National AMTA/AWWA Membrane Technology Conference.

WE INTERVIEWED RAUL TO SHARE HIS THOUGHTS ON YOUR PROJECT AND HOW HIS EXPERIENCE CAN HELP

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Q. What interests you the most about this project?

A. The technology itself! I'm passionate about staying at the forefront of technological developments, and Port St. Lucie's brackish RO application is perfectly aligned with my background and experience. I started my career in Miami-Dade County, working at North Miami Beach Water's Norwood WTP with two co-located membrane treatment processes (RO/NF) that treat brackish water from the Floridan aquifer, the same water source the City's new WTP will use. I'm ready to apply my experience and Jacobs' collective membrane treatment expertise to provide the City with a proven, future-ready solution that addresses current and future capacity needs.

Q. What about your background makes you uniquely qualified to do this work?

A. Over the past three years, I've been serving as the Owner's Engineer for what will become one of the world's largest RO membrane facilities for the City of Fort Lauderdale. The WTP will be delivered by design-build and is now under construction. From this process, I've learned to see things from the owner's perspective, and I'll use that experience to engage Port St. Lucie throughout the alternatives evaluation and design processes. I've also had direct experience leading large, multi-disciplinary teams through numerous studies and designs, and have served as a process engineer on similar membrane projects.

Q. What's your philosophy for developing a high-performing design-build team?

A. I focus on avoiding silos, being transparent, and communicating openly. I'm also a big fan of getting early and continuous input from O&M personnel throughout the process. In my meetings with the City, it was obvious your plant operators are truly knowledgeable, and as they'll be operating the new facility, they have extremely valuable input to share on how to make the system work more efficiently. Their input is reflected in our approach, and I plan to continue this collaborative process moving forward.

MEET OUR KEY PRECONSTRUCTION AND CONSTRUCTION MEMBERS

Jacobs is a fully integrated design-builder, with construction, commissioning, startup, and operations expertise residing under one roof. Our integrated model will provide Port St. Lucie with greater efficiency and single-source accountability for project performance. Providing additional value, once the project is underway and prior to guaranteed maximum price (GMP) development, we'll apply a best-value process for selecting subcontractors according to qualifications and price.

Preconstruction

Preconstruction Manager/Lead Estimator Ralph Myers is a licensed contractor who has led preconstruction activities for numerous design-build clients, including the City of Tampa, BSU, and North Miami Beach Water. He's also an expert cost estimator who has provided cost estimates for numerous design-build projects such as the City of Houston's $1.8 billion NEWPP.

Construction

Construction Manager Dean Ressler has delivered more than $960 million in water/wastewater facilities and will work closely with Ralph during preconstruction to set the team up for success in the field. He has nearly 30 years of construction experience and is currently managing construction of SJCUD's SR 207 WRF design-build.

Site Superintendent Gary Giordano has 41 years of experience in the at-risk construction of more than $600 million in water and wastewater treatment facilities. Gary's DB experience includes RO WTPs for BSU and the City of Fort Myers and $140 million in pipeline and pump station capital projects for the City of Tampa.

Start-Up and Commissioning Manager Veronica Llaneza will coordinate with the design team early in the project to develop a commissioning plan that confirms continuity of operations and seamless startup and commissioning. She specializes in optimizing water treatment facilities, including lime softening and RO/NF processes treating Biscayne aquifer water for North Miami Beach Water's WTP.

Resumes for our key team members begin on **page 2-9** and brief biographies for our other key team members can be found on **page 2-25.**

Because we're a

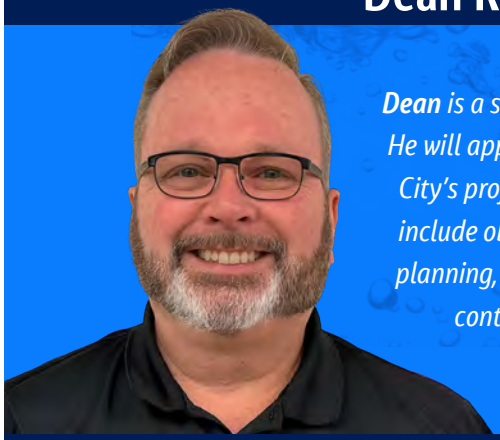
fully integrated design-build team,

our construction and operations experts will **continuously collaborate with our design team** for a constructible and easy to operate and maintain WTP.

Get to Know our CM through Q&A

Dean Ressler, *Construction Manager*

ACCOUNTABLE | INNOVATIVE | QUALITY-FOCUSED



***Dean** is a senior construction project manager with a 28-year record of success delivering multi-million-dollar infrastructure projects. He will apply proven leadership and the lessons learned from delivering more than $960 million in design and construction to the City's project. Currently, Dean is managing construction of St. Johns County's $192M SR 207 WRF design-build. His responsibilities include observing, supervising, and managing all aspects of project construction, including subcontractor procurement, workforce planning, project safety, construction scheduling, submittal review and approval, change order negotiations, and quality and budget control. Dean is adept in representing client interests with subcontractors, suppliers, consultants, and subcontractors—the City's interests will always be top of mind.*

WE INTERVIEWED DEAN TO SHARE HIS THOUGHTS ON YOUR PROJECT AND HOW HIS EXPERIENCE CAN HELP

Q. What interests you the most about this project?

A. This project will allow me to employ the skills and best practices I've acquired during my career. In particular, I appreciate the importance of proper planning on greenfield projects and will engage early in the project to ensure constructability is integrated into the project design.

Q. What about your background makes you uniquely qualified to do this work?

A. I've come up through the ranks as an engineer and then a general contractor, so I have the broad perspective needed to successfully manage large, complex design-build projects. For example, as the structural project manager, I supervised a concrete team of more than 150 staff for a major construction project. So, I know construction—from excavation, concrete, and rebar to water and wastewater treatment. I also have experience building RO facilities in Southeast Florida, working with the City of Stuart on its Phase I RO WTP. This experience makes me familiar with the unique programming, SCADA, electrical, and mechanical requirements of membrane treatment projects. For the past 2 years, I've been managing St. Johns County's SR 207 WRF in the St. Augustine area, deepening my expertise in design-build delivery.

Q. What's your philosophy for developing a high-performing DB team?

A. Above all, it's important to be open and transparent with project stakeholders, from the client and regulatory agencies to subconsultants, subcontractors, and vendors. Before construction begins, I'll establish the ground rules for communication and teamwork by chartering key stakeholders, including the City and our subcontractors. This session will ensure that everyone understands their roles and responsibilities, the City's goals, and our communication plan. Jacobs has a long history of successful, integrated design-build delivery in Florida, so I'll draw on these best practices when planning and managing construction activities. Also, I know the local construction market and will work with you to identify the best qualified subcontractors using a best value selection process. Also important, as an integrated design-builder, Jacobs performs all aspects of the project impacting plant performance, including SCADA programming, process and electrical equipment procurement, and system commissioning. Our unique, sole source design-build delivery model provides the City with greater accountability and confidence its project will be expertly designed and constructed within budget and schedule.

KEY STAFF EXPERIENCE WORKING TOGETHER

Our key team members have worked together on numerous similar projects, promoting teamwork and efficiency during Rangeline WTP delivery.

Name/Role	Yrs. Exp.	Yrs. w/ Firm	Highest Degree	Bonita Springs RO WTP Phases I,II,III DBs, FL	North Miami Beach Norwood RO WTP DB, FL	Lee County Green Meadows RO WTP, FL	Melbourne Joe Mullins RO WTP, FL	City of Fort Myers RO WTP, FL	City of Tampa David L. Tippin WTF DB, FL	St. Johns County SR 207 WRF DB, St. Augustine, FL	GRU Main Street WRF DB, Gainesville, FL	Ave Maria RO/NF WTP DB, FL	Twin Oaks Valley RO WTP, San Diego, CA
Executive Sponsor, Ashley Currey	25	24	ME	■					■	■	■	■	■
Project Director, Dave Schoster	27	24	ME	■	■	■		■	■	■	■	■	
Design-Build Project Manager, Grant Misterly	26	14	BS							■	■		
Quality Manager, Pilar Doran	35	35	MS	■	■	■	■	■	■		■	■	
Safety Manager, Alan Cyrier	32	22	BS	■	■	■		■	■	■	■	■	
Project Controls Manager, Conner Wright	7	7	BS		■				■			■	
Design Manager, Raul Alfaro	10	8	BS	■	■	■	■						
Design Production Manager, Gaibey Zreibi	28	8	BS	■	■	■				■	■	■	
Site Master Planning, Kevin Kuehn	33	19	MS						■				
WTP Design Lead, Joe Elarde	29	26	MS	■	■	■	■	■	■			■	
Post-treatment Design, Jarrett Kinslow	24	24	BS		■			■					
Preconstruction Manager/Lead Estimator, Ralph Myers	38	17	HS	■	■	■	■	■	■	■	■	■	
Construction Manager, Dean Ressler	28	2	BS							■			
Site Superintendent, Gary Giordano	41	25	HS	■	■		■	■	■	■	■	■	
Start-up & Commissioning Manager, Veronica Llaneza	11	7	PhD	■	■		■					■	

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KEY PERSONNEL AVAILABILITY

In addition to their management and technical expertise, our key staff have more than enough availability to perform their respective roles and are ready to begin your project now. Should additional resources be needed, Design-Build Project Manager Grant Misterly will work with Executive Sponsor Ashley Currey, our Florida Design-Build Operations Manager, to reach back into our organization for additional resources.

Team Member	Role	Availability (%)	
		Preconstruction	Construction
Grant Misterly	Design-Build Project Manager	75	40
Ashley Currey	Executive Sponsor	25	25
Dave Schoster	Project Director	25	25
Pilar Doran	Quality Manager	50	50
Alan Cyrier	Safety Manager	10	25
Conner Wright	Project Controls Manager	75	50
Raul Alfaro	Design Manager	60	30
Joe Elarde	WTP Design Lead	60	25
Gaibey Zreibi	Design Production Manager	80	20
Jarrett Kinslow	Post-treatment Lead	60	25
Kevin Kuehn	Site Master Planning Lead	30	20
Ralph Myers	Precon Mgr/Lead Estimator	60	30
Dean Ressler	Construction Manager	20	100
Gary Giordano	Site Superintendent	15	100
Veronica Llaneza	Start-Up & Commissioning Manager	20	50

The table above shows an estimated % of time our team members are available/dedicated to this project. These values represent the availability of our team, but actual time dedicated to the project will be aligned with the final scope and needs of the project once it is defined with the City. Executive Sponsor Ashley Currey and Project Director, Dave Schoster will work closely with the City and Design-Build Project Manager Grant Misterly to make sure adequate attention and availability/dedication is provided by our team for successful delivery.

Key Staff Resumes

Grant Misterly, PE, DBIA

Design-Build Project Manager

EXPERIENCE HIGHLIGHTS

- ✓ Large, complex projects
- ✓ Progressive DB delivery
- ✓ RO WTPs
- ✓ Collaborative design, open book GMP, ODP
- ✓ Complex sequencing

YEARS OF EXPERIENCE

26 total | **14** with Jacobs

EDUCATION

› BS, Environmental Engineering, University of Florida

LICENSES/REGISTRATIONS

› Professional Engineer: FL, #60187

› DBIA: D-5070

ADDED VALUE FOR THE CITY

› Experienced PDB project manager, Owner's Advisor, and project director

› Presented the Greatest of All Time (GOAT) Project Manager Award in 2024 by Gainesville Regional Utilities during execution of their first PDB project

› Managing design and delivery of advanced membrane treatment plants, including seawater desalination, reverse osmosis, and nanofiltration, with full scope from pilot testing to post-treatment and distribution upgrades

› Proven success in securing funding for clients, including $17M for City of LaBelle on aggressive deadlines—and $22.5M FDEP grant for Gainesville Regional Utilities

› Co-author of technical papers on alternative delivery methods, PDB, and desalination engineering, presented at ASCE and University of Florida

Grant is a skilled project manager with 26 years of experience in the planning, design, permitting, and construction of water projects, including PDB. At the beginning of each project, he strives to understand client goals, stakeholder interests, and project challenges, reducing risk and promoting effective delivery. His experience with large, complex projects will promote collaboration and efficiency on your project.

RELEVANT PROJECT EXPERIENCE

St. Johns County Utility Department, State Road 207 WRF and Improvements; St. Augustine, FL. ***Client Service Lead and Local Outreach.*** **BENEFIT TO CITY:** Grant coordinates with the Utility's leadership to ensure that the project is going well and helps facilitate community engagement in the project. **SIMILARITY TO RANGELINE:** The County's largest capital improvements project to date—the new greenfield 3.25-MGD (expandable to 6.5-MGD) WRF includes a master lift pump station, a booster pump station, and ~15 miles of large-diameter pipeline. This complex project meets aggressive technical, budget, schedule, permitting, and regulatory goals. **DATES:** 09/2022 – 04/2026. **PROJECT VALUE:** $191M. **DELIVERY METHOD:** PDB.

Gainesville Regional Utilities, Main Street WRF Capacity & Renewal Upgrade; Gainesville, FL. ***Project Manager (Preconstruction)/Project Director (Construction).*** **BENEFIT TO CITY:** Grant is overseeing design, preconstruction, and construction on this project to increase the capacity of the MSWRF from 7.5 MGD to 10 MGD, renew aging infrastructure, and improve resilience and flexibility. In Fall 2024, GRU presented Grant with the "GOAT – Greatest of All Time Project Manager"—a highlight of his career. **SIMILARITY TO RANGELINE:** The project is challenging as the site is constrained, the WRF has limited flexibility to take basins out of service, some of the unit processes are already past their design life, and the project will impact almost all WRF facilities. Jacobs also assisted GRU in obtaining a $22.5M FDEP grant and is coordinating grant requirements with design and construction. **DATES:** 07/2020 - Present. **PROJECT VALUE:** $166M. **DELIVERY METHOD:** PDB.

I-4 Ultimate, Major Utility Improvements; Orlando, FL. ***Utilities Project Manager.*** **BENEFIT TO CITY:** For this 8-year-long project, Grant managed multiple engineering teams to meet the aggressive design schedule, which involved more than 23 design packages with nine utility owners. The I-4 Ultimate project—the largest Public Private Partnership in the country at the time—added four lanes to 21 miles of I-4 through downtown Orlando. **SIMILARITY TO RANGELINE:** Grant's role required excellent project management skills, including critical thinking, team motivation, effective communication, risk avoidance, stakeholder buy-in, financial management, progress tracking, and schedule management. **DATES:** 06/2014 - 06/2022. **PROJECT VALUE:** $3B. **DELIVERY METHOD:** PDB.

Ashley Currey, PE, DBIA

Executive Sponsor

EXPERIENCE HIGHLIGHTS

- ✓ Large, complex projects
- ✓ Progressive DB delivery
- ✓ RO WTPs ≥ 10 MGD
- ✓ Collaborative design, open book GMP, ODP
- ✓ Complex sequencing

YEARS OF EXPERIENCE

25 total | **24** with Jacobs

EDUCATION

- ME, Civil and Environmental Engineering, University of Wisconsin
- BS, Civil and Environmental Engineering, Vanderbilt University

LICENSES/REGISTRATIONS

- Professional Engineer: WA, CO
- DBIA: D-4869

ADDED VALUE FOR THE CITY

- Proven track record of successful PDB delivery, including numerous projects for Florida clients
- Thoroughly understands the importance of effective communication, progressive problem solving, and the ability to cross design and construction boundaries to meet aggressive schedule milestones
- As Design-Build Operations Lead for Florida, she'll make sure the project has all the required resources, and that the City receives the greatest value from our PDB delivery model

Ashley has served in numerous leadership roles, including project director, project manager, and commissioning manager for more than 30 alternative delivery water and RO WTP projects over the past 25 years. As Design-Build Operations Lead for Florida, she'll support our project manager with staffing and delivery throughout all project phases including collaborative design criteria, design, and GMP development.

RELEVANT PROJECT EXPERIENCE

Bonita Springs Utilities, RO WTP Projects; Bonita Springs, FL. ***Executive Sponsor.*** **BENEFIT TO CITY:** Ashley oversaw design and permitting, cost estimating, risk management, GMP development, and construction and commissioning to deliver projects on time and under the GMP, resulting in savings returned to the owner. **SIMILARITY TO RANGELINE:** Jacobs delivered integrated PDB services for 22 MGD in water system improvements, including commissioning new facilities while ensuring water quality, maintenance of plant operations, and effectively managing site constraints. **DATES:** Phase II 05/2017 - 11/2018; Phase III 10/2019 - 08/2023. **PROJECT VALUE:** $90.1M. **DELIVERY METHOD:** PDB.

City of Tampa, David L. Tippin WTF HSPS Improvements; Tampa, FL. ***Executive Sponsor.*** **BENEFIT TO CITY:** Ashley oversaw design, permitting, GMP development, and construction services. **SIMILARITY TO RANGELINE:** PDB for 140 MGD high service finished water pump station, chlorine contact chamber, and new center clearwell and rehabilitation of three existing clearwells. Through budget and permitting we saved the City $2.6M during the delivery of GMP 2 by breaking the work into additional bid packages and saved an additional $1.4M by optimizing the shoring and excavation work. **DATES:** 07/2019 - 02/2025. **PROJECT VALUE:** $99M. **DELIVERY METHOD:** PDB.

Ave Maria Utility Company, Ave Maria WTP Phase II; Ave Maria, FL. ***Executive Sponsor.*** **BENEFIT TO CITY:** Ashley oversaw engineering, preconstruction, construction and commissioning services including expediting equipment purchase to facilitate on-time delivery. **SIMILARITY TO RANGELINE:** Expansion of the 2.5-MGD LPRO facility. Includes early cost certainty and expedited permitting to keep the project on schedule throughout design, construction, and commissioning. **DATES:** 07/2023 – 11/2025. **PROJECT VALUE:** $28M. **DELIVERY METHOD:** PDB/O and PDB.

Dave Schoster, PE, DBIA

Project Director

EXPERIENCE HIGHLIGHTS

- ✓ Large, complex projects
- ✓ Progressive DB delivery
- ✓ RO WTPs ≥ 10 MGD
- ✓ Collaborative design, open book GMP, ODP
- ✓ Complex sequencing

YEARS OF EXPERIENCE

27 total | **24** with Jacobs

EDUCATION

- ME, Structural Engineering, University of Florida
- BS, Civil and Environmental Engineering, University of Cincinnati

LICENSES/REGISTRATIONS

- Professional Engineer: FL, #60255
- DBIA: D-3873

ADDED VALUE FOR THE CITY

- Experience on more than 20 successful water and wastewater PDB delivery projects for Florida clients
- Adept problem-solver who uses "outside the box" thinking to solve challenges and reduce project risk
- Trusted leader who knows how to get things done efficiently and cost-effectively by working collaboratively with his team, clients, and project stakeholders
- Trusted partner to water utilities on PDB delivery across the state of Florida with a reputation of leadership in helping his DB teams successfully meet owner expectations

Applying 21 years of proven PDB delivery leadership, Dave will work with our project manager to drive your project from planning and design through successful completion. With a strong background in the design, preconstruction, and construction of large, complex projects, including RO WTPs, he knows how to partner with clients to meet aggressive budget and schedule milestones using ODP, strategic construction sequencing, and early work packages to ensure the City experiences the benefits of the PDB delivery model.

RELEVANT PROJECT EXPERIENCE

Bonita Springs Utilities, RO WTP Projects; Bonita Springs, FL. ***Project Director and Project Manager (varied).*** **BENEFIT TO CITY:** Dave spearheaded design and permitting oversight, cost estimating, risk management, GMP development, and construction and commissioning oversight to deliver projects on time and under the GMP, resulting in savings returned to the owner. **SIMILARITY TO RANGELINE:** Jacobs delivered integrated PDB services for 22 MGD in water system improvements, including commissioning new facilities while ensuring water quality, maintenance of plant operations, and effectively managing site constraints. **DATES:** Phase I 05/2002 - 04/2004; Phase II 05/2017 - 11/2018; Phase III 10/2019 - 08/2023. **PROJECT VALUE:** $257M. **DELIVERY METHOD:** PDB.

City of Tampa, David L. Tippin WTF HSPS Improvements; Tampa, FL. ***Project Manager (Preconstruction) and Project Director (Construction).*** **BENEFIT TO CITY:** Dave closely managed the design, scope, and schedule, and implemented VE measures in collaboration with the City to deliver an aggressive GMP. **SIMILARITY TO RANGELINE:** PDB for 140-MGD high-service finished water pump station, chlorine contact chamber, and new center clearwell and rehabilitation of three existing clearwells. Through budget and permitting we saved the City $2.6M during the delivery of GMP 2 by breaking the work into additional bid packages and saved an additional $1.4M by optimizing the shoring and excavation work. **DATES:** 07/2019 - 02/2025. **PROJECT VALUE:** $99M. **DELIVERY METHOD:** PDB.

St. Johns County Utility Department, State Road 207 WRF and Improvements; St. Augustine, FL. ***Project Manager (Preconstruction) and Project Director (Construction).*** **BENEFIT TO CITY:** Dave managed preconstruction services, including permitting and GMP development, and is currently providing oversight of construction services. **SIMILARITY TO RANGELINE:** The County's largest capital improvements project to date—the new greenfield 3.25-MGD (expandable to 6.5-MGD) WRF includes a master lift pump station, a booster pump station, and ~15 miles of large-diameter pipeline. This complex project meets aggressive technical, budget, schedule, permitting, and regulatory goals. **DATES:** 09/2022 - 04/2026. **PROJECT VALUE:** $191M. **DELIVERY METHOD:** PDB.

Pilar Doran, PE

Quality Manager

EXPERIENCE HIGHLIGHTS

- ✓ Large, complex projects
- ✓ Progressive DB delivery
- ✓ RO WTPs ≥ 10 MGD
- ✓ Collaborative design, open book GMP, ODP
- ✓ Complex sequencing

YEARS OF EXPERIENCE

35 total | **35** with Jacobs

EDUCATION

- MBA, University of Florida
- MS, Civil Engineering (Structural), University of Florida
- BS, Engineering, University of Oklahoma

LICENSES/REGISTRATIONS

- Professional Engineer: FL, #53512

ADDED VALUE FOR THE CITY

- Located in our 130-person Florida Design Center
- Extensive Florida design-build experience
- Develops cost-saving design concepts, working collaboratively with our design-build teams and clients

Pilar has more than 35 years of experience in the management of large, complex water treatment projects. She has extensive experience with both traditional and alternative delivery methods, including PDB and CMAR, for major municipal projects across Florida. She will work closely with the design and construction teams to develop and implement a project-specific QA/QC plan to make sure a quality project is delivered to the City.

RELEVANT PROJECT EXPERIENCE

KEY PROJECT 1 **Bonita Springs Utilities, RO WTP Projects; Bonita Springs, FL.** ***Design Manager.*** **BENEFIT TO CITY:** Pilar managed the design to deliver projects on time and under the GMP, resulting in savings returned to the owner. **SIMILARITY TO RANGELINE:** Jacobs delivered integrated PDB services for 22 MGD in water system improvements, including commissioning new facilities while ensuring water quality, maintenance of plant operations, and effectively managing site constraints. **DATES:** Phase I 05/2002 - 04/2004; Phase II 05/2017 - 11/2018; Phase III 10/2019 - 08/2023. **PROJECT VALUE:** $257M. **DELIVERY METHOD:** PDB.

KEY PROJECT 3 **Lee County Utilities, Green Meadows RO and Ion Exchange WTP and Wellfield Expansion; Fort Myers, FL.** ***Design Manager.*** **BENEFIT TO CITY:** Managed the design including innovative technologies combined under a single system for a dynamic, cost-effective treatment plant that increased the County's water supply treatment flexibility and reliability. **SIMILARITY TO RANGELINE:** New16-MGD RO and IX WTP that treats three groundwater sources. The project was delivered $1.5M under the GMP and won the 2019 Global Water Project of the Year award. **DATES:** 01/2013 - 10/2018. **PROJECT VALUE:** $177M. **DELIVERY METHOD:** CMAR.

KEY PROJECT 6 **City of Tampa, David L. Tippin WTF HSPS Improvements; Tampa, FL.** ***Quality Control Manager.*** **BENEFIT TO CITY:** Pilar provided quality control services for this project to improve plant reliability. **SIMILARITY TO RANGELINE:** PDB for 140-MGD high-service finished water pump station, chlorine contact chamber, and new center clearwell and rehabilitation of three existing clearwells. Through budget and permitting we saved the City $2.6M during the delivery of GMP 2 by breaking the work into additional bid packages and saved an additional $1.4M by optimizing the shoring and excavation work. **DATES:** 07/2019 - 02/2025. **PROJECT VALUE:** $99M. **DELIVERY METHOD:** PDB.

Alan Cyrier, CSP

Safety Manager

EXPERIENCE HIGHLIGHTS

- ✓ Large, complex projects
- ✓ Progressive DB delivery
- ✓ RO WTPs ≥ 10 MGD
- ✓ Complex sequencing

YEARS OF EXPERIENCE

32 total | **23** with Jacobs

EDUCATION

› BS, Industrial Engineering, University of Central Florida

LICENSES/REGISTRATIONS

› Certified Safety Professional

› OSHA Construction 10 & 30 Hour Certified Trainer

› Risk Management and Loss Control Management: Insurance Institute of America

ADDED VALUE FOR THE CITY

› Jacobs' Regional HSE Manager for water/wastewater projects for municipal clients across Florida

› Responsible for development and implementation of the project safety plan, tailored to specific project risks and hazards

› Participates in preconstruction meetings for contractors and subcontractors, reviews contractual health and safety requirements, and evaluates the requirements of the site-specific safety program

Alan is a Certified Safety Professional with more than 20 years of experience in the safety industry. He brings in-depth knowledge of state and federal regulations pertaining to Florida PDB projects through his work in Florida for such clients as Bonita Springs Utilities and the City of Tampa. As your safety manager, he'll see that all project activities follow applicable safety laws and guidance, promoting safety on the project site.

RELEVANT PROJECT EXPERIENCE

KEY PROJECT 1 **Bonita Springs Utilities, RO WTP Projects; Bonita Springs, FL.** ***Safety Manager.*** **BENEFIT TO CITY:** Alan provided safety management to deliver projects on time and under the GMP, resulting in savings returned to the owner. **SIMILARITY TO RANGELINE:** Jacobs delivered integrated PDB services for 22 MGD in water system improvements, including commissioning new facilities while ensuring water quality, maintenance of plant operations, and effectively managing site constraints. **DATES:** Phase I 05/2002 - 04/2004; Phase II 05/2017 - 11/2018; Phase III 10/2019 - 08/2023. **PROJECT VALUE:** $257M. **DELIVERY METHOD:** PDB.

KEY PROJECT 3 **Lee County Utilities, Green Meadows RO and Ion Exchange WTP and Wellfield Expansion; Fort Myers, FL.** ***Safety Manager.*** **BENEFIT TO CITY:** Alan provided safety management for the project that innovative technologies combined under a single system for a dynamic, cost-effective treatment plant that increased the County's water supply treatment flexibility and reliability. **SIMILARITY TO RANGELINE:** New16-MGD RO and IX WTP that treats three groundwater sources. The project was delivered $1.5M under the GMP and won the 2019 Global Water Project of the Year award. **DATES:** 01/2013 - 10/2018. **PROJECT VALUE:** $177M. **DELIVERY METHOD:** CMAR.

KEY PROJECT 6 **City of Tampa, David L. Tippin WTF HSPS Improvements; Tampa, FL.** ***Safety Manager.*** **BENEFIT TO CITY:** Alan provided safety management for this project to improve plant reliability. **SIMILARITY TO RANGELINE:** PDB for 140 MGD high service finished water pump station, chlorine contact chamber, and new center clearwell and rehabilitation of three existing clearwells. Through budget and permitting we saved the City $2.6M during the delivery of GMP 2 by breaking the work into additional bid packages and saved an additional $1.4M by optimizing the shoring and excavation work. **DATES:** 07/2019 - 02/2025. **PROJECT VALUE:** $99M. **DELIVERY METHOD:** PDB.

Conner Wright, PE, CGC

Project Controls Manager

EXPERIENCE HIGHLIGHTS

- ✓ Large, complex projects
- ✓ Progressive DB delivery
- ✓ RO WTPs ≥ 10 MGD
- ✓ Collaborative design, open book GMP, ODP
- ✓ Complex sequencing

YEARS OF EXPERIENCE

7 total | **7** with Jacobs

EDUCATION

› BS, Engineering, Louisiana State University

LICENSES/REGISTRATIONS

› Professional Engineer: FL, #96629

› Certified General Contractor: FL#CGC1538826

ADDED VALUE FOR THE CITY

› Experience in PDB delivery projects for Florida clients

› Project management and controls expertise on large, complex projects

› Understanding of construction policies and procedures provides valuable project insights

Over the past 5 years, Conner has worked with North Miami Beach Water and the City of Tampa to coordinate and implement the 41-MGD Norwood RO WTP and 140-MGD DLTWTF HSPS projects, respectively. His experience in the engineering and construction of large, complex PDB projects along with his excellent documentation and communications skills, provides a deep understanding of the project controls necessary for the successful coordination and implementation of water infrastructure projects delivered by PDB.

RELEVANT PROJECT EXPERIENCE

KEY 2 PROJECT

North Miami Beach Water, Norwood WTP RO Improvement Projects; Miami Beach, FL. ***Project Engineer.*** **BENEFIT TO CITY:** Conner used Jacobs' Integrated Project Control Systems (IPCS) to conduct ETC/EAC exercises for project review and to provide the project manager with weekly project costs-to-date reports. **SIMILARITY TO RANGELINE:** Jacobs provided PDB delivery and operations services for the Phase 1 Membrane Plant Expansion of the 41-MGD Norwood WTP, adding 9 MGD of NF/RO membrane treatment capacity. **DATES:** 06/2017 - 05/2020. **PROJECT VALUE:** $54M. **DELIVERY METHOD:** PDB/O.

KEY 6 PROJECT

City of Tampa, David L. Tippin WTF HSPS Improvements; Tampa, FL. ***Project Engineer.*** **BENEFIT TO CITY:** Conner managed workflows for major design changes and RFI processing and assisted the project manager in verifying billing and scope review for additional work through various subcontractors. **SIMILARITY TO RANGELINE:** PDB delivery of a 140-MGD finished water HSPS, chlorine contact chamber, and new center clearwell, as well as rehabilitation of three existing clearwells. We saved the City $2.6M during delivery of GMP 2 by breaking the work into additional bid packages and saved an additional $1.4M by optimizing the shoring and excavation work. **DATES:** 07/2019 - 02/2025. **PROJECT VALUE:** $99M. **DELIVERY METHOD:** PDB.

KEY 9 PROJECT

Ave Maria Utility Company, Ave Maria WTP Phase II; Ave Maria, FL. ***Project Manager.*** **BENEFIT TO CITY:** Conner is managing the subcontractors, budget, schedule, and overall construction phase of the project including expediting equipment purchases and staying on top of our subcontractors to ensure on-time delivery. **SIMILARITY TO RANGELINE:** Expansion of the 2.5-MGD LPRO facility. Includes early cost certainty and expedited permitting to keep the project on schedule throughout design, construction, and commissioning. **DATES:** 07/2023 - 11/2025. **PROJECT VALUE:** $28M. **DELIVERY METHOD:** PDB.

Raul Alfaro, PE, ENV SP

Engineering (Design Manager)

EXPERIENCE HIGHLIGHTS

- ✓ Large, complex projects
- ✓ Progressive DB delivery
- ✓ RO WTPs ≥ 10 MGD
- ✓ Collaborative design, open book GMP, ODP
- ✓ Complex sequencing

YEARS OF EXPERIENCE

10 TOTAL | **8** WITH JACOBS

EDUCATION

› BS, Environmental Engineering, Florida International University

LICENSES/REGISTRATIONS

› Professional Engineer: FL, #92557

› ENV SP (#24443)

ADDED VALUE FOR THE CITY

› Proven technical project manager and process engineer actively involved in WTP operations and improvements

› Experienced in obtaining permits from regulatory agencies such as FDEP, SFWMD, and DOH

› As a Certified ENV SP, will deliver solutions with sustainability in mind

Raul is an expert in the planning, piloting, permitting, and design of membrane treatment systems in South Florida. He has hands-on experience leading multi-disciplinary technical teams in the delivery of membrane treatment delivered by design-build, such as the BSU RO WTP and North Miami Beach Water's RO WTP.

RELEVANT PROJECT EXPERIENCE

North Miami Beach Water, Norwood WTP RO Improvement Projects; Miami Beach, FL. ***Project Engineer.*** **BENEFIT TO CITY:** Raul supported the engineering, design, and permitting to expand the RO and nanofiltration (NF) system capacity to 41 MGD. He evaluated process calculations and membrane projections, the impacts of EPA's Ground Water Rule, modifications to the SFWMD Water Use Permit, and contact time calculations. He also conducted specialty inspections and witnessed functional and performance testing of the improvements. **SIMILARITY TO RANGELINE:** Jacobs provided PDB delivery and operations services for the Phase 1 Membrane Plant Expansion of the 41-MGD Norwood WTP, adding 9 MGD of NF/RO membrane treatment capacity. **DATES:** 06/2017 - 05/2020. **PROJECT VALUE:** $54M. **DELIVERY METHOD:** PDB/O.

City of Melbourne, Joe Mullins RO WTP; Melbourne, FL. ***Engineering Manager.*** **BENEFIT TO CITY:** Raul led the optimum corrosion control treatment study for the City of Melbourne's RO WTP 10-MGD expansion to evaluate finished water chemistry changes after the expansion which impact corrosion control treatment and corrosion control parameters and informed design decisions for post treatment stabilization. **SIMILARITY TO RANGELINE:** The project was for an expansion of RO WTP to 12 MGD and included important sequencing to maintain level of service during construction. The work also required post treatment changes to maintain corrosion control treatment. **DATES:** 09/2023 - Present. **PROJECT VALUE:** $94M. **DELIVERY METHOD:** DBB.

Prospect Lake Clean Water Center WTP; Fort Lauderdale, FL. ***Project Manager.*** **BENEFIT TO CITY:** Raul is leading a multidisciplinary team to conduct technical reviews for the design and construction of a new 50 MGD water treatment facility. Raul leads the process mechanical design reviews and is providing construction oversight, permitting support, and commissioning and start-up support services for the new membrane system. The work also involves an optimum corrosion control treatment pipe loop study to identify corrosion control indices when transitioning to new finished water quality and establishing new water quality goals. **SIMILARITY TO RANGELINE:** The project is for the design and construction of a new 50 MGD facility with installed membrane capacity of over 35 MGD and two deep injection wells for concentrate disposal. **DATES:** 01/2023 - Ongoing. **PROJECT VALUE:** $700M. **DELIVERY METHOD:** P3 DB.

Gaibey Zreibi, EIT

Design Production Manager

EXPERIENCE HIGHLIGHTS

- ✓ Large, complex projects
- ✓ Progressive DB delivery
- ✓ RO WTPs ≥ 10 MGD
- ✓ Collaborative design, open book GMP, ODP
- ✓ Complex sequencing

YEARS OF EXPERIENCE

28 total | **8** with Jacobs

EDUCATION

› BS, Civil Engineering, Florida International University

LICENSES/REGISTRATIONS

› Engineer in Training

ADDED VALUE FOR THE CITY

› Strong relationships and mastery of the full suite of design tools in our Gainesville Design Center

› Proven ability to manage the design of large, complex treatment facilities for Florida clients

› Able to avoid the common pitfalls and challenges associated with design during the construction phase

Gaibey is experienced in design, construction management, and alternative project delivery and has proven his ability to manage complex, multi-disciplinary design projects within schedule and budget. Located in Jacobs' Florida Design-Build Center of Excellence, he has served as design production manager on several collaborative delivery projects for Florida clients and is used to working with our preconstruction team to create design packages that help expedite construction work.

RELEVANT PROJECT EXPERIENCE

KEY 7 PROJECT

St. Johns County Utility Department, State Road 207 WRF and Improvements; St. Augustine, FL. ***Design Manager.*** **BENEFIT TO CITY:** Gaibey managed fast-track delivery of this new greenfield reclaimed water distribution facility design in Northeast Florida. **SIMILARITY TO RANGELINE:** The County's largest capital improvements project to date—the new greenfield 3.25-MGD (expandable to 6.5-MGD) WRF includes a master lift pump station, a booster pump station, and ~15 miles of large-diameter pipeline. This complex project meets aggressive technical, budget, schedule, permitting, and regulatory goals. **DATES:** 09/2022 – 04/2026. **PROJECT VALUE:** $191M. **DELIVERY METHOD:** PDB.

JEA, Greenland WRF; Jacksonville, FL. ***Design Manager.*** **BENEFIT TO CITY:** Gaibey managed the design of this new greenfield reclaimed water distribution facility project. The WRF was designed to meet advanced wastewater treatment standards for nutrient removal using a four-stage Bardenpho process, with oxidation ditches and high-level disinfection standards with disk filtration and ultraviolet (UV) disinfection. **SIMILARITY TO RANGELINE:** Designed to treat an influent average flow of 4 MGD, Gaibey and his design team provided provisions for future expansion to 12 MGD. **DATES:** 08/2019 - 10/2025. **PROJECT VALUE:** $150M. **DELIVERY METHOD:** CMAR.

Sarasota County, Venice Gardens Water Reclamation Facility Expansion and Upgrade; Venice, FL. ***Design Manager.*** **BENEFIT TO CITY:** Gaibey served as design manager to work with the contractor to deliver the design on time and under the owner's budget on this collaborative delivery project. **SIMILARITY TO RANGELINE:** Jacobs provided collaborative delivery services for the plant expansion of the 3-MGD WRF, adding 3 MGD of treatment capacity. Improvements included influent and transfer pump station modifications, new biological process basins and membrane bioreactor (MBR), new chlorine contact chamber, new chemical storage and feed facilities, sludge holding tank, new dewatering station, effluent pump station modifications, Deep injection well (DIW) modifications, new administration and operations building and electrical building, with future buildout to 9 MGD plant capacity. **DATES:** 02/2024 - 07/2025. **PROJECT VALUE:** $170M. **DELIVERY METHOD:** CMAR.

Joe Elarde, PE

WTP Design Lead/Process and Training Lead (Commissioning)

EXPERIENCE HIGHLIGHTS

- ✓ Large, complex projects
- ✓ Progressive DB delivery
- ✓ RO WTPs ≥ 10 MGD
- ✓ Collaborative design, open book GMP, ODP
- ✓ Complex sequencing

YEARS OF EXPERIENCE

29 total | **26** with Jacobs

EDUCATION

- MS, Environmental Engineering, University of Illinois
- BS, Civil Engineering, University of Illinois

LICENSES/REGISTRATIONS

- Professional Engineer: FL, # 59309

ADDED VALUE FOR THE CITY

- Expert in designing facilities that treat blended groundwater and surface water in Florida
- Experience in piloting, design, startup, and operation of more than 25 operating RO/NF facilities
- Brings the ability to listen and partner with the City to develop a design that meets your goals for flexibility, operability, and reliability

Joe is a globally recognized expert in membrane technology, with nearly three decades of experience in water treatment, piloting, data analysis, design, startup, and operations worldwide. He brings leading edge, innovative experience in technology research and development, membrane-related tools, and best practices to the project. Joe will work closely with the City to explore options and help provide performance and lifecycle information needed for the City to make informed project decisions.

RELEVANT PROJECT EXPERIENCE

KEY 1 PROJECT

Bonita Springs Utilities, RO WTP Projects; Bonita Springs, FL. ***Lead Process Engineer.*** **BENEFIT TO CITY:** Joe provided process design to deliver projects on time and under the GMP, resulting in savings returned to the owner. **SIMILARITY TO RANGELINE:** Jacobs delivered integrated PDB services for 22 MGD in water system improvements, including commissioning new facilities while ensuring water quality, maintenance of plant operations, and effectively managing site constraints. **DATES:** Phase I 05/2002 - 04/2004; Phase II 05/2017 - 11/2018; Phase III 10/2019 - 08/2023. **PROJECT VALUE:** $257M. **DELIVERY METHOD:** PDB.

KEY 3 PROJECT

Lee County Utilities, Green Meadows RO and Ion Exchange WTP and Wellfield Expansion; Fort Myers, FL. ***Senior Process Designer and Commissioning Consultant.*** **BENEFIT TO CITY:** Provided process design including innovative technologies combined under a single system for a dynamic, cost-effective treatment plant that increased the County's water supply treatment flexibility and reliability. **SIMILARITY TO RANGELINE:** New16-MGD RO and IX WTP that treats three groundwater sources. The project was delivered $1.5M under the GMP and won the 2019 Global Water Project of the Year award. **DATES:** 01/2013 - 10/2018. **PROJECT VALUE:** $177M. **DELIVERY METHOD:** CMAR.

KEY 4 PROJECT

City of Melbourne, Joe Mullins RO WTP; Melbourne, FL. ***Membrane Technologist.*** **BENEFIT TO CITY:** Joe is providing preliminary process design and process mechanical QC. **SIMILARITY TO RANGELINE:** The project was for an expansion of RO WTP to 12 MGD and included important sequencing to maintain level of service during construction. Project goals include helping the City optimize operational flexibility, improve finished water quality, and minimize life-cycle costs. Our technical expertise integrates seamlessly with Melbourne's existing water infrastructure and Jacobs' ability to offer value-added services such as funding support helps reduce financial impacts on ratepayers. **DATES:** 09/2023 - Present. **PROJECT VALUE:** $94M. **DELIVERY METHOD:** DBB.

Jarrett Kinslow, PE

Post-Treatment Lead

EXPERIENCE HIGHLIGHTS

- ✓ Large, complex projects
- ✓ Progressive DB delivery
- ✓ RO WTPs ≥ 10 MGD
- ✓ Collaborative design, open book GMP, ODP
- ✓ Complex sequencing

YEARS OF EXPERIENCE

24 total | **24** with Tetra Tech

EDUCATION

› BS, Environmental Engineering, University of Central Florida

LICENSES/REGISTRATIONS

› Professional Engineer: FL, #63900

ADDED VALUE FOR THE CITY

› Jarrett has delivered >85 MGD in membrane treatment capacity across 15 projects

› Deep understanding of the City's water treatment system and goals from designing the JEA WTP expansion and overseeing construction of the Prineville RO WTP expansion

Jarrett is a senior project manager and technology leader in membrane treatment at Tetra Tech, with expertise in treatability studies, pilot testing, design, permitting, construction administration, data analysis, and planning. He has designed, overseen construction, and started up >85 MGD in membrane treatment capacity across 15 projects, and more than 200 MGD and $500 million in overall WTP experience.

RELEVANT PROJECT EXPERIENCE

City of Port St. Lucie, James E. Anderson WTP Expansion; Port St. Lucie, FL. ***Project Engineer.*** **BENEFIT TO CITY:** Jarrett designed the expansion of a 6-MGD reverse RO WTP to a build-out capacity of 22.5 MGD. **SIMILARITY TO RANGELINE:** Project included fast track design of expanded facilities, including raw water supply, membrane treatment, post-treatment, finished water, and auxiliary power. The project was designed to be constructed in three phases to meet increasing water demands from population growth. **DATES:** 2005 - 2008. **PROJECT VALUE:** $218M. **DELIVERY METHOD:** CMAR.

City of Port St. Lucie, Prineville RO WTP Expansion; Port St. Lucie, FL. ***Project Engineer.*** **BENEFIT TO CITY:** Jarrett provided construction phase services to expand the existing Prineville RO WTP from 4 to 10 MGD. **SIMILARITY TO RANGELINE:** The project included construction and equipping of three new Floridan aquifer supply wells and addition of three 2-MGD RO skids, micron filters, new chemical bulk storage tanks, transfer and high-service pumps, and degasifier. **DATES:** Phase 1 – 1999, Phase 2 - 2003. **PROJECT VALUE:** $65.8M. **DELIVERY METHOD:** CMAR.

City of Punta Gorda, Shell Creek WTP RO Addition; Punta Gorda, FL. ***Project Engineer.*** **BENEFIT TO CITY:** Jarrett developed the preliminary design of a brackish RO treatment facility to provide low TDS permeate for blending with high TDS treated surface water. **SIMILARITY TO RANGELINE:** Design tasks included sizing and conceptual design for raw water supply, pretreatment, membrane process, post-treatment, finished water blending, and auxiliary power facilities. Additional preliminary tasks included evaluating potential alternatives for blending water from two treatment processes prior to distribution while leveraging plant infrastructure and developing the conceptual site layout and opinion of probable construction costs. **DATES:** 2014 - 2020. **PROJECT VALUE:** $86.5M. **DELIVERY METHOD:** DBB.

Kevin Kuehn, AIA, AICP

Site Master Planning

EXPERIENCE HIGHLIGHTS

- ✓ Large, complex projects
- ✓ Collaborative design, open book GMP, ODP
- ✓ Complex sequencing

YEARS OF EXPERIENCE

33 total | **19** with Jacobs

EDUCATION

- MS, Environmental Planning, Arizona State University
- BS, Architecture, University of Wisconsin

LICENSES/REGISTRATIONS

- Registered Architect: AZ, #26562

ADDED VALUE FOR THE CITY

- A registered architect and planner, Kevin is an expert in master planning water utility campuses and treatment plant sites
- Experienced in managing the intricacies of multi-disciplinary planning and design teams and interfacing with the public and other stakeholders

Kevin has served as a project manager for more than two decades, successfully managing multi-disciplinary teams and multi-phase projects involving master planning studies, design, architecture, and engineering. He has worked extensively with sustainability during construction projects and has led highly collaborative planning and design teams on projects throughout Florida, including Port St. Lucie.

RELEVANT PROJECT EXPERIENCE

Port St. Lucie Water Utilities, Master Planning; Port St. Lucie, FL. ***Senior Consultant.*** **BENEFIT TO CITY:** Kevin was responsible for master planning two sites for the City's Utilities Department. **SIMILARITY TO RANGELINE:** The project involved master planning and admin design for access, parking, circulation, and building renovations and additions. The planning process included a charrette, stakeholder meetings, facility assessment, planning report, and recommendations. **DATES:** 02/2023 - 08/2023. **PROJECT VALUE:** $6M. **DELIVERY METHOD:** DBB (future).

City of Tampa, Water Center Campus Sites 1 and 1A West Master Plan; Tampa, FL. ***Project Manager and Architect.*** **BENEFIT TO CITY:** Kevin led development of a long-range master plan and design of a state-of-the-art facility to support more efficient operations, house Water department staff, and provide a venue for sharing the City's regional water supply plans with customers, the general public, and other stakeholders. **SIMILARITY TO RANGELINE:** Strategically located on City-owned property near the DLTWTF, utility staff will have easy access to existing and planned facilities. The primary structure planned for this phase of the project is a 23,000-square-foot Administration, Engineering, and Education Center B Building, which will house the Water Department administrative offices and engineering functions, as well as an educational facility. **DATES:** 03/2021 - 10/2022. **PROJECT VALUE:** $18M. **DELIVERY METHOD:** Design only.

Miami-Dade Water and Sewer Department, Administration/Emergency Operations Center (EOC); Miami, FL. ***Master Planner.*** **BENEFIT TO CITY:** Kevin's role was the master planner for the entire site and assisted in the concept design for the combined facility. **SIMILARITY TO RANGELINE:** The Jacobs team facilitated several charrettes with the client to establish a master plan resilience strategy along with the programmatic requirements of the shared Administration/ EOC facility. During a storm event, certain facilities will transfer their workers to an EOC area within the regular administrative building. The building has been designed to survive a CAT 5 Hurricane. **DATES:** 04/2023 - 10/2024. **PROJECT VALUE:** $61M. **DELIVERY METHOD:** DBB.

Ralph Myers, CGC

Preconstruction Manager/Lead Estimator

EXPERIENCE HIGHLIGHTS

- ✓ Large, complex projects
- ✓ Progressive DB delivery
- ✓ RO WTPs ≥ 10 MGD
- ✓ Collaborative design, open book GMP, ODP
- ✓ Complex sequencing

YEARS OF EXPERIENCE

38 total | **17** with Jacobs

EDUCATION

› Coursework in AA Degree (General Construction), Miami-Dade Community College

LICENSES/REGISTRATIONS

› Certified General Contractor: FL #CG033926

ADDED VALUE FOR THE CITY

› Emphasizes collaboration with design and construction teams and the owner early and often

› Expert in cost estimating, budgeting, GMP development, scope management, purchasing, scheduling, and subcontract management

› Reduces risk and the use on contingency through development and maintenance of a risk register

A former construction company owner and general contractor, Ralph has delivered water and wastewater hard bid projects for more than two decades. He brings more than 38 total years of experience delivering water and wastewater projects by design-build and other at-risk construction methods.

RELEVANT PROJECT EXPERIENCE

KEY PROJECT 1 **Bonita Springs Utilities, RO WTP Projects; Bonita Springs, FL.** ***Preconstruction Manager.*** **BENEFIT TO CITY:** Ralph provided preconstruction services to deliver projects on time and under the GMP, resulting in savings returned to the owner. **SIMILARITY TO RANGELINE:** Jacobs delivered integrated PDB services for 22 MGD in water system improvements, including commissioning new facilities while ensuring water quality, maintenance of plant operations, and effectively managing site constraints. **DATES:** Phase II 05/2017 - 11/2018; Phase III 10/2019 - 08/2023. **PROJECT VALUE:** $99.1M. **DELIVERY METHOD:** PDB.

KEY PROJECT 2 **North Miami Beach Water, Norwood WTP RO Improvement Projects; Miami Beach, FL.** ***Preconstruction Manager.*** **BENEFIT TO CITY:** Ralph provided preconstruction services for this NF/RO membrane plant expansion. **SIMILARITY TO RANGELINE:** Jacobs provided PDB delivery and operations services for the Phase 1 Membrane Plant Expansion of the 41-MGD Norwood WTP, adding 9 MGD of NF/RO membrane treatment capacity. Improvements included a new NF scale inhibitor system, variable frequency drive (VFD) feed pumps, a new nanofiltration (NF) skid, and upgrades to the existing NF/RO skids, increasing system recovery, operating at higher flux, and immediately reducing operational costs. **DATES:** 06/2017 - 05/2020. **PROJECT VALUE:** $54M. **DELIVERY METHOD:** PDB/O.

KEY PROJECT 6 **City of Tampa, David L. Tippin WTF HSPS Improvements; Tampa, FL.** ***Preconstruction Manager.*** **BENEFIT TO CITY:** Ralph provided preconstruction services for this project to improve plant reliability. **SIMILARITY TO RANGELINE:** PDB for 140 MGD high service finished water pump station, chlorine contact chamber, and new center clearwell and rehabilitation of three existing clearwells. Through budget and permitting we saved the City $2.6M during the delivery of GMP 2 by breaking the work into additional bid packages and saved an additional $1.4M by optimizing the shoring and excavation work. **DATES:** 07/2019 - 02/2025. **PROJECT VALUE:** $99M. **DELIVERY METHOD:** PDB.

Dean Ressler

Construction Manager

EXPERIENCE HIGHLIGHTS

- ✓ Large, complex projects
- ✓ Progressive DB delivery
- ✓ RO WTPs ≥ 10 MGD
- ✓ Collaborative design, open book GMP, ODP
- ✓ Complex sequencing

YEARS OF EXPERIENCE

28 total | **2** with Jacobs

EDUCATION

› BS, Mechanical Engineering, University of Colorado

LICENSES/REGISTRATIONS

› Certified General Contractor: FL #1531702

ADDED VALUE FOR THE CITY

› Provides proven construction skills to deliver projects with a high level of quality on time and within budget

› Successfully managed multi-million-dollar water and wastewater projects, from greenfield to extensive renovations

› Highly experienced managing construction phase services during PDB delivery

› Construction management of $191.8M in design-build delivery at Jacobs

Dean is a senior construction manager with 28 years of success managing multi-million-dollar water and wastewater construction projects for government and private sector clients. He will apply proven leadership skills to your project from the successful delivery of more than $960 million in water and wastewater facilities, some of which involved PDB.

RELEVANT PROJECT EXPERIENCE

St. Johns County Utility Department, State Road 207 WRF and Improvements; St. Augustine, FL. ***Senior Construction Manager.*** **BENEFIT TO CITY:** As construction manager, Dean is on the jobsite full time to observe, supervise, and manage all aspects of construction. His responsibilities include procurement and managing subcontractors and suppliers, project and workforce planning, value engineering, and permitting. Also manages project safety, scheduling, submittal review and approval, dewatering, earthwork, concrete work, architectural work, electrical, instrumentation, facility start-up, change order negotiations, quality control, and tracking financial status. **SIMILARITY TO RANGELINE:** The County's largest capital improvements project to date—the new $192 million greenfield 3.25-MGD (expandable to 6.5-MGD) WRF includes a master lift pump station, a booster pump station, and ~15 miles of large-diameter pipeline. This complex project meets aggressive technical, budget, schedule, permitting, and regulatory goals. **DATES:** 09/2022 - 06/2026. **PROJECT VALUE:** $191M. **DELIVERY METHOD:** PDB.

City of Lake Worth, WTP No. 2 Treatment and Disposal Improvements Design Package 1, 3, and 4; Lake Worth, FL. ***Construction Manager.*** **BENEFIT TO CITY:** Dean was on the jobsite full time to observe, supervise, and manage all aspects of construction. His responsibilities included procuring and managing subcontractors and suppliers, project and workforce planning, value engineering, and permitting. **SIMILARITY TO RANGELINE:** For this $26.7M project, Dean managed project safety, scheduling, submittal review and approval, dewatering, earthwork, concrete work, architectural work, electrical, instrumentation, facility start-up, change order negotiations, quality control, and tracking financial status. He represented his previous employer with subcontractors, suppliers, consultants, and design teams. **DATES:** 01/2022 - 02/2023. **PROJECT VALUE:** $50.7M. **DELIVERY METHOD:** DBB

City of Stuart, Phase I RO WTP; Stuart, FL. ***Construction Manager.*** **BENEFIT TO CITY:** Dean was on the jobsite full time to observe, supervise, and manage all aspects of construction. His responsibilities included procuring and managing subcontractors and suppliers, project and workforce planning, value engineering, and permitting. **SIMILARITY TO RANGELINE:** For this $16.7M RO WTP project, Dean also managed project safety, scheduling, submittal review and approval, dewatering, earthwork, concrete work, architectural work, electrical, instrumentation, facility start-up, change order negotiations, quality control, and tracking financial status. He represented his previous employer with subcontractors, suppliers, consultants, and design teams. **DATES:** 12/2021 - 02/2023. **PROJECT VALUE:** $39.6M. **DELIVERY METHOD:** DBB

Gary Giordano

Site Superintendent

EXPERIENCE HIGHLIGHTS

- ✓ Large, complex projects
- ✓ Progressive DB delivery
- ✓ RO WTPs ≥ 10 MGD
- ✓ Collaborative design, open book GMP, ODP
- ✓ Complex sequencing

YEARS OF EXPERIENCE

41 total | **25** with Jacobs

EDUCATION

› High School Diploma

LICENSES/REGISTRATIONS

› Safety Trained Supervisor

ADDED VALUE FOR THE CITY

› Experience delivering complex PDB WTP and WWTP projects throughout Florida

› Extensive experience with field construction of membrane treatment plants, including the RO WTP projects for Bonita Springs Utilities and Fort Myers, Florida

› Works with key personnel to help ensure construction activities adhere to project plans and specifications

Gary is a resident of the Treasure Coast and has 41 years of experience in the at-risk construction of more than $1B in water and wastewater treatment facilities. His experience includes construction sequencing, subcontractor management, project reporting, change order management, and safety management. Gary's design-build experience includes more than 15 projects across Florida and Texas over the past 25 years. He will leverage this and his strong passion for delivering quality work to make sure the constructed product meets the City's expectations.

RELEVANT PROJECT EXPERIENCE

KEY PROJECT 1 **Bonita Springs Utilities, RO WTP Projects; Bonita Springs, FL.** ***Site Superintendent.*** **BENEFIT TO CITY:** Gary was responsible for coordinating subcontractor efforts to ensure that project was built in accordance with the specification and drawings. Additional responsibilities included ensuring that subcontractors complied with safety procedures and standards, updating monthly pay requests for subcontractors, and maintaining project daily reports. **SIMILARITY TO RANGELINE:** Jacobs delivered integrated PDB services for 22 MGD in water system improvements, including commissioning new facilities while ensuring water quality, maintenance of plant operations, and effectively managing site constraints. **DATES:** Phase I 05/2002 - 04/2004; Phase II 05/2017 - 11/2018; Phase III 10/2019 - 08/2023. **PROJECT VALUE:** $257M. **DELIVERY METHOD:** PDB.

KEY PROJECT 2 **North Miami Beach Water, Norwood WTP RO Improvement Projects; Miami Beach, FL.** ***Site Superintendent.*** **BENEFIT TO CITY:** Gary provided construction services for this NF/RO membrane plant expansion. **SIMILARITY TO RANGELINE:** Jacobs provided PDB delivery and operations services for the Phase 1 Membrane Plant Expansion of the 41-MGD Norwood WTP, adding 9 MGD of NF/RO membrane treatment capacity. Improvements included a new NF scale inhibitor system, variable frequency drive (VFD) feed pumps, a new nanofiltration (NF) skid, and upgrades to the existing NF/RO skids, increasing system recovery, operating at higher flux, and immediately reducing operational costs. **DATES:** 06/2017 - 05/2020. **PROJECT VALUE:** $54M. **DELIVERY METHOD:** PDB/O.

KEY PROJECT 6 **City of Tampa, David L. Tippin WTF HSPS Improvements; Tampa, FL.** ***Site Superintendent.*** **BENEFIT TO CITY:** Gary provided construction oversight for the upgrade and addition of this large-scale project. **SIMILARITY TO RANGELINE:** PDB for 140 MGD high service finished water pump station, chlorine contact chamber, and new center clearwell and rehabilitation of three existing clearwells. Through budget and permitting we saved the City $2.6M during the delivery of GMP 2 by breaking the work into additional bid packages and saved an additional $1.4M by optimizing the shoring and excavation work. **DATES:** 07/2019 - 02/2025. **PROJECT VALUE:** $99M. **DELIVERY METHOD:** PDB.

Veronica Llaneza, PhD, PE

Start-up and Commissioning Manager

EXPERIENCE HIGHLIGHTS

- ✓ Large, complex projects
- ✓ Progressive DB delivery
- ✓ RO WTPs ≥ 10 MGD
- ✓ Collaborative design, open book GMP, ODP
- ✓ Complex sequencing

YEARS OF EXPERIENCE

11 total | **7** with Jacobs

EDUCATION

- PhD, Environmental Engineering, University of Florida
- MS, Environmental Engineering, University of Florida
- BS, Environmental Engineering, University of Florida

LICENSES/REGISTRATIONS

- Professional Engineer: FL #99977
- Class A, B, & C Drinking Water Treatment, License No: 0026752

ADDED VALUE FOR THE CITY

- Expert in complying with regulatory standards, enhancing water treatment processes, and analyzing water quality parameters while reducing operational costs and improving staff utilization
- Expert in facility startups and checklist reviews for both conventional surface WTPs and membrane treatment plants

Veronica is a resident of the Treasure Coast and a licensed Operator who specializes in optimizing the operation of water treatment facilities, including RO/NF processes. She has extensive experience with blended RO/NF and lime softening experience in the Biscayne aquifer, which she'll apply to the project's commissioning and startup plan. She is also experienced in alternative delivery methods, having worked on the Norwood WTP RO Improvements PDB/O.

RELEVANT PROJECT EXPERIENCE

North Miami Beach Water, Norwood WTP RO Improvement Projects; Miami Beach, FL. *Process Engineer/ Commissioning Support.* **BENEFIT TO CITY:** Veronica provided process engineering for commissioning and startup on this NF/RO membrane plant expansion. **SIMILARITY TO RANGELINE:** Jacobs provided PDB delivery and operations services for the Phase 1 Membrane Plant Expansion of the 41-MGD Norwood WTP, adding 9 MGD of NF/RO membrane treatment capacity. Improvements included a new NF scale inhibitor system, variable frequency drive (VFD) feed pumps, a new nanofiltration (NF) skid, and upgrades to the existing NF/RO skids, increasing system recovery, operating at higher flux, and immediately reducing operational costs. **DATES:** 06/2017 - 05/2020. **PROJECT VALUE:** $54M. **DELIVERY METHOD:** PDB/O.

City of Pembroke Pine, Pembroke Pine WTP; Pembroke Pines, FL. *Process Engineer/Commissioning Lead.* **BENEFIT TO CITY:** Veronica's responsibilities included assessing treatment process efficiency and optimizing the WTP and its distribution system in respect to softening enhancements, residuals and chemical cost savings, and improved water quality while evaluating effective operations and daily rounds. **SIMILARITY TO RANGELINE:** Jacobs prepared a Comprehensive Water and Wastewater Utility Master Plan that evaluated population projections, facility performance, and process efficiency of the City's water and wastewater systems, current and anticipated regulatory compliance, and associated planning-level costs for the capital improvements. **DATES:** 02/2015 - 10/2024. **PROJECT VALUE:** $21.7M. **DELIVERY METHOD:** DBB.

North Springs Improvement District, NSID Water Treatment Plant RO Expansion; Coral Springs, FL. *Commissioning Lead.* **BENEFIT TO CITY:** Responsibilities included preparing for brackish RO membrane system loading, developing a custom loading schedule, and then supervising the loading to ensure the membranes were installed correctly and per the contract. Veronica then confirmed that the system performance met the specifications including individual and overall vessel water quality and that the pressures met the power requirements for the lifecycle cost savings analysis included within the design. **SIMILARITY TO RANGELINE:** Veronica held the membrane system supplier and manufacturer to the performance and lifecycle requirements of the contract to ensure they met finished water quality goals and provided the lowest lifecycle cost. The custom loading schedule she helped develop further improved water quality and reduced power consumption. Jacobs will use a similar approach for Rangeline to provide the City the maximum value. **DATES:** 02/2022 - 12/2024. **PROJECT VALUE:** $2.5M. **DELIVERY METHOD:** DBB.

Other Key Staff Bios

DESIGN SUPPORT STAFF

GJ Schers, PMP
Conceptual Design/QC

MS, Civil Engineering
Years of Experience: **34** total | **9** with Jacobs

BENEFIT TO CITY: GJ is a globally recognized subject matter expert in water technology and water treatment. He was project manager for design of the City of Melbourne's 10-MGD Joe Mullins RO WTP and was lead process engineer for PDB delivery and operations services for the 32 MGD, Norwood WTP including Phase 1 WTP Expansion to add 9 MGD of NF/RO membrane treatment capacity.

James Christopher, PE, BCEE
Conceptual Design/QC

MS, Environmental Engineering
Years of Experience: **24** total | **24** with Tetra Tech

BENEFIT TO CITY: James is a Practice Leader for Water Treatment at Tetra Tech, with extensive experience at the City's RO WTPs. He was Engineer of Record for preliminary and final design of the Prineville WTP expansion from 4 MGD to 10 MGD. He also was Engineer of Record for expansion of the JEA WTP from 6 MGD to 22 MGD, which involved the addition of seven 2-MGD RO skids., micron filters, new chemical bulk storage tanks, transfer and high-service pumps, and degasifier.

Maureen Kussler, RA, LEED AP
Architecture

M. Architecture
Years of Experience: **19** total | **16** with Jacobs

BENEFIT TO CITY: Maureen is an expert in architectural design and sustainable building principles for a wide range of facilities, including water and wastewater treatment plants. She's currently providing architectural services for the Port St. Lucie Utilities Department at two sites, including renovation of the Prineville Administration Building. The projects have involved stakeholder meetings, a design charrette, facility assessment, planning report, and recommendations.

Scott Barber, RLA
Landscape Architecture

M. Landscape Architecture
Years of Experience: **29** total | **26** with Jacobs

BENEFIT TO CITY: Scott brings in-depth knowledge in a variety of urban, local, and regional planning projects. His capabilities include applying sustainability principles, environmental evaluations, preparing grant applications, diligence and feasibility studies, wetland mitigation and design, rainwater harvesting, landscape and irrigation design, and LEED accreditation. He has completed water treatment projects for clients across Florida including the City of Sunrise and Pasco County.

Matt Deavenport, PE
Replica™ Process Optimization

MS, Coastal and Oceanographic Engineering
Years of Experience: **19** total | **19** with Jacobs

BENEFIT TO CITY: Matt is our Americas Digital Water Platform Director, with responsibility for developing and delivering digital products and solutions that help clients address their water challenges. His experience in process optimization uses Replica™ to improve water system process dynamics, operations, and controls. He's also an expert in developing digital twins for performing what-if scenarios and training. His experience includes the BSU Wellfield Optimization and Greenland WRF facility for JEA.

Rich Morrison, PE
Site Civil/Yard Piping

BS, Civil Engineering
Years of Experience: **23** total | **18** with Jacobs

BENEFIT TO CITY: Located in our Florida Design-Build Center of Excellence in Gainesville, Rich is our "go-to" for civil engineering services on water and wastewater projects. He's provided civil engineering and stormwater management services for numerous projects delivered by our Florida design-build team, including BSU's RO WTP expansion, GRU's Main Street WR, and SJCUD's SR 207 WRF.

DESIGN SUPPORT STAFF *(continued)*

Dave Everson, PE
Structural

BS, Civil Engineering
Years of Experience: **26** total | **10** with Jacobs

BENEFIT TO CITY: Also located in our Florida Design Center, Dave provides structural designs for water and wastewater treatment plants for Florida clients. He's an expert in designing pre-engineered metal buildings, which are widely used in water and wastewater designs. He was lead structural engineer for BSU's RO WTP expansion design-build and the City of Tampa's David L. Tippin HSPS design-build.

Tao Fu, PE
Process Mechanical

MS, Env. Engineering | BS, Mechanical Engineering
Years of Experience: **31** total | **18** with Jacobs

BENEFIT TO CITY: Tao is a process mechanical design expert in our Florida design center with extensive water and wastewater design-build experience. Representative projects include the City of Tampa's David L. Tippin HSPS and BSU's RO Plant Expansion. He also provided process mechanical services for JEA's Blacks Ford WRF Phase IV Expansion and Greenland WRF CMAR in Jacksonville. Tao also has extensive experience in planning, modeling, startup, and commissioning.

Cyrus Saharkhiz, PE
Instrumentation & Controls

BS, Chemical Engineering
Years of Experience: **15** total | **13** with Jacobs

BENEFIT TO CITY: Cyrus is an expert in the design of process controls, instrumentation, telemetry, and communication systems. Located in our Florida design center, he provides field services during construction and the installation of control systems for our Florida clients. His design-build projects include BSU's RO WTP Control System Improvements and the City of Tampa's David L. Tippin HSPS, as well as Lee County's Green Meadows WTP CMAR.

Dave Nicholson, PE
Electrical

BS, Electrical Engineering
Years of Experience: **28** total | **23** with Jacobs

BENEFIT TO CITY: Located in our Florida Design Center, David has experience developing electrical and I&C designs for water and wastewater treatment facilities in Florida. He was lead electrical engineer for several JEA projects in Jacksonville, including the Greenland WRF as well as having PDB experience on BSU RO WTP Ph II and III, DLTWTF HSPS, SJCUD SR 207, and GRU Main Street WRF.

Brandon Russakis, PE
HVAC/Plumbing

BS, Mechanical Engineering
Years of Experience: **14** total | **10** with Jacobs

BENEFIT TO CITY: Also located in our Design Center, Brandon is a mechanical engineer specializing in HVAC and plumbing design. His experience includes providing building services design for advanced specialty facilities, such as water and wastewater treatment facilities, telecom facilities, warehouses, and electrical buildings and maintenance buildings. His experience includes Greenland Facilities for the Jacksonville Electric Authority and the St. Cloud OUC Project for the Orlando Utilities Commission.

CONSTRUCTION AND COMMISSIONING SUPPORT STAFF

Ivan Trullenque
Scheduling

MS, Civil Engineering | BS, Civil Engineering
Years of Experience: **16** total | **9** with Jacobs

BENEFIT TO CITY: Ivan is an expert in developing baseline and cost-loaded schedules, monitoring project progress, and analyzing project budget, productivity, and milestones. He provides support in the preparation of change orders, monthly project progress reports, accurate and timely project completion forecasts; and client and internal status reports that effectively communicate schedule project status. His PDB experience includes BSU RO WTP Ph II and III, Ave Maria Ph II, and DLTWTF HSPS.

Rick Hegarty
Process Mechanical

Years of Experience: **39** total | **2** with Jacobs

BENEFIT TO CITY: During his more than 39 years of experience in construction, Rick has served as a project superintendent, construction manager, and project manager on water and wastewater treatment projects ranging in value up to $192M. He has managed the self-performance of large mechanical and structural projects nationwide including the SJCUD SR 207 WRF Improvements.

Alexander Ciasca, PE
Prestressed Concrete Lead

Years of Experience: **20** total | **9** with CROM

BENEFIT TO CITY: Alexander is local and has a comprehensive understanding of the engineering and construction details specific to prestressed concrete tank installation. He provided senior technical expertise during expansions to Bonita Springs Utilities' East and West WRFs. He oversaw operations in high-risk work zones, helped prepare a site-specific safety plan, and ensured continuity of operations, working in coordination with Jacobs.

David Harmon, CGC
Prestressed Concrete Lead

Years of Experience: **45** total | **34** with CROM

BENEFIT TO CITY: David has more than 45 years of experience overseeing daily field work for the construction of prestressed concrete tanks. He's responsible for training and implementing best practices and organizing, managing, and overseeing crews to ensure construction is performed in accordance with engineering and design drawings. He's provided these services for numerous Florida clients, including the City of Leesburg.

Patricia Elder
Procurement

Years of Experience: **41** total | **2** with Jacobs

BENEFIT TO CITY: Patricia has a strong track record in project delivery from both an execution and stakeholder management perspective. Identifies subcontract issues and provides leadership in developing solutions with demonstrated experience successfully providing procurement for projects across Florida including the Bonita Springs Utility RO WTP and the David L. Tippin WTF Expansion.

Don Lythberg
Electrical

Years of Experience: **33** total | **4** with Jacobs

BENEFIT TO CITY: Don is a Licensed Electrical Estimator and a Licensed Master Electrician (IL, IN, MI) with a well-balanced career in management, construction, and integration of new systems. He has worked on over $1B worth of nationwide water and wastewater projects with successful on-time, on-budget delivery including the BSU RO Plant Expansion PDB project in Bonita Springs.

CONSTRUCTION AND COMMISSIONING SUPPORT STAFF *(continued)*

Bernie Jacobsen, PE
I&C Integration

BS, Electrical Engineering | AA, Engineering
Years of Experience: **42** total | **28** with Jacobs

BENEFIT TO CITY: Bernie provides expertise in information technology (IT) master planning, control system automation, SCADA network design, SCADA and cyber security, application development, web applications, database applications, I&C Engineering, control room design, and telemetry application. He has provided I&C services for numerous SCADA systems for Florida clients, including the City of Tampa's David L. Tippin WTF high service pump station design-build.

Avery Fulford
Project Engineer

BS, Civil Engineering
Years of Experience: **2** total | **2** with Jacobs

BENEFIT TO CITY: Avery is experienced in material tracking and inventory of millions of dollars of ODP material. He is familiar with storage and maintenance tasks of the associated material/equipment. He works with vendors to communicate submittal responses from our engineers to ensure that the proper equipment arrives on site. He is currently serving as a project engineer on the SR 207 WRF project in St. Johns County, Florida.

Josue Alvarez
Project Engineer

BS, Construction Management
Years of Experience: **18** total | **1** with Jacobs

BENEFIT TO CITY: As a project engineer, Josue coordinates with subcontractors; procures equipment, tools, and material; and generates RFI's and submittals. He coordinates the owner weekly meeting, safety standdowns, schedule trainings, start-ups, and shutdowns. He is efficient in reading PIDs, ISOs, and has excellent personal skills coordinating with owners, engineers, and subcontractors. He has worked on water and wastewater projects nationwide.

Carlos Carrazana
Operations Support

Years of Experience: **18** total | **<1** with Jacobs

BENEFIT TO CITY: Carlos is an experienced water plant manager. His experience includes managing daily operations at a 41-MGD plant, with lime softening, NF, and low-pressure RO treatment processes. He's experienced in completing monthly regulatory reports, establishing operational procedures, and coordinating daily operations for greater efficiency and to ensure water quality standards are being met. He is the former N. Miami Beach Water Norwood RO/NF WTP Manager and will bring his experience to bear for the City.

John Rickermann, PE
Intelligent O&M

MBA, Business Administration | BS, Mechanical Engineering
Years of Experience: **38** total | **23** with Jacobs

BENEFIT TO CITY: John has more than 30 years of water and wastewater engineering, operations, and maintenance experience. His areas of expertise include process modeling, cost modeling and analysis, energy and chemical optimization, biosolids handling, risk and business process audits, and regulatory compliance. He's also an expert in the use of Intelligent O&M to optimize plant operations and has worked on water and wastewater projects nationwide.

ADDITIONAL SUPPORT STAFF

Mike Matichich
Funding Solutions

MS, Urban and Regional Planning | AB, Politics and Government
Years of Experience: **47** total | **44** with Jacobs

BENEFIT TO CITY: Mike leads Jacobs' firm-wide Economic and Financial Services consulting team, which helps clients identify and implement funding, financing, and rate strategies. His relationships and understanding of the funding processes in Washington, DC, will ensure every opportunity for project funding at the state and federal level is identified and explored for the City's evolving future needs.

Sharmila Pant, PE
Geotechnical

MS, Civil Engineering | BS, Civil Engineering
Years of Experience: **9** total | **9** with Ardaman

BENEFIT TO CITY: Sharmila provides geotechnical engineering, materials testing, and environmental assessments for a variety of utility engineering, stormwater management, roadway, and infrastructure projects. She's served as project engineer on numerous geotechnical and construction material testing projects for the City of Port St. Lucie, St. Lucie County, Martin County, and Indian River County.

Sharon Merchant
Community Outreach

Years of Experience: **30** total | **22** with Merchant

BENEFIT TO CITY: President of The Merchant Strategy, Sharon leads an experienced, multi-disciplinary team in providing public involvement, community relations, and governmental relations in the Treasure Coast area. A former member of the Florida House of Representatives, she's built long-lasting relationships with elected officials, community leaders, and decision makers, facilitating outreach to local communities.

David Scott, PE
Permitting

BS, Agricultural and Biological Engineering
Years of Experience: **25** total | **17** with Jacobs

BENEFIT TO CITY: David has extensive experience in water resources, site-civil engineering, and hydraulic and hydrologic modeling in South Florida. He's delivered numerous projects involving the siting and design of water and wastewater treatment and conveyance facilities with complex permitting requirements, including solar energy projects for Florida Power & Light.

Robert Lee, PE
Permitting

Years of Experience: **35** total | **1** with ISS

BENEFIT TO CITY: Robert has over 35 years of experience supporting permitting and water treatment facility projects. He has a broad background managing municipal and private sector improvements, including water and wastewater treatment facilities, utility infrastructure, and site development. He has provided permitting services for the City of Melbourne RO WTP among other projects in Florida.

Kurt Stafflinger, PSM
Surveying

Years of Experience: **35** total | **25** with ISS

BENEFIT TO CITY: Kurt is a Professional Surveyor and Mapper with experience at 40+ treatment facilities. His background includes ALTA/ACSM Land Title Surveys for land development projects, topographic surveying for engineering and planning, and engineering and construction layout and as-built surveying for heavy construction. Project experience includes work for the City of Melbourne and St. Lucie West Services District.

City of Port St. Lucie JEA RO WTP

3 Team Experience with Relevant Projects

3 Experience with Similar Projects

Our client-for-life mentality builds strong, long-lasting partnerships with the clients we serve, providing Port St. Lucie with confidence that "best for project" decisions will guide the design-build process.

FLORIDA'S DESIGN-BUILD PARTNER

More than 30 years ago, Jacobs pioneered integrated design-build delivery in Florida with a 20-MGD expansion of the City of Tampa's Hillsborough River WTP (now the David L. Tippin WTF), increasing plant capacity to 100 MGD. Since then, we've successfully delivered **102 water and wastewater design-build projects for Florida clients.**

More than half of our Florida design-build projects have been performed for repeat clients, demonstrating the effectiveness of our integrated delivery model—with the Engineer and Contractor residing in one company. We're also a leader in the national design-build arena, having delivered more than 300 water and wastewater projects involving a broad range of treatment technologies.

VALUE OF PORT ST. LUCIE KNOWLEDGE

Our teaming partner Tetra Tech brings equally strong membrane treatment experience to your project, with the added benefit of designing your 22.5-MGD JEA and 10-MGD Prineville RO WTPs. Their experience provides an in-depth understanding of your preferences for design and construction, which have been incorporated into our project approach.

Selected Similar Projects

	Project Name	Water	RO ≥10 MGD	Plant Size (MGD)	Construction Value ≥$100M (In today's dollars)	Project Delivery Method	Substantial Completion	Complete Within Last 10 Years	Complex (Multiple Elements, Firms or Design/Construction Packages)	Avoided Community Impacts	Value Added Innovation/Approach
1	RO WTP/Expansion Projects, Bonita Springs, FL	■	■	22	$230.7M	PDB	■	■	■	■	■
2	Norwood WTP, North Miami Beach, FL	■	■	41	$54.2M	PDB/O	■	■	■	■	■
3	Green Meadows WTP, Lee County, FL	■	■	16	$177M	CMAR	■	■	■	■	■
4	Joe Mullins WTP, City of Melbourne, FL	■	■	12	$94.6M	DBB			■	■	■
5	RO WTP, City of Fort Myers, FL	■	■	20	$87M	PDB	■		■	■	■
6	DLTWTF Design-Build Projects, City of Tampa, FL	■		140	$332.4M	PDB	■	■	■	■	■
7	SR 207 WRF, St. Johns County, FL			3.25	$191.8M	PDB			■	■	■
8	Main Street WRF, Gainesville, FL			10	$171.8M	PDB			■	■	■
9	Ave Maria WTP, Ave Maria, FL	■		2.5	$98.7M	PDB/O	■	■	■	■	■
10	Twin Oaks Valley WTP, San Diego, CA	■		100	$631.6M	DBO	■	■	■	■	■

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Our selected projects demonstrate our team's experience with similar projects and components to the Rangeline WTP.

Bonita Springs Utilities

RO WTP Phases I, II, and II Expansions and Lime Softening WTP Improvements

Bonita Spring, Florida

RELEVANT SIMILARITIES

- ✓ RO WTPs ≥ 10 MGD
- ✓ Construction Value ≥ $100M
- ✓ PDB
- ✓ Complexity
- ✓ Value-added Innovation
- ✓ Avoided Community Impacts

START/END DATES
Phase I - 05/2002 - 04/2004
Phase II - 04/2016 - 05/2018
Phase III - 10/2019 - 12/2023

DESIGN/PRECON CONTRACT AMOUNTS
Phase I - $13.4M
Phase II - $2.9M
Phase III - $4.2M

CONSTRUCTION CONTRACT AMOUNTS
Phase I - $154M
Phase II - $34.2M
Phase III - $48.6M

TOTAL DESIGN/PRECON/ CONSTRUCTION AMOUNTS
Phase I - $167.4M
Phase II - $37.1M
Phase III - $52.8M

TOTAL CONTRACT AMOUNT
$257.3M

BUDGET/SCHEDULE
Phase I - Under budget, finished early
Phase II - Under budget, finished early
Phase III - Under budget, finished on time

DELIVERY METHOD
PDB (Prime, Engineer of Record, and Contractor)

PROJECT DETAILS

Since 1995 Jacobs has been a trusted design-build delivery partner for Bonita Springs Utilities (BSU). To help BSU meet rapid growth in the Bonita Springs community, we serve as extension of their staff and have successfully delivered several PDB projects for them. Our planning, engineering design, and construction services have helped BSU achieve its water and wastewater system improvement goals, including source water wells, RO water treatment, deep injection wells (DIWs), and finished water storage and pumping. Projects have been delivered by both traditional and PDB delivery.

Phase I RO WTP

In 2004, we completed PDB delivery of a new 6-MGD RO WTP to boost BSU's water production capacity and treat brackish Floridan aquifer water. The project included the following facilities:

- Storage tank, wellfield, and injection well for concentrate disposal
- Four new 1.5-MGD, two-stage membrane skids
- New degasifier and transfer pumping facilities
- New feed pump and raw water and finished water chemical feed systems
- New 2-MG finished water storage tank
- High-service pumping station (HSPS)

RO Energy Optimization Improvements

In 2013, we conducted an expansion project at the RO WTP to improve facility energy efficiency and operability. It involved installing new energy recovery and membrane elements to reduce the annual operating cost by more than $300K. We modeled the existing RO treatment system and wellfield using our Replica™ dynamic process simulation model to optimize facility controls, RO system setpoints, and well usage, reducing operating costs.

Phase II RO Expansion and Lime Softening Upgrades

Serving as the integrated design-builder, Jacobs designed and constructed upgrades to the RO WTP to meet quickly growing demands and to improve facility reliability. Completed in 2018, the Phase 2 project increased

> *"It is a pleasure working with the Jacobs team down here. The team sets a high standard for everyone to follow, including me.*
>
> **—Kim Hoskins, Director of Engineering, Bonita Springs Utilities**

RO WTP Phases I, II, and II Expansions and Lime Softening WTP Improvements *(continued)*

PSL TEAM MEMBERS

- Ashley Currey, *Executive Sponsor*
- Dave Schoster, *Project Director*
- Joe Elarde, *Lead Process Engineer*
- GJ Schers, *Principal Technologist*
- Pilar Doran, *Design Manager*
- Raul Alfaro, *Process Engineer*
- Dave Everson, *Structural*
- Dave Nicholson, *Electrical*
- Tao Fu, *Process Mechanical*
- Cyrus Saharkhiz, *I&C*
- Ralph Myers, *Preconstruction Mgr*
- Patricia Elder, *Procurement*
- Gary Giordano, *Superintendent*
- Alan Cyrier, *Health and Safety*
- Vernonica Llaneza, *Commissioning*
- Ivan Trullenque, *Scheduler*
- CROM Corporation

REFERENCE

Kim Hoskins, PE
239.992.0711
khoskins@bsu.us

RELEVANCE TO RANGELINE WTP

- Successful, 30-year history serving BSU PDB services
- Application of our Replica™ tool optimized energy at the RO WTP, saving $300,000 annually
- Innovative Phase II design has reduced operating costs at the RO WTP by more than $100K annually

DBIA AWARD

- 2024 | Florida Honor Award | Water/Wastewater

treatment capacity by 2 MGD by retrofitting the RO trains with additional pressure vessels, piping, and membrane elements. This cost-effective expansion increased the capacity of each original 1.5-MGD train to 2 MGD while leveraging excess design capacity within the feed pumps, piping headers, energy recovery devices, and valves. The project also added sand strainers, a degasifier, transfer pumps, and wells.

Lime softening improvements included replacing the lime silo and feed slaking equipment with a hydrated lime storage and feed system. The easier-to-maintain system has improved facility reliability by eliminating common lime storage and feed issues. The lime softening improvements included covering the existing filters and modifying the disinfection design to reliably achieve 4-log virus removal without using valuable finished water storage tank volume. The project also expanded the existing lime softening process from 8 MGD to 10 MGD.

Phase III RO WTP Expansion

Commissioned in 2023, the Phase 3 expansion includes a new Membrane Process Building with two 2-MGD rated RO trains and a bypass blend of fresh well water into both the brackish RO feed water and RO permeate, reducing operating costs by more than $100K annually. The existing wet chemical scrubber was converted to a biological scrubber for the cost-effective treatment of hydrogen sulfide off-gas. The expanded membrane facility, combined with the existing lime softening WTP, can produce 22 MGD of potable water—enough to meet service area needs at build-out. The design can also accommodate the future, low-cost addition of NF to replace the aging lime softening process.

PROJECT CHALLENGES MET

Commissioning New Facilities While Ensuring Water Quality. Starting up the new NF/RO facilities required careful management of the raw water wellfields to ensure appropriate water quality for the new membrane equipment while avoiding impacts to existing facilities. To meet this challenge, we developed a detailed commissioning checklist that compared the quality and quantity of raw water needed against the operational criteria required for successful testing.

Maintenance of Plant Operations. Another challenge during construction was scheduling tie-ins between the new and existing facilities. We worked closely with BSU operations staff to perform large-diameter pipeline connections during low-flow conditions, including scheduling tie-ins during low demand.

Effectively Managing Site Constraints. Much like the City of Port St Lucie new WTP, many of the newly constructed BSU facilities were located near residential neighborhoods. In fact, we constructed two DIWs within the utility right-of-way (ROW), but also within the respective backyards of neighboring homes. Well installation in residential areas required outreach to property owners, careful planning to ensure construction was minimally invasive, and restoration of disturbed property to its original condition.




KEY 2 PROJECT

North Miami Beach Water

Norwood RO/NF WTP Improvements and Operation Services

North Miami Beach, FL

RELEVANT SIMILARITIES

- ✓ RO WTPs ≥ 10 MGD
- ✓ PDB
- ✓ Complexity
- ✓ Value-added Innovation
- ✓ Avoided Community Impacts

START/END DATES
06/2017 - 05/2020

DESIGN/PRECON AMOUNT
$4.3M

CONSTRUCTION CONTRACT AMOUNT
$49.8M

TOTAL CONTRACT AMOUNT
$54.1M

BUDGET/SCHEDULE
Under budget, on time

DELIVERY METHOD
PDB/O (Prime, Engineer of Record, Contractor, and Operator)

PSL TEAM MEMBERS

- Joe Elarde, *Membrane SME*
- Pilar Doran, *QC Manager*
- Raul Alfaro, *Project Engineer*
- Gaibey Zreibi, *Design Manager*
- Dave Schoster, *Constructability and VE*
- *Conner Wright, Project Engineer*
- Dave Everson, *Structural*
- Tao Fu, *Process Mechanical*
- Alan Cyrier, *Safety*
- Ivan Trullenque, *Scheduler*
- Patricia Elder, *Procurement*
- Ralph Myers, *Preconstruction Manager*
- Gary Giordano, *Superintendent*
- Mike Witwer, *Commissioning*
- GJ Schers, *Membrane Commissioning*
- Veronica Llaneza, *Process Engineer*

PROJECT DETAILS

The City of North Miami Beach Water (NMB Water) wanted to implement a program that would enable them to become independent of the Miami-Dade supply. Team firm Tetra Tech worked with NMB Water from 2001 to 2009 on achieving this independence providing planning, funding assistance, public participation, design, permitting, bidding, and construction administration services. The program included expanding the Norwood-Oeffler WTP from 17 to 31 MGD by expanding the Biscayne Aquifer supply, a new Floridan aquifer supply; 15 MGD of nanofiltration (NF) and reverse osmosis (RO) treatment; new chemical, storage, and high-service pumping facilities; a new deep injection well (DIW), and new lime sludge handling facilities.

In May 2017, NMB Water selected Jacobs to provide progressive design-build-operate (PDB/O) services for the 32-MGD Norwood WTP. Built in the late 1940s, the WTP required a significant increase in treatment capacity and improved redundancy to enhance the long-term viability of NMB Water's water supply, treatment, and distribution facilities.

Jacobs' expansion of the Norwood WTP was delivered in the following two phases: Phase 1—Membrane Plant Expansion, and Phase 2—Lime Softening Expansion, both of which were delivered via PDB.

Phase 1—Membrane Plant Expansion

This expansion added 9 MGD of NF/RO membrane treatment capacity. Improvements included a new NF scale inhibitor system, variable frequency drive (VFD) feed pumps, a new NF skid, and upgrades to the existing NF/RO skids, increasing system recovery, operating at higher flux, and immediately reducing operational costs.

Phase 2—Lime Softening Expansion

This expansion rehabilitated and replaced existing equipment at the lime softening facility, including new Floridan and Biscayne aquifer raw water wells, clarifiers, filters, clearwell, backwash tanks, disinfection contact piping, and upgrades to the existing high-service pump stations. A new chemical building, maintenance building, and SCADA control system were completed, along with Ground Water Rule compliance upgrades and other site improvements.

> *Jacobs' improvements increased the recovery rate of the NF/RO WTP by 10%, all within budget and schedule.*
> **—Carlos Carrazana, Former Norwood WTP Manager**

- James Christopher, *Program Manager*
- Jarrett Kinslow, *Project Engineer*

REFERENCE

Pedro Melo
Assistant Director of O&M
954.243.9769
pedro.melo@citynmb.com

RELEVANCE TO RANGELINE WTP

- Value engineering eliminated the need for a membrane building and the cost savings were used to install new filters not originally in the scope
- Integrated PDB delivery streamlined schedule and budget
- Assisted the City in obtaining a $44M WIFIA loan
- Provided WTP contract operations, prioritizing and improving O&M

Norwood RO/NF WTP Improvements and Operation Services *(continued)*

In addition to the capacity improvements, Jacobs worked with NMB Water to develop a master plan that identified and prioritized numerous repair and rehabilitation items at the WTP that required immediate attention. These included repairing cracked concrete tanks and replacing hatched structures to prevent the contamination of treated water.

Elevated walkways with compromised structural components were replaced, along with upgrades to critical instrumentation to achieve regulatory compliance and, rehabilitate automated emergency interconnect valves in the distribution system.

System Operations

From 2017 to 2021, Jacobs operated NMB Water's wells, the Norwood WTP, and the distribution and sanitary sewer systems. During that time, our in-house operations experts prioritized and improved plant O&M through a rigorous preventive maintenance and asset management program.

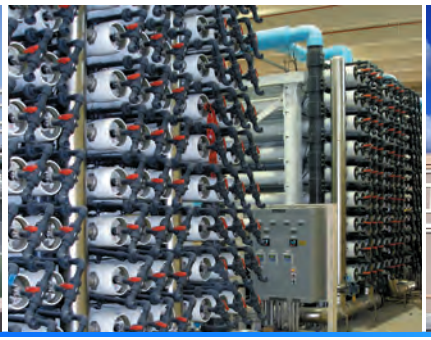
4-log Virus Treatment. We updated the City's tracking systems for compliance with the Ground Water Rule and demonstration of 4-log virus treatment at the WTP. We conducted extensive bench and full-scale testing to optimize color removal and reduce DBP formation potential, evaluating alternative measures such as the addition of metal coagulants, softening at higher pH values, sludge recirculation, replacing polymer, adding oxidants (e.g., potassium permanganate, hydrogen peroxide, chlorine dioxide) and/or sorbents (e.g., hydrous manganese oxides, activated carbon, and magnesium hydroxide) to remove color.

PROJECT CHALLENGES MET

Funding Support. We worked with NMB Water to develop funding applications as part of EPA's Water Infrastructure Finance and Innovation Act (WIFIA). In 2020, the City received a $44 million WIFIA loan to help finance the expansion and rehabilitation of the Norwood WTP and distribution system.

Expedited Schedule. To make capital project delivery more efficient, we prioritized NMB Water's capital improvement plan (CIP), identifying the most time-critical projects for expedited delivery. These included membrane treatment improvements at the Norwood WTP, which Jacobs went on to self-perform by design-build delivery, further expediting schedule.

Meeting Budget Through Value Engineering. During Phase 1, we worked with the City to evaluate the current and future needs of the WTP to address budgetary constraints. As part of our value engineering (VE) process, we increased the membrane plant capacity during Phase 1, eliminating the need to construct the membrane building planned for Phase 2. The savings from eliminating the membrane building allowed the City to install new filters, which weren't originally in the Phase 2 scope.


KEY 3 PROJECT

Lee County Utilities

Green Meadows RO and Ion Exchange WTP and Wellfield Expansion

Fort Myers, FL

RELEVANT SIMILARITIES

- ✓ RO WTPs ≥ 10 MGD
- ✓ Complexity
- ✓ Value-added Innovation
- ✓ Avoided Community Impacts

START/END DATES
01/2013 - 10/2018

DESIGN/PRECON AMOUNT
$14.1M

CONSTRUCTION CONTRACT AMOUNT
$162.8M

TOTAL CONTRACT AMOUNT
$177M

BUDGET/SCHEDULE
Under budget, on time

DELIVERY METHOD
CMAR (Engineer)

PSL TEAM MEMBERS

- Joe Elarde, *Sr. Process and Construction Engineering Support*
- GJ Schers, *Plant Startup*
- Pilar Doran, *Design Manager*
- Ralph Myers, *Lead Estimator*
- Alan Cyrier, *Safety Manager*
- Mike Witwer, *Commissioning*
- Patricia Elder, *Procurement*
- Dave Everson, *Structural*
- Dave Nicholson, *Electrical*
- Don Lythberg, *Electrical*
- Tao Fu, *Process Mechanical*
- Cyrus Saharkhiz, *I&C*
- CROM Corporation

PROJECT DETAILS

Lee County Utilities' new Green Meadows WTP—a first-of-its-kind plant in southwest Florida—combines new and existing technologies to treat water from three different aquifers using the latest, large-scale treatment technologies. The 16-MGD facility replaced a lime softening plant that was at the end of its useful life. Completed in 2018, the project was delivered by construction management at-risk (CMAR), with Jacobs serving as the Engineer of Record and Poole & Kent responsible for process mechanical construction.

Facility Design

The WTP includes an RO system for desalinating upper Floridan aquifer water, paired with an innovative ion exchange (IX) system consisting of cation and anion exchange to remove iron, hardness, and organics from the surficial aquifer (fresh water), freshwater blending using a third fresh aquifer source, degasification, disinfection, and finished water chemical addition.

Innovative IXa and IXc treatment technologies have increased water supply treatment flexibility and reliability while reducing operational and treatment costs by as much as 60%. This blend of proven, innovative technologies combined under a single system provides a dynamic, cost-effective treatment plant that increases the County's water supply treatment flexibility and reliability, while providing a minerally balanced finished water quality.

Our Replica™ dynamic process simulation model was used to identify the best value solution meeting all of the County's treatment objectives, followed by a 1-year pilot study to confirm the most economical and efficient options for treating all three water sources. At full capacity, the plant produces 7.5 MGD of RO treatment, 3.9 MGD of IX treatment, and 4.6 MGD of sandstone aquifer blend production. Replica™ process modeling tools included:

- Water quality and treatment modeling to quickly identify the impacts on treatment when blending three different groundwater supplies and to optimize options for further pilot testing to confirm and develop design criteria

> *This new water treatment plant uses modern technology and reduces the use of energy and chemicals, driving new efficiencies in water treatment while maintaining the same high-quality water to residents.*
>
> — Cecil Pendergrass, Board Chairman

Green Meadows RO and Ion Exchange WTP and Wellfield Expansion CMAR *(continued)*

REFERENCE
Damon Hardy
239.357.3546
dhardy@leegov.com

RELEVANCE TO RANGELINE WTP

- Project was delivered $1.5M under GMP despite experiencing numerous "forces of nature"
- Won the Global Water Intelligence 2019 Global Water Project of the Year
- Replica™ simulation tool identified the best value solution for the County

- Dynamic simulations during preliminary and final design to model and optimize energy efficiency, hydraulics, and process control
- Parametric design estimating tools to develop costs for several treatment variations and capacities to help the County define the best value option

The Green Meadows WTP serves an estimated 30,000 homes and businesses, with the capacity to serve up to 60,000, and includes a process building; office/operations building; standby generator; shared chemical systems; raw water sand strainers; a backwash waste pumping station; eight upper Floridan aquifer wells; modifications to 27 existing wells; seven electrical buildings; a 2,873-foot deep injection well to dispose of treatment concentrate; 8 miles of production well piping; and 5 miles of service road to the production wells.

PROJECT CHALLENGES MET

Funding Support. Jacobs provided grant funding assistance, permitting, hydrogeologic services, services during construction, start-up, and operations training. In addition, we worked seamlessly with the CMAR to divide the project into separate components, including (1) early site work, (2) water treatment facility, and (3) wells and pipelines to allow an early start and minimize downtime and schedule. The facility was commissioned in 2018.

Innovative Design. Developing a robust treatment process to treat all three water sources was a significant challenge. We identified cation and anion ion exchange as the most cost-effective and reliable process for blending fresh water sources and the new RO system for brackish source water. The RO concentrate and seawater wells effectively regenerate the cation exchange to significantly reduce operating costs.

Award-Winning Design. One of biggest challenges faced during delivery of the Green Meadows WTP were forces of nature. In January 2016, Lee County experienced its wettest January ever followed by multiple wildfires, causing hazardous work conditions in the spring of 2017, which were compounded by the impacts of Category 3 Hurricane Irma, which arrived in September 2017.

Jacobs worked with the CMAR to review and confirm the resiliency of the site and facility designs and to re-sequence work to make up for lost time. Despite the challenges, the project was delivered $1.5 million under budget, resulting in savings for the County. In recognition of the treatment process complexity and overall delivery success, the project was awarded the Global Water Intelligence 2019 Water Project of the Year.




KEY 4 PROJECT

City of Melbourne

Joe Mullins RO WTP Project

Melbourne, Florida

RELEVANT SIMILARITIES

- ✓ RO WTPs ≥ 10 MGD
- ✓ Complexity
- ✓ Value-added Innovation
- ✓ Avoided Community Impacts

START/END DATES
09/2023 - Ongoing

DESIGN AMOUNT
$4.8M

CONSTRUCTION CONTRACT AMOUNT
$89.8M

TOTAL CONTRACT AMOUNT
$94.6M (estimated)

BUDGET/SCHEDULE
Currently under budget, currently on time

DELIVERY METHOD
DBB (Design, Bid Support, and Construction Engineering Services)

PSL TEAM MEMBERS
- GJ Schers, *Project Manager*
- Pilar Doran, *Design Manager*
- Raul Alfaro, *Engineering Manager*
- Joe Elarde, *Membrane Technologist*

REFERENCE
Jennifer Spagnoli
321.608.5000
jspagnoli@melbourneflorida.org

PROJECT DETAILS

The City of Melbourne operates two primary water treatment facilities: the John A. Buckley Surface Water Treatment Plant (WTP) and the Joe Mullins Reverse Osmosis (RO) WTP. Together, these facilities provide a reliable supply of clean drinking water for the community. Commissioned in 1995, the 5-MGD Joe Mullins RO WTP treats brackish groundwater drawn from four production wells located 650 to 850 feet underground. Each well yields around 3.1 MGD, feeding into a facility with a total treatment capacity of 5.0 MGD and a 4-million-gallon storage tank. The RO process uses semi-permeable membranes to remove the majority of contaminants, producing high-quality drinking water through two treatment trains, each capable of generating 2.5 MGD.

RO WTP Improvement Services

To meet growing demand and replace aging infrastructure, the City sought to double the RO plant's capacity and add six new wells to improve reliability and performance.

Operational challenges at the existing facility included outdated equipment, inaccessible piping, limited filtration redundancy, and an undersized cleaning system. The post-treatment setup—where groundwater and surface water are blended—created a single point of failure, while the below-grade high-service pumps were vulnerable to flooding.

Jacobs was contracted to design a new 12-MGD reverse osmosis water treatment facility, expandable to 15 MGD, at the Joe Mullins site. Drawing on more than 40 years of membrane treatment experience, Jacobs' design improves operational flexibility, water quality, and life-cycle efficiency while integrating seamlessly with Melbourne's existing infrastructure. The company also provided funding support services to help reduce financial impacts on ratepayers, underscoring its commitment to sustainable, resilient water management.

> *The Joe Mullins RO WTP taps into an underground supply, reducing the community's reliance on Lake Washington.*
> **—City of Melbourne Long-Range Plan**

RELEVANCE TO RANGELINE WTP

- Jacobs is leading the design and delivery of the new 12-MGD RO facility
- Project goals include greater operational flexibility, improved finished water quality, and minimized life-cycle costs
- Improved facilities for sustainable water management and long-term resilience in water supply systems
- Close collaboration with City staff and stakeholders, including application of best practices from comparable Florida RO facilities

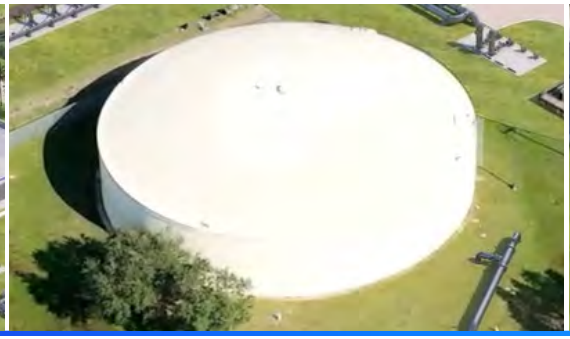
Joe Mullins RO WTP Project *(continued)*

The new facility replaces the aging 5-MGD plant originally designed in the 1990s by a predecessor firm later acquired by Jacobs. It includes sand strainers, cartridge filtration, and four 3-MGD RO skids (with space for a fifth), along with new degasification and biological odor control systems, a clearwell and transfer pumping system, and a high-service pump station connected to existing storage and wells. The design incorporates site electrical and civil work, master planning for integration with existing assets, and provisions for future high-recovery RO skids to maximize limited source water. Jacobs is providing permitting, bid support, and construction-phase engineering services, with construction scheduled to begin in early 2026.

PROJECT CHALLENGES MET

Collaborative Design. Jacobs developed the design after collaborative site visits to similar plants, including Green Meadows, Bonita Springs, Cape Coral, and Carter County, to integrate best practices and design concepts that align with client preferences and needs.

Avoided Community Impacts. Jacobs worked closely with the new plant's many neighbors and the City to create a neighborhood-friendly facility that balances technical performance with community integration. The design emphasizes aesthetics, noise and odor control, and visual screening, incorporating architectural treatments, landscaping, and a compact site layout to minimize the plant's footprint and visual presence.



City of Fort Myers

RO WTP and Wellfield Expansion Project

Fort Myers, Florida

RELEVANT SIMILARITIES

- ✓ RO WTPs ≥ 10 MGD
- ✓ PDB
- ✓ Complexity
- ✓ Value-added Innovation
- ✓ Avoided Community Impacts

START/END DATES
RO WTP - 03/2003 - 10/2004
Wellfield - 01/2007 - 08/2008
Tetra Tech Expansion - 01/2025 - 11/2028

DESIGN/PRECON CONTRACT AMOUNTS
RO WTP - $4M
Wellfield - $2.4M
Tetra Tech Expansion - $3.7M

CONSTRUCTION CONTRACT AMOUNTS
RO WTP - $46.6M
Wellfield - $33.8M
Tetra Tech Expansion - $75.5M (estimated)

TOTAL DESIGN/PRECON/ CONSTRUCTION AMOUNTS
RO WTP - $50.6M
Wellfield - $36.2M
Tetra Tech Expansion - $79.2M

TOTAL CONTRACT AMOUNT
Jacobs - $86.8M
Tetra Tech - $79.2M

BUDGET/SCHEDULE
RO WTP - Under budget, on time
Wellfield - Under budget, on time
Tetra Tech Expansion - On budget, on time

DELIVERY MODEL
RO WTP, Wellfield - PDB
Tetra Tech Expansion - CMAR

PROJECT DETAILS

The City of Fort Myers WTP was built in the early 1990s. The plant was designed as a nanofiltration (NF) membrane softening facility treating surficial groundwater. In 2003, Jacobs was selected to upgrade the WTP to RO treatment and again in 2009 to expand the wellfield. Since then, the WTP has been operating 24/7 to reliably serve nearly 100,000 residents with high-quality drinking water. With a rated capacity of 12 MGD and a daily demand of 6.5 MGD, the facility consistently meets or exceeds state and federal water quality standards.

RO WTP and Wellfield Expansion

To provide continued reliability and performance amid increasing feedwater salinity and aging infrastructure, the City selected Jacobs to design a comprehensive expansion and upgrade at the WTP. Key improvements included the following:

- Two degasifiers—modified clearwell and installed two new upsized degasifiers
- Membrane feed pumps—installed four new 500 horsepower membrane feed pumps/motors
- RO equipment—installed three new and upgraded three existing RO skids with membrane elements
- Production wells—drilled and commissioned the new raw water production wells added for the WTP expansion in 2004 and the wellfield expansion in 2009
- Raw water sand strainers—added two new sand strainers, which eliminated the problems associated with sand production in the Floridan wells
- Upgraded plant control—added new process flow control valves to the new and existing membrane trains and worked with the control system programmer to improve process control
- Upgraded plant electrical—new 18- and 6-pulse variable frequency drives; new 3,000-amp plant electrical gear; lighting protection for new and existing wells; fiber optics for transmission main; various valve and piping upgrades in the existing RO trains; and Americans with Disabilities Act modifications to the plant to bring the plant into compliance with regulations

> *The first thing that comes to mind about (Jacobs) is quality – the quality of your work and the caliber of your people is top notch. I appreciate that when dealing with your engineers or construction staff that everyone goes out of their way to make sure the project is successful and that the City is 100-percent satisfied. We also really appreciate that you listen to us and incorporate our ideas with your expertise. Having worked with (Jacobs) over the past 12 years on various wellfield and water plant projects, including design-build delivery, I would highly recommend their services for other similar projects.*
>
> **—Byron Weightman, Former City of Fort Myers WTP Superintendent**

PSL TEAM MEMBERS

- Joe Elarde, *Project Engineer/ Lead Process Designer*
- Dave Schoster, *Project Engineering Support*
- Pilar Doran, *Design Manager*
- Ralph Myers, *Estimating Support*
- Gary Giordano, *Superintendent*
- Alan Cyrier, *H&S Manager*
- Jarrett Kinslow, *Membrane Treatment Advisor*

REFERENCE

Richard Moulton
239.321.7216
rmoulton@cityftmyers.com

QUALITY AND INNOVATION

- Conversion of a lime softening plant to RO treatment
- WTP consistently produces high-quality drinking water that exceeds standards
- More efficient processes have reduced the cost of treatment to $1.12 per thousand gallons treated

RO WTP and Well Field Expansion Project *(continued)*

The RO system draws water from the Upper Floridan Aquifer via 27 wells approximately 800 feet deep and uses 2,688 low-pressure membrane elements—manufactured by TriSep, Dow, and Hydranautics—in a two-stage configuration to treat the brackish source water.

As design-builder for the project, Jacobs was responsible for delivery, from planning and preliminary design, through design, construction, commissioning, and start-up.

PROJECT CHALLENGES MET

- Installation of membrane feed pumps sized for the higher flow and pressure requirements of an RO system
- Use of corrosion-resistant materials that can withstand the higher salinity of the brackish feed and concentrate waters
- Replacement of NF membranes with high salt-rejection RO membrane elements
- Changes in recovery, staging, and flux rates in the membrane system
- Replacement of mechanical components not rated for the higher pressures associated with RO membranes
- Modification of the degasifiers to remove higher levels of sulfide found in deep brackish wells
- Adjustments to post-treatment chemical feed strategies, including different corrosion inhibitors, higher finished-water pH, and carbon dioxide to help stabilize the finished water
- Change from surface water discharge to an injection well for concentrate disposal

Improved Performance

The Fort Myers WTP is fully automated and operated by state-certified personnel, with an annual operating budget of approximately $2.8 million—resulting in a cost of $1.12 per thousand gallons treated. These upgrades ensure the facility can reliably produce 13 MGD while addressing long-standing maintenance and operational challenges, securing safe and sustainable water service for the Fort Myers community.

Current WTP Expansion

Tetra Tech is currently serving as a subconsultant on a team involved in the expansion of the plant and the project is being delivered under a CMAR model. A key role for Tetra Tech is providing operability reviews and startup commissioning planning throughout the design phase. In addition, the Tetra Tech team is responsible for HVAC and plumbing mechanical design, as well as structural design services for the plant rehabilitation and expansion improvements.

During the preliminary design phase, Tetra Tech's process engineers supported the prime in developing a phased expansion concept. This approach enables the existing plant to remain operational while systematically phasing out the current RO treatment systems as new equipment is brought online.

KEY 6 PROJECT

City of Tampa

David L. Tippin WTF Design-Build Projects

Tampa, Florida

RELEVANT SIMILARITIES

- ✓ Construction Value ≥ $100M
- ✓ PDB
- ✓ Complexity
- ✓ Value-added Innovation
- ✓ Avoided Community Impacts

START/END DATES
DLTWTF Expansion - 09/1999 - 09/2002
HSPS Improvements - 07/2019 - 02/2025

DESIGN/PRECON CONTRACT AMOUNTS
DLTWTF Expansion - $15.7M
HSPS Improvements - $5.5M

CONSTRUCTION CONTRACT AMOUNTS
DLTWTF Expansion - $217.2M
HSPS Improvements - $93.9M

TOTAL DESIGN/PRECON/ CONSTRUCTION AMOUNTS
DLTWTF Expansion - $233M
HSPS Improvements - $99.4M

TOTAL CONTRACT AMOUNT
$332.4M

BUDGET/SCHEDULE
DLTWTF Expansion - Under budget, finished early
HSPS Improvements - Under budget, on time

DELIVERY METHOD
PDB (Prime, Engineer of Record & Contractor)

PSL TEAM MEMBERS
- Ashley Currey, *Executive Sponsor*
- Dave Schoster, *Project Manager*
- Joe Elarde, *Lead Process Designer*
- Mike Witwer, *QC Reviewer*
- Conner Wright, Project Engineer
- Pilar Doran, *QC Manager*
- Maureen Kussler, *Architecture*

PROJECT DETAILS

Jacobs was design-builder for the City of Tampa's award-winning David L. Tippin Water Treatment Facility (DLTWTF) expansion, which increased capacity to 100 MGD. In 2019, the City again selected Jacobs as its trusted design-builder to deliver one of its most risky and fast-paced projects—the High Service Pump Station (HSPS) and Miscellaneous Improvements project at the DLTWTF.

Original DLTWTF Expansion

We shared performance risk for the original DLTWTF expansion, which improved taste and odor of the City's water supply. The project included a new 1,000-HP high service pump and piping; clearwell and water blending modifications; new finished water blending chamber; disinfection and chemical feed modifications; low lift pump station, ozone contactor and generation facility; new Actiflo process; new back wash pump station; filter replacements; new generator and Electrical Building; new gravity thickener; and associated yard piping, electrical, and I&C.

This expansion posed significant risks and challenges, which carefully addressed a fast-track schedule, critical tie-ins, deep excavations next to an existing structure with a high ground water level, design of water-tight structures that addressed groundwater buoyancy, maintenance of plant operations during construction, water quality and blending/mixing challenges, and complex hydraulic modeling.

HSPS and Miscellaneous Improvements

In 2019, we were selected to upgrade aging infrastructure at the DLTWTF that was impacting plant reliability. This project has included design and construction of a new 140-MGD pump station featuring eight vertical turbine pumps (six active/two standby), along with a new chlorine contact chamber, influent and effluent structures, new 1-MG clearwell, and modifications to existing clearwells. The project also includes demolition of existing facilities and upgrades to the electrical switchgear building and electrical distribution system.

> *"Jacobs' commitment to transparency and open communication during the GMP process ensured there were no unexpected surprises, making this project a true success."*
>
> **— Rory Jones, Water Department Director, City of Tampa**

- Kevin Kuehn, *Architecture Design*
- Dave Everson, *Structural*
- Tao Fu, *Process Mechanical*
- Cyrus Saharkhiz, *I&C*
- Dave Nicholson, *Electrical*
- Don Lythberg, *Electrical*
- Ralph Myers, *Preconstruction Mgr*
- Patricia Elder, *Procurement*
- Gary Giordano, *Superintendent*
- Bernie Jacobsen, *I&C*
- Alan Cyrier, *Safety Manager*
- Ivan Trullenque, *Scheduler*

REFERENCE

Rory Jones
813.274.7105
rory.jones@tampagov.net

RELEVANCE TO RANGELINE WTP

- Successful, 20+ year history serving the City of Tampa
- Served as integrated design-builder for $150M+ in water system improvements
- Original expansion reached construction completion milestones 5 months early on a major expansion, returning $2.4M to the City
- Exemplifies ability to manage complex, multi-phase construction within active facilities via intricate construction sequencing and seamless systems integration

DBIA AWARD

- 2025 | Florida DBIA Water/ Wastewater Merit Award

David L. Tippin WTF Design-Build Projects *(continued)*

PROJECT CHALLENGES MET

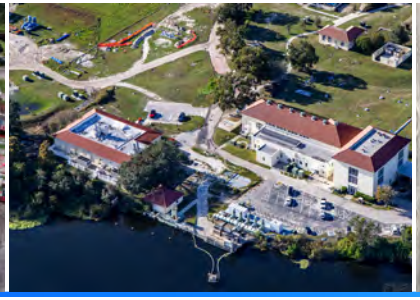
Schedule and Budget (DLTWTF Expansion). We closely managed the design, scope, and schedule, and implemented VE measures in collaboration with the City to deliver an aggressive GMP. As a result of these cost-saving measures, we were able to include additional upgrades outside the original scope within the original GMP while reaching construction completion milestones 5 months early, returning $2.4 million to the City. These savings were used to fund facility upgrades beyond the original scope of work while holding the $233 million GMP. Also, with careful planning during preconstruction, construction, and commissioning, water production commenced 54 days earlier than the target date while maintaining 24/7 plant operations.

Maintaining Continuous Operations. The project involved over 27 planned tie-ins, shutdowns, and system clearances in this 100-year-old facility, each requiring coordination and approval from the Department of Health. These complex activities were meticulously planned and executed to maintain uninterrupted water service to the community. To accomplish this, Jacobs developed detailed preliminary commissioning and tie-in plans early in design, well before the 30% design milestone. Plans evolved through construction, incorporating feedback from subcontractors during the GMP phase. For every planned tie-in, the team confirmed all materials and components were in place prior to shutdown. Strict contingency planning and risk mitigation strategies were implemented to allow for completion within the allotted time—often under 4 hours—to maintain operational reliability and regulatory compliance.

Despite the plant's age and lack of initial flexibility for expansion, the team successfully adapted designs and sequencing to keep the facility online throughout construction. The experience demonstrates Jacobs' proven expertise in delivering critical infrastructure upgrades under stringent operational, electrical, and mechanical constraints.

Budget and Permitting (HSPS). We saved the City $2.6 million during the delivery of GMP 2 by breaking the work into additional bid packages and saved an additional $1.4 million by optimizing the shoring and excavation work. Jacobs also partnered with the City and FDEP to obtain the first ever zero discharge stormwater conceptual permit and two individual ERPs in only 9 months.






KEY 7 PROJECT

St. Johns County Utility Department

State Road 207 Water Reclamation Facility

St. Augustine, Florida

RELEVANT SIMILARITIES

- ✓ Construction Value ≥ $100M
- ✓ PDB
- ✓ Complexity
- ✓ Value-added Innovation
- ✓ Avoided Community Impacts

START/END DATES
09/2022 - 04/2026

DESIGN/PRECON AMOUNT
$13.5M

CONSTRUCTION CONTRACT AMOUNT
$178.2M

TOTAL CONTRACT AMOUNT
$191.8M

BUDGET/SCHEDULE
Currently under budget, currently on time

DELIVERY METHOD
PDB (Prime, Engineer of Record, and Contractor)

PSL TEAM MEMBERS

- Ashley Currey, *Executive Sponsor*
- Dave Schoster, *Project Mgr/Dir*
- Dean Ressler, *Construction Mgr*
- Gaibey Zreibi, *Design Mgr*
- Alan Cyrier, *Safety Mgr*
- Ralph Myers, *Preconstruction Mgr*
- Grant Misterly, *Client Service Lead*
- Dave Everson, *Structural*
- Tao Fu, *Process Mechanical*
- Cyrus Saharkiz, *I&C*
- Brandon Russakis, *Plumbing/HVAC*
- Rick Hegarty, *Superintendent*
- Dave Nicholson, *Electrical QC*
- Bernie Jacobsen, *I&C*
- Patricia Elder, *Procurement*
- CROM Corporation

PROJECT DETAILS

Jacobs is design-builder for St. Johns County's largest capital improvements project to date—the new $191.8 million SR 207 WRF. This greenfield facility will initially treat 3.5 MGD of wastewater and will be expandable to 6.5 MGD through long-range facility master planning. The project includes a new WRF, offsite master lift and booster pump stations, and 14.4 miles of large-diameter conveyance piping to deliver reclaimed water for landscape irrigation through the county's reclaimed water distribution system.

The new WRF will help the County comply with Senate Bill 64, a Florida law passed in 2021 that requires the state-wide elimination of non-beneficial surface water discharges by January 1, 2032. The new WRF will also expand the capacity of the County's wastewater system to address growth and reduce wastewater flows to the Anastasia Island WRF, which is located on a barrier island and vulnerable to storm events. The project will allow the Anastasia Island facility to better handle large storm flows and reduce the discharge of nutrients to the Matanzas River, an environmentally sensitive water body.

Due to the limited capacity of the County's existing wastewater treatment system and projected growth, the project is being delivered under a fast-tracked, 43-month schedule. To expedite schedule, we were initially contracted by the County's Utilities Department in September 2022 to undertake design and early construction work, and we were awarded a subsequent contract amendment in December 2023 to complete construction.

Thanks to our leadership in permitting and early collaboration, site construction began just 6 months after notice to proceed, which was made possible by securing the FDEP wetland permit in record time.

> *"Recycled water is part of our plan in St. Johns County to be more sustainable, to diversify our water supplies and to protect the environment. With Jacobs' support, construction of the SR 207 WRF will quickly expand our recycled water capacity and accommodate future growth for many years to come."*
>
> **—Colin Groff, Former Deputy County Administrator, St. Johns County Utilities Department**

State Road 207 Water Reclamation Facility *(continued)*

REFERENCE
Gordon Smith
Assistant Utility Director
904.209.2709
gordon.smith@sjcfl.us

RELEVANCE TO RANGELINE WTP

- Fast-track design-build delivery of the County's largest CIP project
- Site construction began just 6 months after the NTP
- Secured an FDEP wetland permit in record time, keeping the project on schedule

PROJECT CHALLENGES MET

Fast-Tracked Schedule with Cost Savings. Our focus on expedited permitting and parallel site design allowed civil construction to begin while facility design progressed. In addition, we facilitated early procurement of $30 million in major equipment and piping as Owner Direct Purchases (ODP), accelerating the schedule and saving the County more than $2 million in taxes. We further reduced project cost by $23 million through strategic GMP repackaging and assuming additional risk

Ability to Manage Complex Projects. This multi-faceted project is being delivered under a tight timeline and budget, with numerous stakeholders, easements, and permits. The project addresses key drivers, including compliance with Florida Senate Bill 64, rapid regional growth, and long-term sustainability goals. The facility is designed to support 100% beneficial reuse of treated flows and includes energy-efficient systems, odor control, nutrient reduction strategies, and advanced treatment technologies to protect the Matanzas River.

Future Proof Design. Working closely with the Utilities Department, we developed a flexible facility layout to accommodate future expansion and challenging regulatory requirements. Our team collaborated closely with County staff, and we continuously adjusted our work plans and approaches to meet the County's aggressive technical, budget, schedule, permitting, growth, and regulatory goals.




KEY 8 PROJECT

Gainesville Regional Utilities

Main Street WRF Capacity and Renewal Upgrades

Gainesville, Florida

RELEVANT SIMILARITIES

- ✓ Construction Value ≥ $100M
- ✓ PDB
- ✓ Complexity
- ✓ Value-added Innovation
- ✓ Avoided Community Impacts

START/END DATES
Phase I - 07/2020 - 06/2026
Phase II - 09/2023 - Ongoing

DESIGN/PRECON CONTRACT AMOUNTS
Phase I - $600K
Phase II - $7.9M

CONSTRUCTION CONTRACT AMOUNTS
Phase I - $41.9M
Phase II - $116M (estimated)

TOTAL DESIGN/PRECON/ CONSTRUCTION AMOUNTS
Phase I - $42.5M
Phase II - $123.9M (estimated)

TOTAL CONTRACT AMOUNT
$166.4M

BUDGET/SCHEDULE
Phase I - Currently under budget, currently on time
Phase II - Currently under budget, currently on time

DELIVERY METHOD
PDB (Prime, Engineer of Record, and Contractor)

PSL TEAM MEMBERS
- Grant Misterly, *Project Manager*
- Ashley Currey, *Executive Sponsor*
- Dave Schoster, *DB Advisor*
- Alan Cyrier, *Safety Mgr*
- Ralph Myers, *Preconstruction Mgr*
- Pilar Doran, *Design Mgr*
- Gary Giordano, *Constructability/VE*
- Dave Everson, *Structural*
- Tao Fu, *Process Mechanical*

PROJECT DETAILS

Gainesville Regional Utilities (GRU) and Jacobs have partnered over the past 40 years to deliver successful projects throughout the City's water and wastewater facilities. These projects have improved treatment and operational efficiency at the Main Street WRF, Kanapaha WRF, and Murphree WTP as well as helped improve operation and efficiency in their collection and distribution systems.

Main Street WRF Capacity & Renewal

The project is expanding the MSWRF from 7.5 MGD to 10 MGD, improving the treatment process, and replacing aging infrastructure at almost every facility on the site. Because the plant is located in downtown Gainesville, there is limited available space for plant expansion, making the project challenging. The project scope includes replacing the influent piping to the facility, a new master lift station, new headworks (screens, grit, odor control), new fine screens, new biological nutrient removal basin, conversion of one treatment train to a membrane bioreactor (MBR), UV disinfection (for the MBR), rehabilitation of two clarifiers, structural improvements to the chlorine contact basin, three new electrical buildings and backup generators, and new O&M buildings.

PROJECT CHALLENGES MET

Challenging Market Conditions. In late 2023, we noticed an industry wide reduction in bids because subcontractors were so busy. To address this challenge on GRU's project, we adjusted our market outreach process, aligning bid package release with subcontractor availability, aligning bid packages with the capacity of available qualified bidders, and increasing outreach to local subcontractors. Our local market outreach increased participation, resulting in multiple qualified bids, while also providing local, qualified subcontractors with the opportunity to work with GRU. This innovative approach yielded bids that met GRU's budget, saving millions of dollars and returning money to the local economy.

> *Because of Grant's leadership, we have created an environment that rarely occurs on teams: combining highly technical engineering staff and hands-on field staff. This team works together for the best solution, with mutual respect and a lot of laughs along the way. Without Grant's leadership and partnership, our team would not be nearly as efficient and engaged as they have been through the design and construction.*
>
> **—Rachel Lochart, Project Manager, Gainesville Regional Utilities**

- Dave Nicholson, *Electrical*
- Rich Morrison, *Site/Civil*
- Cyrus Saharkhiz, *I&C*
- Brandon Russakis, *Plumbing/HVAC*

REFERENCE

Rachel Lockhart
352.393.1618
lockhartra@gru.com

RELEVANCE TO RANGELINE WTP

- More than 40-year partnership with GRU
- Serving as integrated design-builder for a $175M PDB
- Assisted GRU in obtaining and administering $22.5M in federal funding
- Project Manager Grant Misterly is recognized by GRU for quality project management, communication, and collaboration

Main Street WRF Capacity and Renewal Upgrades *(continued)*

Keeping the Facility Operational. Given capacity and site constraints while making these improvements, GRU's leadership describes the project as "changing the tires on a car that's traveling 75 mph down the interstate." Jacobs' commissioning and construction team worked closely with GRU's leadership and O&M staff to manage operation of the plant while building new facilities. For example, the project involved replacing all of the influent piping to the plant to make room for the improvements – this required bypass pumping the entire plant flow for 6 months.

The team developed processes and mitigation strategies for managing this through multiple hurricanes – after successful completion Grant & GRU presented their "Keys to Success" at the national ASCE Pipelines Conference in August 2025. Another example is that constructing the MBR requires demolishing one of the three current treatment trains that GRU has. The Jacobs commissioning, construction, and engineering teams developed various options outlining the risks, costs, and outage durations to develop a strategy with GRU. Ultimately, GRU weighed each of these factors to agree on a path forward.

Meeting Funding Challenges. This is the GRU water/wastewater department's largest capital project to date and funding it is a significant challenge. Jacobs worked closely with GRU to prepare an application for a water quality grant for the Phase 1 work through FDEP. Ultimately, the application was successful and FDEP awarded GRU a $22.5-million grant (the largest award of the year). Jacobs is currently helping administer the grant.

Managing Subcontractor Risks. GRU wanted to utilize small, local contractors to help them develop through this project. For one of the subcontractor packages, a local subcontractor's bid came in much lower than other bids. Jacobs worked with them to review and confirm their bid, but it was still a risk. To mitigate the risk, Jacobs and GRU created a contingency budget specifically to expedite helping that contractor if needed. During construction there were several areas where the subcontractor was falling behind schedule and Jacobs used some of the contingency to mobilize additional resources to get the project back on schedule – this strategy saved GRU millions of dollars and helped grow knowledge and expertise for the local subcontractors.

Ave Maria Utility Company

RO WTP Design-Build Projects

Ave Maria, Florida

RELEVANT SIMILARITIES

- ✓ PDB
- ✓ Complexity
- ✓ Value-added Innovation
- ✓ Avoided Community Impacts

START/END DATES
Phase I - 07/2004 - 09/2006
Phase II - 01/2023 - 11/2025

DESIGN/PRECON CONTRACT AMOUNTS
Phase I - $5.6M
Phase II - $2.2M

CONSTRUCTION CONTRACT AMOUNTS
Phase I - $65M
Phase II - $25.7M

TOTAL DESIGN/PRECON/ CONSTRUCTION AMOUNTS
Phase I - $70.6M
Phase II - $28M

TOTAL CONTRACT AMOUNT
$98.6M

BUDGET/SCHEDULE
Phase I - Under budget, on time
Phase II - Currently under budget, currently on time

DELIVERY METHOD
Phase I: PDB/O (Prime, Engineer of Record, and Contractor and Operator)
Phase II: PDB (Prime, Engineer of Record, and Contractor)

PSL TEAM MEMBERS
- Ashley Currey, *Executive Sponsor*
- Dave Schoster, *DB Advisor*
- Conner Wright, *Project Engineer*
- Joe Elarde, *Process Designer*
- Ralph Myers, *Estimating*
- Alan Cyrier, *Health and Safety*

PROJECT DETAILS

Located on 5,000 acres of former farmland, the newly developed Ave Maria community needed a trusted partner to offer high-quality water treatment while meeting tight schedule and budget constraints. CH2M (now Jacobs) began the Phase 1 $19 million design-build-operate (DBO) project in 2005, including design, permitting, and construction, and long-term operation of the facilities until 2015.

Master Planning

Jacobs' 2006 master plan established a scalable, long-term vision for the plant, addressing both the immediate needs of a growing community and future expansion. The site layout and infrastructure were designed for flexibility, allowing efficient expansion as capacity demands increased. Over the years, the plan has supported multiple updates and expansions, demonstrating Jacobs' commitment to resilient, sustainable infrastructure that continues to meet evolving needs.

Phase 1 Design

The 1.67-MGD WTP, expandable to 5 MGD, treats lower Tamiami aquifer water using two nanofiltration (NF) membrane trains, each designed to produce 0.83 MGD of permeate. The WTP has the capability to bypass blend up to 0.32 MGD of lower Tamiami aquifer water, for a total WTP capacity of 1.99 MGD. In addition to the two NF trains and bypass blending, the treatment process includes cartridge filters, chemical pretreatment, degasifier, finished water clearwell, post-treatment chemical stabilization, transfer pumping, finished water storage, and high service pumping. Concentrate is transferred to a new 1.25-MGD WRF, also designed, built, and operated by Jacobs.

On-Schedule, Award-Winning Delivery

We completed the WTP 5 days ahead of schedule and the WRF on schedule. We also provided funding support, helping the utility get $900,000 in grants from the South Florida Water Management District (SFWMD) for the community's water reuse program. The design quality is demonstrated by its receipt of the American Water Works Association (AWWA) Florida Section Best Tasting Drinking Water Award in 2010 and the Design-Build Institute of America (DBIA) Merit Award for Water/Wastewater Projects over $15 million in 2007.

Our staff operated the facility for an initial 10-year term, reducing operating costs to address low demands caused by a slowdown in the housing market after the facility was completed. In 2015, we seamlessly transferred operations to the client.

- Gary Giordano, *Construction Manager*
- Pilar Doran, *Design Manager*
- Dave Everson, *Structural*
- Tao Fu, *Process Mechanical*
- Dave Nicholson, *Electrical*
- Cyrus Saharkhiz, *I&C*
- Brandon Russakis, *Plumbing/HVAC*
- Ivan Trullenque, *Scheduler*
- Patricia Elder, *Procurement*
- Veronica Llaneza, *Commissioning*
- Josue Alvarez, *Project Engineer*
- CROM Corporation

REFERENCE

Jason Vogel
239.348.0248
jvogel@amuc.com

RELEVANCE TO RANGELINE WTP

- Coordination with campus-wide planning
- AWWA Florida Section Best Tasting Drinking Water Award
- DBIA Merit Award for Water/ Wastewater Projects over $15M

Ave Maria RO WTP PDB *(continued)*

Phase 2 - WTP Expansion

We are currently constructing and will soon commission the expansion of the WTP to 2.5 MGD. The expanded facility will treat up to 0.83 MGD of Sandstone aquifer well water. Other process components will be modified to produce finished water that meets the utility's goals and FDEP drinking water standards. Improvements include:

- Two Sandstone aquifer wellheads and submersible pumps
- Addition of Sandstone aquifer raw water main and extension of Tamiami aquifer raw water main
- New Sandstone aquifer to lower Tamiami aquifer blend connection for membrane feed blending; three new sand strainers connect the aquifers
- New sand strainer backwash basin with transfer pumps
- Addition of second cartridge filter to membrane feed
- Extension of sulfuric acid chemical piping and installation of new sulfuric acid injection point prior to degasification to optimize sulfide removal
- Installation of wafer-type static mixer to blend Sandstone aquifer blend water, membrane permeate, and sulfuric acid prior to degasification
- Modification of existing degasifier blower to increase pressure rating requirements for new biological odor control unit
- Installation of biological odor control system to treat degasifier off-gas and replace existing chemical odor scrubber
- New high service pump to increase firm capacity

PROJECT CHALLENGES MET

Early Cost Certainty. Pricing was based on 70% design documents, making early involvement of subcontractors and suppliers essential for accuracy. This enabled procurement of key equipment and long-lead items ahead of final design, helping to avoid impacts to the construction schedule.

Expedited Permitting. Preliminary design reports were developed in accordance with FDEP guidelines so permit applications could be submitted early in the design process. Early discussions and presentations to the permitting agencies helped streamline the process.

Integrating new pretreatment and post-treatment systems with existing membrane train. New systems were integrated with existing membrane train, requiring precise pressure and chemical control. Adaptive SCADA programming and minor system tweaks allowed for operational continuity during construction, enabling seamless, phased implementation from source to production.

KEY 10 PROJECT

San Diego County Water Authority

Twin Oaks Valley Water Treatment Plant

San Marcos, California

RELEVANT SIMILARITIES

- ✓ Construction Value ≥ $100M
- ✓ Complexity
- ✓ Value-added Innovation
- ✓ Avoided Community Impacts

START/END DATES
WTP - 03/2006 - 09/2008
Expansion - 01/2014 - 11/2015

DESIGN/PRECON CONTRACT AMOUNTS
WTP - $47.8M
Expansion - $2.7M

CONSTRUCTION CONTRACT AMOUNTS
WTP - $550M
Expansion - $31.8M

TOTAL DESIGN/PRECON/ CONSTRUCTION AMOUNTS
WTP - $597.8M
Expansion - $34.5M

TOTAL CONTRACT AMOUNT
$632.3M

BUDGET/SCHEDULE
WTP - Under budget, on time
PDB Expansion - Under budget, on time

DELIVERY METHOD
DBO (Design-Build-Operate)

PSL TEAM MEMBERS
› Ashley Currey, *Commissioning Manager*

REFERENCE
Chris Castaing
760.480.5534
ccastaing@sdcwa.org

PROJECT DETAILS

In September 2005, the San Diego County Water Authority (SDCWA) awarded Jacobs the design, permitting, construction, commissioning, and long-term operation of the 100-MGD Twin Oaks Valley WTP—at the time of construction, the largest submerged membrane water treatment plant in the world. The plant has helped relieve pressure on SDCWA's system by meeting growing treated water demands.

Innovative Design

Delivered under a fast-track design-build-operate (DBO) approach, the WTP provides a reliable supply of high-quality, sustainable drinking water to meet current and future needs. The technical solution features a zero liquid discharge submerged membrane process, which is more cost-effective and environmentally friendly than conventional methods. It also requires a smaller footprint, less concrete, fewer chemicals, and generates fewer solids. Additional components include fine screening, ozonation (with peroxide) for disinfection and taste/odor control, biologically active carbon contactors, chlorine addition, 15 MG of treated water storage with future desalination connections, and flow control facilities.
In 2015, Jacobs completed a $15-million upgrade to add a blending chamber for desalinated water from the Carlsbad facility, including flow metering, chemical dosing to match chloramine residuals, and enhanced water quality monitoring.

Seamless Transition to Operations

Following completion of the WTP in April 2008, Jacobs began operations and maintenance of the facility, including 24-hour on-site staffing, chemicals, capital maintenance repair and replacement, membrane maintenance and replacement, residual solids disposal, and guaranteed maximum energy usage. Also in 2015, we completed a $15-million design-build upgrade that provided new blending and chemical addition to the desalinated water supply with the existing storage and flow control facilities.

> *"The Twin Oaks Valley Water Treatment Plant provides benefits beyond the high-quality water it produces. Its strategic location, creative design, and use of membrane technology make it an efficient, money-saving facility."*
> **—San Diego County Water Authority (from the SDCWA "Improving Infrastructure" publication, February 2020)**

RELEVANCE TO RANGELINE WTP

- DBO delivery of a new, 100-mgd membrane filtration WTP
- One of the largest submerged membrane WTPs in the world
- Fast-track approach involved concurrent design, procurement, construction, and permit approvals

Twin Oaks Valley Water Treatment Plant *(continued)*

PROJECT CHALLENGES MET

Project Scale. The Twin Oaks Valley WTP includes large water storage basins as part of the treatment process. Treated water is stored onsite in two 7.5-MG clearwells, with each measuring 224 feet in diameter and with a wall height of 27 feet. The clearwells were built using circular prestressed concrete tanks designed to blend desalinated water from SDCWA's desalination facility in Carlsbad.

Expedited Schedule. An expedited schedule was needed to meet the region's urgent need for additional water treatment capacity. Jacobs worked with SDCWA to develop early design deliverables and work packages. Within 4 months, the team completed a draft basis-of-design report and delivered the first foundation design package. This enabled delivery of multiple construction packages and a final set of documents totaling nearly 800 drawings and over 2,000 pages of specifications. Fast-tracking allowed concurrent design, procurement, construction, and permit approvals, saving SDCWA time and money. Jacobs also secured over 25 permits, reviews, or approvals without delaying any construction or operations.

Mobilizing Global Staff to Aid in Delivery of Valves. A key challenge—and example of strong owner collaboration—was installing 78-inch valves manufactured in Italy, requiring coordination across Southern California's water system and 2 years' notice. Jacobs planned the valve delivery and temporary shutdown well in advance, but a transit accident jeopardized the second valve's arrival. Jacobs mobilized staff in Milan to expedite air freight and customs clearance. The valve arrived at 6 a.m., just in time for the noon tie-in, which was successfully completed 18 hours later.

Project Location. Environmental sensitivity and seismic activity added complexity. To provide post-earthquake operability, Jacobs developed site-specific seismic response spectra and designed resilient structures. The 100-MGD facility, including clearwell storage, was configured on less than 11 acres of varied terrain. The design minimized environmental and neighborhood impacts, including traffic. Coordination with a nearby site allowed reuse of excess material, eliminating over 10,000 truck trips through the narrow valley.

Coordination with Desalination Plant. In 2015, Jacobs coordinated with the Carlsbad desalination plant to blend flows at Twin Oaks Valley WTP. Using computational fluid dynamics, Jacobs modeled clearwell hydraulics to allow for full mixing before distribution. The team aligned construction schedules and developed a flexible startup plan to accommodate the chemistry of blended waters.



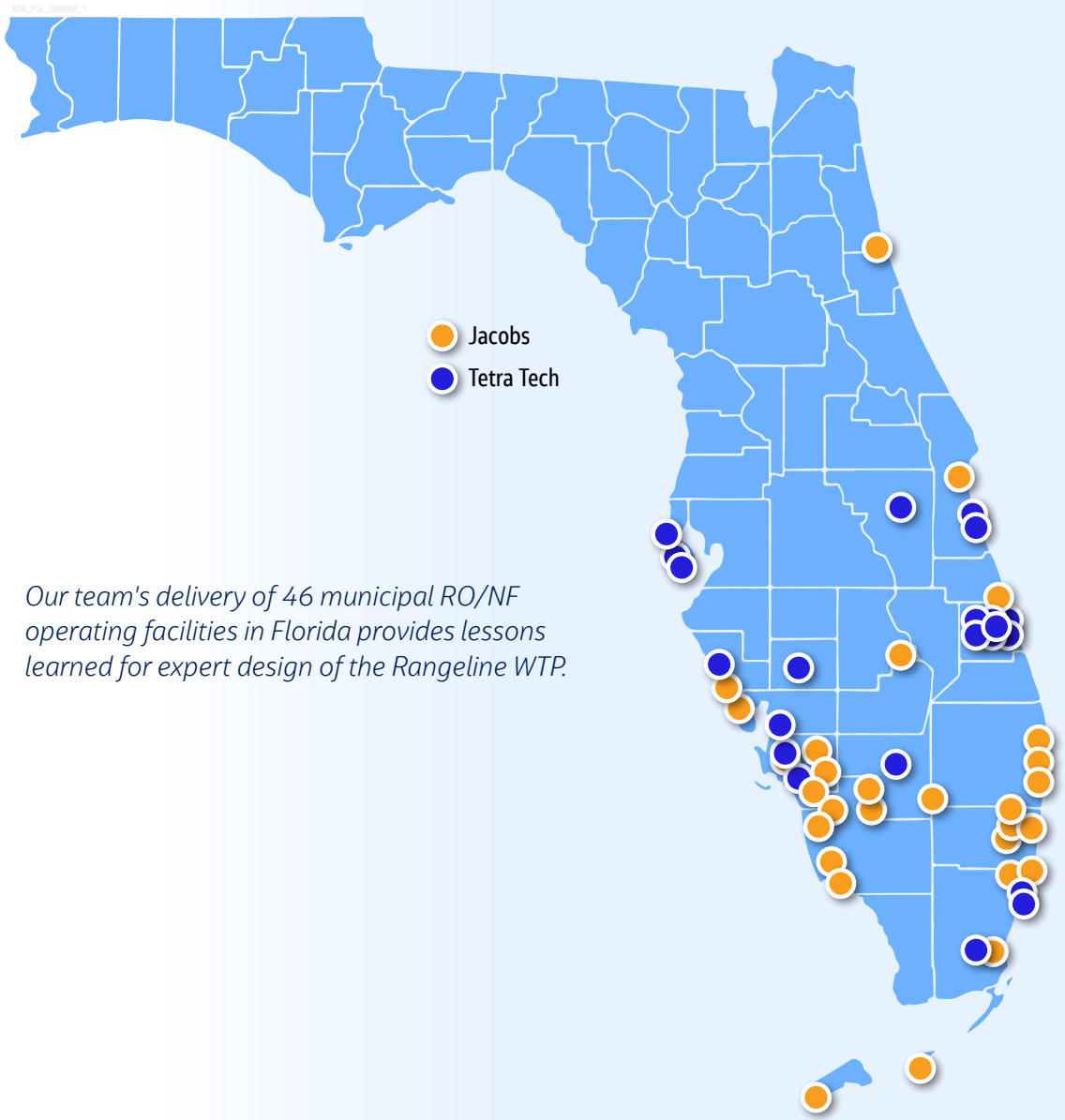

UNPARALLELED MEMBRANE TREATMENT EXPERIENCE

Jacobs brings a large portfolio of global and local membrane treatment experience to your project. **Firm-wide, we've designed more than 200 membrane treatment facilities, advancing the technology through high recovery desalination and dual membrane treatment, enhancing efficiency and sustainability.**

In Florida, we've designed 23 operating municipal RO/NF treatment facilities with a similar scope to the Rangeline WTP, providing future-proof critical infrastructure assets and sustainable operations.

Our project team has also delivered several RO/NF designs that reduce energy consumption and optimize water quality, while maintaining high reliability and operability. **Within the past 10 years, our project team has designed, permitted, monitored construction, and commissioned six RO/NF facilities similar in scope and size to the Rangeline WTP.**

Tetra Tech also brings demonstrated RO/NF treatment experience to your project, having designed 23 RO/NF facilities in Florida. Our combined experience provides best practices to meet existing and future permit requirements and reduce capital and operating costs.



Our team's delivery of 46 municipal RO/NF operating facilities in Florida provides lessons learned for expert design of the Rangeline WTP.

EXTENSIVE PORT ST. LUCIE RO EXPERIENCE

James E. Anderson RO WTP

In response to Port St. Lucie's rapid growth, the City commissioned the JEA RO WTP in 2000. Designed by Tetra Tech, the plant launched with a 6-MGD capacity on a greenfield site, with infrastructure in place for future expansion.

By 2005, the City expanded the facility to 22.5 MGD, again partnering with Tetra Tech for design and construction management under a CMAR delivery model. The upgraded plant features ten 2-MGD RO skids split into two redundant treatment trains, each with chemical and physical pretreatment, high-pressure pumps, and energy recovery turbines. Post-treatment includes blending, fluoridation, degasification, disinfection, and stabilization, with concentrate disposed via a deep injection well. Raw water is sourced from 10 remotely monitored off-site wells and several onsite wells, supported by telemetry, auxiliary power, and detailed aquifer performance testing. Additional infrastructure includes odor control scrubbers, backup generators, and a dedicated laboratory.

Prineville 10-MGD RO WTP

Tetra Tech also designed and permitted the original 4-MGD Prineville RO WTP, co-located with the City's existing 6.85-MGD lime softening facility. Raw water is sourced from a newly developed Floridan aquifer wellfield, also designed by Tetra Tech. The original plant included a 20,000-ft^2 Administration Building with offices, a control room, and a lab, as well as a process building housing chemical feed systems, high-pressure pumps, micron filters, five 2-MGD RO trains, and a membrane cleaning system. Finished water from both the RO and lime softening plants is blended in a shared chlorine contact chamber, which also supports degasifiers and odor control systems.

In 2003, Tetra Tech led a 10-MGD expansion, adding three more RO skids, high-pressure pumps with variable frequency drives, expanded chemical feed systems, and additional degasification and odor control infrastructure. The upgrade also included new raw water well pumps, potable water service pumps, and enhanced emergency power generation.

James E. Anderson RO WTP

Prineville Campus

The JEA and Prineville WTPs are models of scalable, high-performance treatment technology, meeting the City's water quality and resilience goals in the most cost-effective manner.

Utility Campus Site Master Plan and Prineville and Northport Campuses

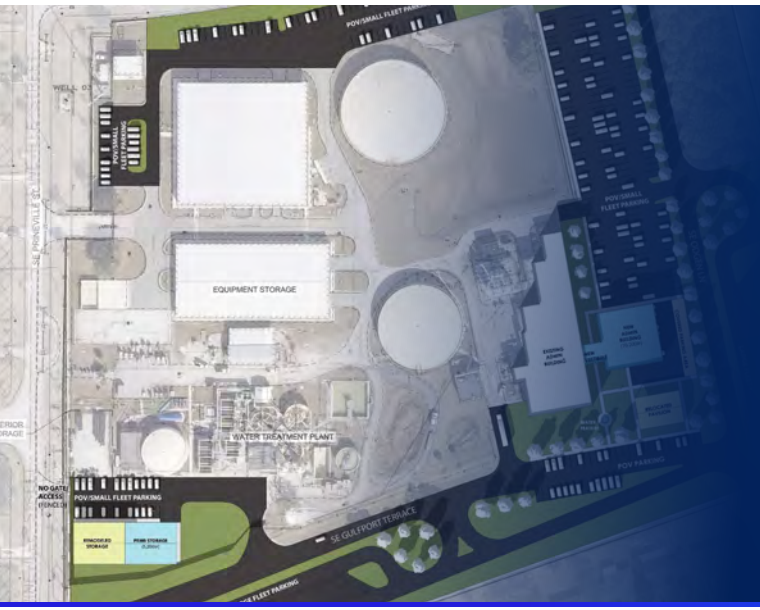
Beginning in 2022, Jacobs partnered with the City of Port St. Lucie's Utility Systems Department to deliver comprehensive master planning services for two key campus sites: Prineville and Northport. The initiative focused on improving access, parking, circulation, and facility upgrades across a combined 32-acre footprint. The plan included approximately 50,000 ft^2 of new construction. The scope for the Northport campus was limited to preliminary planning support, while the Prineville site was the primary focus for in-depth master planning.

Jacobs led a collaborative planning process that included stakeholder meetings, a design charrette, facility assessments, and the development of a detailed planning report with actionable recommendations to guide the City's long-term planning and operational needs for its utility infrastructure. The scope encompassed facility programming, utility analysis, site layout alternatives, parking inventory and analysis, and a back-fill strategy for existing buildings. Jacobs also provided 3D visualizations to help the City envision future campus improvements.

Working with team member ISS (now part of HR Green), Jacobs helped define long-term goals and planning requirements, including future building footprints for administration and warehouse facilities, internal roadways, stormwater management, and other site amenities. Following completion of the 2022 comprehensive planning report, Jacobs and its partners submitted a proposal to support the next phase of implementation — focusing on the renovation and expansion of the Prineville administration building.

3D Concept for administration building expansion at main site (Prineville)

Conceptual site plan of secondary site (Northport)



PRINEVILLE CAMPUS OBJECTIVES—

Expand the administration building; improve employee, visitor, and fleet parking; and create a new Chlorine Contact and Clearwater Building.

NORTHPORT CAMPUS OBJECTIVES—

Relocate storage, warehouse, and distribution functions to the Northport Campus; clean up the stormwater system; and secure the site.

Our integrated approach and deep experience in municipal infrastructure planning have produced a forward-looking, flexible design that supports the City's operational needs and future growth.

JACOBS AND TETRA TECH WORKING TOGETHER FOR THE CITY

Desalination Feasibility Study

The Desalination Feasibility Study conducted by Tetra Tech, and with Jacobs' support, evaluated seawater and other potential high salinity alternative water supply sources to meet the City's future drinking water supply needs. From this information, a range of potential desalination needs was bracketed and conceptual process designs were developed for small capacity (10 MGD) and large capacity (50 MGD) RO treatment facilities, including probable capital and O&M costs associated with each alternative.

This information helped determine the most cost-effective approach for implementing the City's seawater desalination program. An implementation plan was also incorporated with the study results, which provided recommendations for future actions.

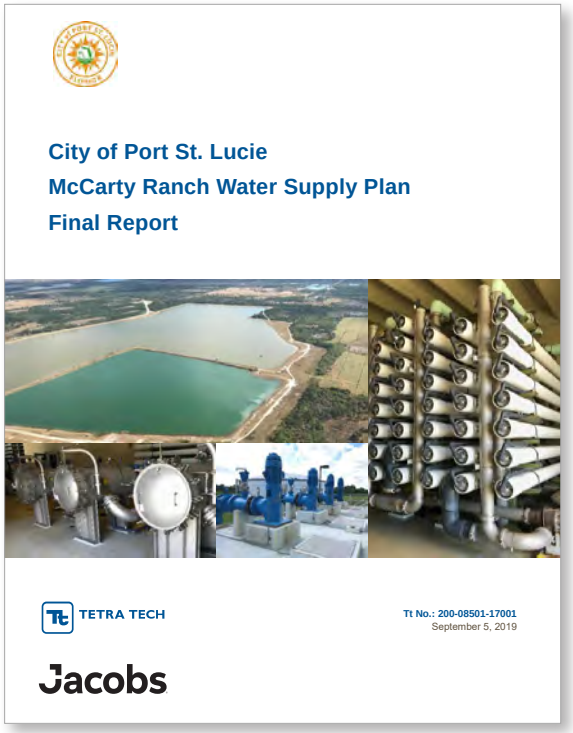
The study's findings confirmed that seawater desalination could provide a key sustainable water supply to meet future water demands, paving the way for the Rangeline project and other future master planning efforts.

McCarty Ranch Water Supply Plan

The City authorized the development of the McCarty Ranch Water Supply Plan to focus on maintaining an abundant future water supply to serve the continued growth of the service area. The City purchased the McCarty Ranch Preserve and ranch extension comprising approximately 5,000 acres as a potential future source. This project, conducted by Tetra Tech and supported by Jacobs, evaluated multiple options for serving future water supply demand including the development of the McCarty Ranch reservoir. The project helped the City develop a holistic and reliable water supply plan for meeting future water demands through 2050 by:

- Creating 30-year growth projections for the water, wastewater, and reclaimed water systems
- Determining future water supply needs over the planning period and evaluated the capacity of the existing sources of supply
- Developing future water supply alternatives, including a conceptual layout and cost estimate for the selected water supply alternative

Future water supply alternatives evaluated included Rangeline RO wellfield, indirect potable reuse, direct potable reuse, seawater desalination, and withdrawal of surface water from the C-23 Canal for storage in the reservoir supplemented by ASR or reclaimed water with a treatment facility proposed to be constructed on the Rangeline site. Multiple water supply alternatives and combinations were evaluated using Jacob's cost and decision-making tools to assist the City with the selection of the preferred alternative. The preferred alternative included initially developing the Rangeline RO wellfield followed by development of the McCarty Ranch surface source. Conceptual layouts of the facilities, implementation schedule, and budgetary cost estimate were developed for the preferred alternative.



Lee County Utilities Green Meadows RO and Ion Exchange WTP and Wellfield Expansion CMAR

4 Approach to Meet Project Objectives

4 Approach to Meet Project Objectives

Applying our 30 years of Port St. Lucie knowledge and leadership in water design-build, we've developed a cost- and schedule-saving approach for Rangeline that balances risk with innovation.

For more than 30 years, members of the Jacobs team have worked with the City of Port St. Lucie to design and expand the JEA and Prineville RO WTPs. This experience provides an in-depth understanding of your treatment system, water quality challenges, and long-term goals, providing a solid foundation for designing and constructing your new RO WTP.

PROJECT UNDERSTANDING

To meet projected water demands beyond 2030, the City plans to implement a new 10-MGD RO WTP at the Rangeline Repump Station through PDB delivery. The WTP will be expandable to 30 MGD and capable of integrating a future 10-MGD surface water treatment facility.

The project is to be phased to achieve 4 MGD of production by 2029, in alignment with the City's Utility Master Plan, with the full 10 MGD online by December 2029.

Scope of Work

The project scope includes a Membrane Treatment Building with RO trains and clean-in-place systems, administration/operations spaces within the membrane building, post-treatment and chemical systems, finished water storage, and the site/civil, electrical, I&C, and yard piping necessary to tie into the City's distribution network and operate with the existing repump station. The WTP RO Building will be modular so that it's easily expandable.

The Rangeline WTP project will interface with two other separately contracted projects, which will require close coordination:

- **Deep Injection Wells (DIWs).** The City is advancing two DIWs and a monitoring well via design-bid-build, with the permit application already submitted.
- **Raw Water Supply Wells and Transmission Line.** The initial six wells and transmission pipeline for the 10-MGD RO WTP are being delivered via PDB.

Rangeline Project Components

- Raw Water Supply
- Rangeline RO WTP
- High-Service Pumping and Storage
- Deep Injection Wells
- Operational Continuity and Resiliency

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Our integrated team will coordinate closely with you and the DIW and raw water supply well teams, leveraging our experience and lessons learned to deliver a fully operational RO WTP system that meets your performance expectations.

Importance of Collaboration

Our focus on collaboration will deliver the project YOU want while promoting seamless handoffs between all project phases. At the outset of the project, we'll confirm your project goals and objectives, which will drive coordination of all that we do: design criteria development, plant layout, project phasing, construction and commissioning sequencing, and scheduling. Because of our integrated capabilities, handoffs between our design, construction, and O&M teams will be seamless.

Close coordination with the City, its Owner's Representative, and the DIW and wellfield teams will ensure the Rangeline WTP is seamlessly integrated into the City's water system. We'll phase tie-ins and startup activities to sustain distribution pressures, water quality, and system reliability during construction and incorporate redundant treatment and pumping systems, temporary bypass provisions, and adaptive operations to manage potential future raw water quality degradation while maintaining uninterrupted service.

We'll Meet Your Project Objectives

The City has established important objectives for the project, which our team is well prepared to meet.

City Objective	How our Approach Meets Your Objectives
Regulatory Compliance	All project elements will be designed and constructed in full compliance with applicable **federal, state, and local regulations**. We'll coordinate early and continuously with FDEP and SFWMD, maintain a **comprehensive permit matrix**, and integrate regulatory milestones into the design and construction schedule to maintain approval readiness.
Schedule	We'll implement a **phased delivery strategy** with multiple GMPs and technical approaches to achieve **4 MGD capacity BEFORE 2029** and 10 MGD by December 2029 using early work packages, long lead equipment procurement, and critical path schedule management to meet your schedule.
Flexibility/ Future Proofing	We'll design the WTP site, facilities, yard piping, and electrical infrastructure for ease of expansion to 30 MGD and integration of a 10-MGD surface water treatment facility using **modular process trains, scalable controls, and space allocations** that maximize return on investment. We've also identified innovations and enhancements to optimize WTP performance and reduce costs, including the flexibility to address changing water quality.
O&M	We'll leverage our **in-house operations experience** throughout project development; lead all **operator-led design reviews**; optimize equipment access, maintainability, and redundancy; and **provide training, documentation, and commissioning services** for a smooth transition to long-term operations.
Funding	We'll support the City's funding efforts by providing timely documentation, photos, cost summaries, and technical narratives for **grant reporting and reimbursement**. If requested, we have the resources and knowledge to use tools like GrantFinder to help the City identify additional funding opportunities.
Costs	We'll apply **life-cycle cost analyses and value engineering** to optimize capital and long-term O&M costs and establish and maintain a **fully transparent cost model** with rigorous change management for informed decision making and a final GMP that meets your budget.
Risk Register	We'll collaborate with the City to identify additional project risks, update mitigation strategies, and assign ownership. Our continuous risk management process will avoid or eliminate risks that threaten project objectives. For each GMP, we'll determine the proper amount of contingency based on probability of risk impacts and then effectively manage contingency to return savings to the City.
Safety	We'll apply our **BeyondZero® safety program** to promote behavior-based safety throughout the project. Our Safety Manager will prepare a **project-specific Safety Management Plan**, conduct pre-task planning, and implement measures to foster a safe work environment.
Collaboration	We'll facilitate **structured, transparent communications** through standing meetings, workshops, tools (e.g., decision log, cost model, schedule), and shared documentation platforms. We'll also maintain clear action tracking, milestone reporting, and alignment with the City and Owner's Representative at every project phase.

Throughout the project, we'll align project planning, design, and construction to meet your project objectives.

Approach Overview for Delivering a Future-Ready RO WTP

The Jacobs team has been collaborating on your project for nearly a year. We've had numerous discussions with your staff, toured your facilities, and talked at length with our team members who designed the JEA and Prineville WTPs to confirm your design preferences, current operations, and future plans.

From these efforts and our understanding of your project objectives, we've developed a project approach that provides options for design and PDB delivery, while balancing your desire for innovation with the appropriate risk. Working in partnership with you, we'll identify the solution that best meets your goals for compliance, schedule certainty, reliability, and cost, using our unique delivery model and fully integrated PDB approach.

Unique Single Entity Delivery Model

We'll deliver your project as a single-entity design-builder, with design, construction, commissioning, and operations expertise all residing within Jacobs and under a single contract. **Our unique delivery model will provide tremendous efficiencies throughout the project and will reduce your risk with a single point of responsibility for all project components—*something no other team can provide.***

Because we have engineers, contractors, operators, and commissioning specialists under one roof, we'll maintain direct control over quality, safety, schedule, cost, and performance from concept through startup. Also, our fully integrated PDB approach puts the City at the center of the project, with direct access to ALL decision-makers and NO layers of contractual separation.

Our model also eliminates barriers between the City and the Engineer, and the Engineer and Contractor—for one fully aligned team dedicated to your project's success.

Ability to Innovate

To address your desire for creative and innovative approaches that reduce cost and time and increase value to the City, throughout our proposal we've provided innovations, value-added ideas, and enhancements to deliver a project that exceeds your expectations. Most importantly, we'll work with you to evaluate every project decision holistically—balancing cost, schedule, constructability, operability, and long-term reliability—***ultimately delivering a best-for-City solution.***

> *Jacobs quickly eamed our trust by consistently delivering solutions in our best interests, even when it was more challenging for them.*
>
> **– Rory Jones, City of Tampa Water Department Director**

City of Tampa DLTWTF HSPS Design-Build

INNOVATIONS THAT DRIVE COST AND SCHEDULE SAVINGS

Our integrated team has brainstormed numerous innovations that will save the City money, reduce the schedule, and provide many other benefits. From modular, expandable treatment trains that simplify phased expansion and the early procurement of long-lead equipment, to one-of-a-kind design optimization tools and energy-efficient RO and degasification systems, we've got the City covered when it comes to innovation.

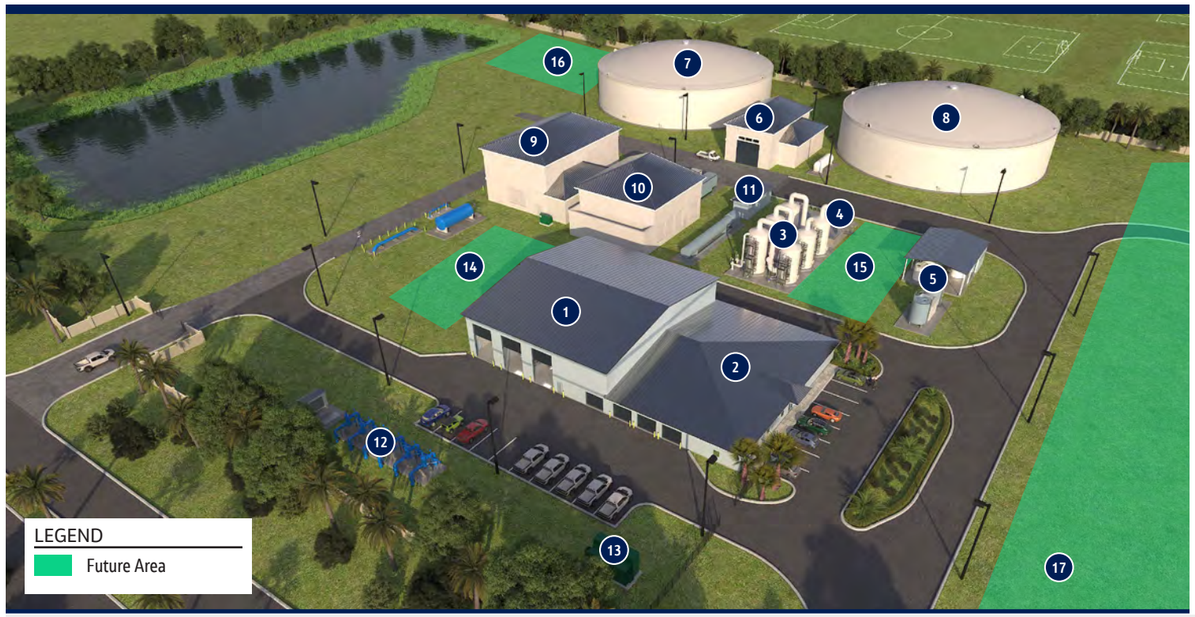
Item No.	Innovative Idea Description	Benefits	Benefit Categories	Relevant Expereience
1	Inclusion (now or in the future) of higher recovery skids (85%) using integrated or separate third-stage with higher pressure feed pump or proprietary high recovery skids like closed circuit RO. Optimize and prove through piloting	Maximizes use of source water and reduces concentrate production		Cocoa, Melbourne, Cypress Lake, SAWS Twin Oaks
2	Several strategies to obtain 4MGD additional capacity by end of 2028: (1) 4MGD at Rangeline via installation of permanent skids and equipment using three different multiple GMP approaches; (2) 4MGD at Rangeline via installation of temporary skids with permanent post treatment facilities and equipment; (3) Higher recovery at JEA via third stage higher pressure or CCRO skid (permanent or temporary). Could be used as pilot for Rangeline	Increases capacity, reducing risks and providing redundancy and reliability; decreases waste		Collier County, BSU
3	Virus disinfection in pipe after clearwell or in pipe between degasifer and clearwell. Evaluate benefits of each and make best decision for City	More efficient disinfection, monitoring, and control. Reduces clearwell size and saves finished water storage for distribution		BSU, Melbourne, Green Meadows, Cypress Lake, Ave Maria
4	Use single piece PES chemical tubing within carrier pipes outside of buildings and fused PVDF and HDPE inside the buildings for chemicals	Ease of O&M; improved operator access and safety		Green Meadows, Melbourne, Tarpon Springs, Cherry Point
5	Develop a dynamic finished water distribution model using historical data and our predictive Replica® model with genetic algorithms to optimize available storage	Quantifies the minimum required storage volume and optimizes high service pump controls strategy and future pump sizing to reduce operating cost and improve reliability		NMB, Cocoa, BSU
6	Develop multiple layout options that allow for a 30-MGD RO WTP and 10-MGD Surface WTP on the west side of Rangeline and room for a future Administration/Distribution Facility on the east side	Optimizes space, providing room for further future expansion and allowing City to select best option		JEA WTP, BSU, Cocoa, OUC, Melbourne, Ave Maria, Green Meadows, Cypress Lake, Palm Bay
7	Re-purpose Chlorine Gas Building shell at Rangeline for aqueous chlorine and caustic to prevent degradation and freezing, respectively	Leverages City's existing investment, improves sustainability, expedites construction, and provides O&M benefits for these two chemicals		Deerfield Beach, NMB, BSU, Melbourne, Punta Gorda
8	Use our Replica™ dynamic simulation tool to identify rough order of magnitude (ROM) costs for early decision making, optimize treatment and wellfield management during design, and act as a Digital Twin to train staff	Optimizes design, lowers lifecycle costs, improves training, provides digital twin		BSU, Ave Maria, Melbourne, Cocoa, Green Meadows
9	Eliminate feed water pH correction with sulfuric acid and introduce permeate pH correction, if needed, with carbonic acid. Potential options: post degas CO2 and either blended permeate acid or blended permeate CO2 if City wants to go off of sulfuric acid	Eliminates handling sulfuric acid and potentially reduces operating cost while adding finished water bicarbonate alkalinity. Also helps with alkalinity recovery in finished water while maintaining efficient hydrogen sulfide removal		JEA WTP, Boynton Beach, NSID, BSU, Palm Bay
10	Evaluate and include green technologies if they make sense and are feasible (e.g., solar power, energy recovery units, VFDs)	Sustainable technologies that could reduce cost and energy usage		Green Meadows, BSU, Tarpon Springs, OUC
11	Remineralization due to increased TDS in raw water supply to address corrosion in distribution system (as part of initial or future project) accomplished via dosing of calcium hydroxide as lowest cost. Other alternatives include calcite contactors, lime saturators, and calcium chloride dosing	Reduces corrosiveness of finished water; could extend RO membrane life as salt passage would otherwise require membrane replacement due to high TDS from bypass blending		Melbourne, OUC, Ft. Myers, Tarpon Springs
12	Flexibility to deliver one, two, or three GMPs based on schedule drivers and procurement constraints	Allows City to decide optimal balance between cost and schedule risks to meet its overall project objectives		DLTWTF, BSU, GRU, SJCUD, Ave Maria
13	Integrate community amenities into design of the new WTP, such as a facility for hosting STEM events. Incorporate adjacent park into the site and stormwater pond	Encourages community acceptance, engagement, education, and support		DLTWTF, OUC, Tillman, SAWS Twin Oaks
14	Maximize space on site and speed of delivery by providing a 6-MG ground storage tank (GST) (vs. 4-MG similar to the existing GST) in an early work package during Phase 1 and include provisions for another to be added on the site in the future	Increases operational flexibility and increases storage capacity early in the project		JEA WTP, DLTWTF, GRU, NMB, BSU, NSID
15	Electrical approach that includes a new FP&L drop, 480V distribution system, using the existing system to its fullest capacity. Add one generator in Phase 1 and one in Phase 3, multiple transformer and switchgear options, all while maintaining existing operations	Increases worker safety, maintainability, reliability, sustainability, flexibility/future proofing, ease of maintenance while reducing cost		Ft. Lauderdale, Melbourne, NMB

– Added reliability – Cost savings – Community enhancement – Treatment optimization – Increased sustainability – Ease of maintenance – Minimize chemical/energy use – Schedule savings – Added flexibility/futureproofing

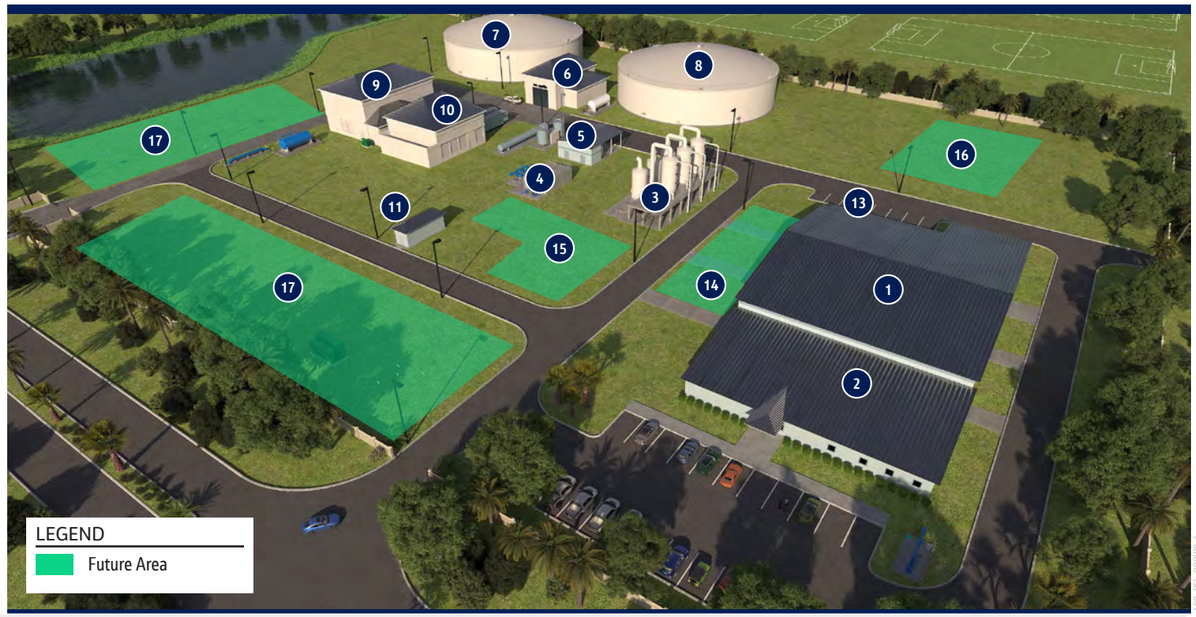
SITE PLANS THAT OPTIMIZE CURRENT OPERATIONS WHILE MAXIMIZING OPTIONS FOR THE FUTURE

Our integrated team put their heads together to develop two very different concepts for the site to show a range and diversity in approaches. **Alternative 1** places the RO treatment facilities in the center of the site, reserving the western portion of the site for a future 10-MGD surface water treatment facility. **Alternative 2** places the RO treatment facilities on the west side of the site, reserving the north east area along the existing entrance road and stormwater pond for future surface water treatment facilities. Each site places the new and future facilities on the west side of the site leaving the east side of the stormwater pond for a potential Distribution Administration/ Maintenance Facility or other uses. The site also includes optimized access to new roads and future facilities without impacting existing high service infrastructure.

Alternative 1 – Centralized Layout – Phase 1 10-MGD RO WTP



Alternative 2 – Western Site Layout– Phase 1 10-MGD RO WTP



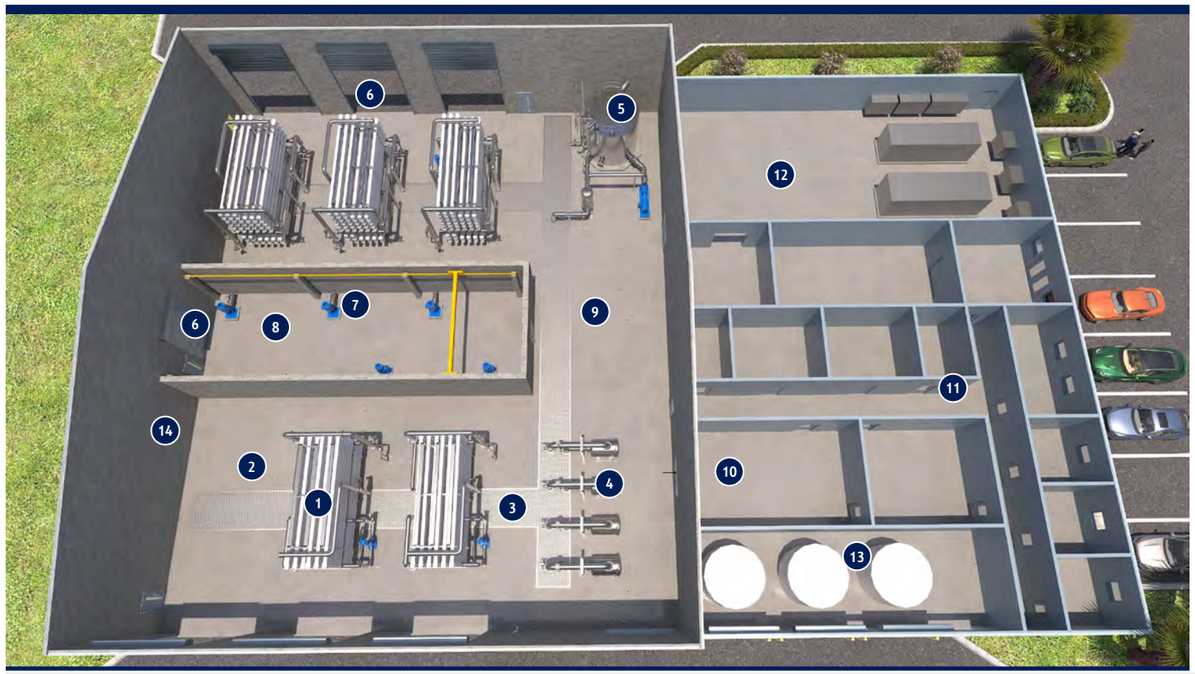
Site Plan Key

1. **RO Process Building** sized for for Phase 2 and expandable for Phase 3.
2. **Operations Center** designed to meet the City's operations needs including control room, lab, electrical, pretreatment chemicals and other operator areas.
3. **Degasifier and Odor Scrubbers** located central within the site to hide the towers and noisy blowers from neighbors.
4. **Clearwell and Transfer Pumps** sized only for process control to minimize footprint and associated cost.
5. **Post-Treatment Chemical Storage and Feed** facilities located near chemical injection locations.
6. **Sodium Hypochlorite Storage and Feed** within the retrofitted existing building to leverage the City's investment.
7. **New 6-MG Storage Tank** maximized based on our partner CROM's analysis to provide the operational flexibility.
8. **Existing 4-MG Storage Tank** tied to the new WTP and operated in parallel with new tanks including piping connections sized to distribute water proportionally to tank size to maintain similar hydraulic retention time and minimize water age.
9. **Existing High Service Pump Building** with adequate pumping and electrical capacity for Phase 3 and easily modified to accommodate up to 40 mgd during Phase 4.
10. **Existing Electrical Building and Generators** with capacity for Phase 3 RO and high service electrical and backup needs.
11. **Post Treatment Electrical Building** that adds electrical capacity closer to powered post-treatment facilities.
12. **Current/Future Sand Strainer Area** (if necessary) to inexpensively mitigate potential variable source water quality.
13. **Electrical Transformers'** including additional independent electrical feeds for overall facility reliability.
14. **Future RO Building Expansion** defers investment in a Phase 3 expansion that may not be constructed. The expanded facility includes independent source, permeate, and concentrate piping connections, new Electrical Room with new independent power feed, and room for Phase 3 RO systems.
15. **Future Degasifiers, Scrubbers, Clearwell, and Transfer Pump Area** that are configured to operate as an independent process train if necessary for added reliability as capacity grows in Phase 3.
16. **Future 6-MG Storage Tank Area** to increase total storage up to a possible 14 MG for Phase 2 or Phase 3 as needed.
17. **Future Surface Water Treatment Area** (Phase 4 if necessary) to accommodate expansion to 40 mgd, or 30 mgd in lieu of expanded RO if well water is limited. The site accommodates the largest option all on the west side of the site.

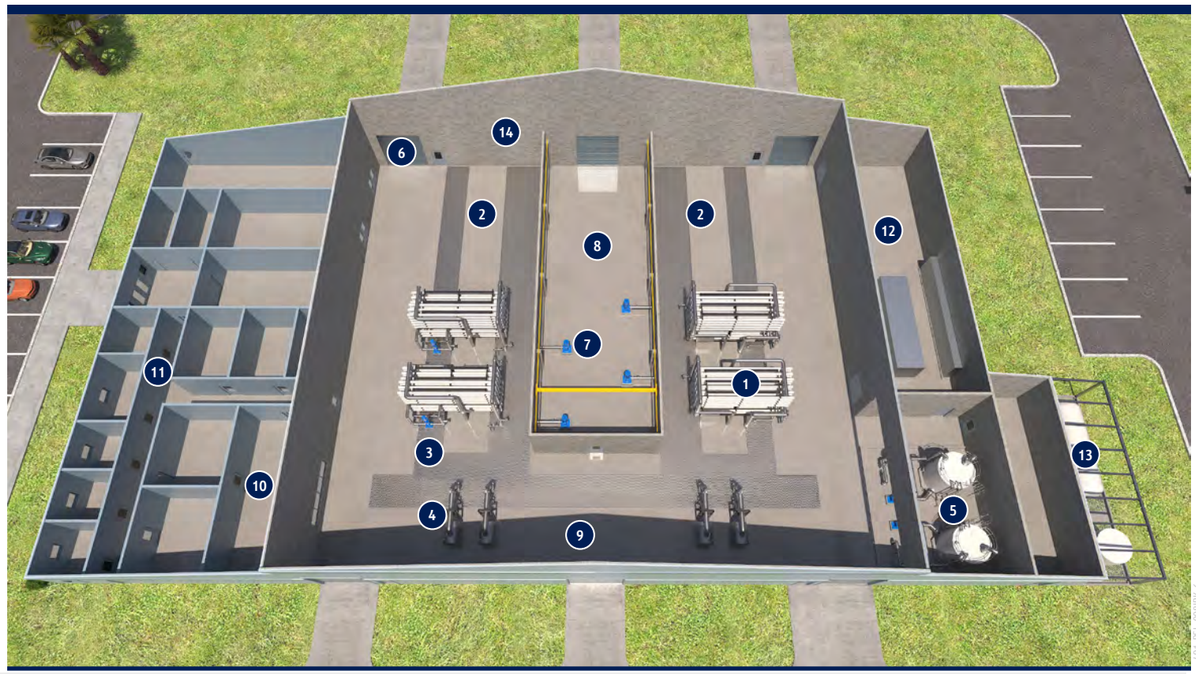
PROCESS BUILDING LAYOUTS THAT PROVIDE OPTIONS FOR THE FUTURE

We listened and these conceptual layouts show a range of options that include the features the City indicated were important, with adequate operator spaces, pump room and provisions for future expandability. **Alternative 1** provides roll-up doors, reducing the building footprint while maintaining access to the RO trains. **Alternative 2** is similar to the JEA WTP design, with more interior space including space for two CIP tanks.

Alternative 1 – Compact Building Layout – Phase 1 10-MGD RO WTP



Alternative 2 – Open Building Layout – Phase 1 10-MGD RO WTP



Process Building Key

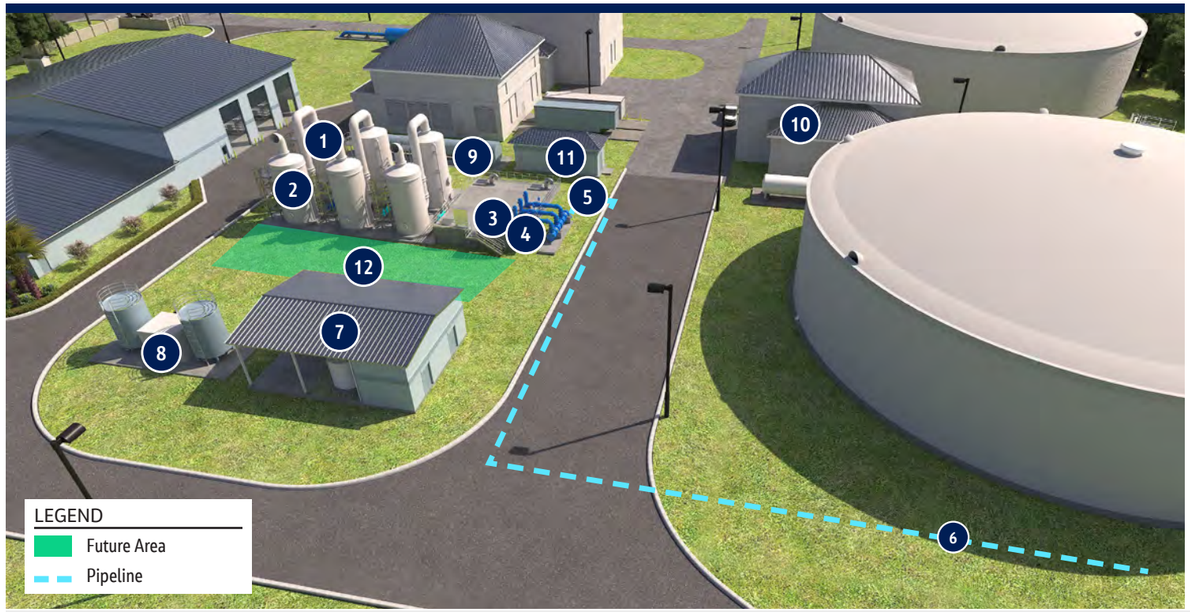
1. **RO Trains** are designed for feed TDS flexibility including staging and piping for 75-85% recovery, 600 psi rated vessels and piping, energy recovery turbo with changeable internals, and provisions for a future powered interstage pump. Our team works regularly with all major membrane system suppliers to customize designs to maintain valves and skid appurtenances at ground level for better accessibility and to provide integrated flush points on the skids and permeate to waste connections. RO train sizes will be optimized based on current water quality with provisions for future WQ. Alternative 1 shows an expandable train concept with 2-mgd trains that can be expanded to 3 mgd for Phase 2 if well water quality doesn't degrade. Alternative 2 shows 2.5-mgd trains with space for future expansion or third-stage skids.
2. **Future RO Train Space** may be beneficial if increased capacity is needed within 10 to 15 years. The space can accommodate easy expansion or higher-pressure third-stage RO skids if well water quality degrades quickly.
3. **Center Trench** provides flexibility in making RO piping and electrical connections to reduce installation conflicts. With the center trench, there is better access for membrane loading and vessels replacement including using a lift without grating concerns. Trench piping is configured to allow each row of trains to operate independently.
4. **Cartridge Filters** sized to treat the full RO and blend feed flow with one unit out of service and room for future units.
5. **RO Cleaning System** that is operator friendly with a chemical makeup tank at floor level, horizontal cartridge filters, and valves and instruments located to allow a single operator to conduct a cleaning. Alternative 2 includes separate high and low pH tanks for faster cleaning cycles.
6. **Roll-up Doors** to maintain access for pump and equipment replacement. Alternative 1 features roll-up doors for each train to maintain train access within a smaller building footprint. Alternative 2 includes fewer roll-up doors within key access corridors.
7. **RO Feed Pumps** are future-ready including larger conduit, extra space within the electrical room, and larger pump cans to increase feed pump power and stages for future higher-pressure operation without losing efficiency. Provide interconnecting header and valves to allow offline pumps to serve as a backup.
8. **Pump Room** that contains noise and includes a bridge crane for pump removal/replacement.
9. **Process Area** designed with enhanced ventilation through larger louvers/ exhaust fans and large overhead fans to maintain cooler temperature without the need to open rollup doors.
10. **Control Room** with large viewing window overlooking the RO process area
11. **Operator Facilities** designed to meet the City's operations needs including control room, lab, locker rooms, break room, mechanical, SCADA, storage and other required operator areas.
12. **Electrical Room** sized for Phases 2 and 3 RO WTP expansions and higher feed/interstage pump loads if feed TDS increases. See page 4-33 for electrical approach and layout figures.
13. **Pretreatment Chemical Area** that keeps the storage and feed systems near the RO feedwater injection location.
14. **Future Expansion (knockout wall)** to allow further building expansion while maintaining a continuous process area.

We will explore the cost vs benefits of including a gallery under the process area instead of trenches to improve access.

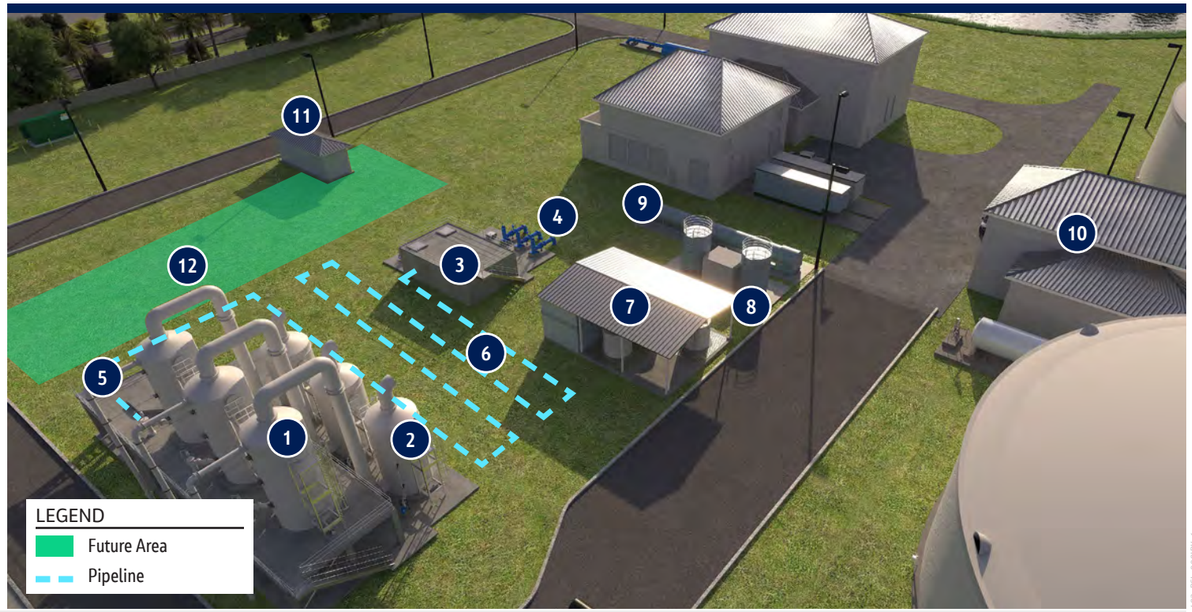
POST-TREATMENT DESIGNED FOR EFFICIENCY AND OPERABILITY

Conceptual layouts for the post treatment facilities reflect the requirements for adjusting RO permeate quality to produce a finished water that meets regulatory requirements and minimizes distribution system corrosion while being aesthetically pleasing. **Alternative 1** includes lower profile degasifiers, with efficient in-pipe disinfection downstream of the clearwell. **Alternative 2** includes elevated degasifiers for efficient in-pipe disinfection upstream of the clearwell.

Alternative 1 – Disinfection After Clearwell – Phase 1 10-MGD RO WTP



Alternative 2 – Disinfection Before Clearwell – Phase 1 10-MGD RO WTP



Post Treatment Key

1. **Degasifiers** and blowers sized for 10 MGD with a redundant unit to provide sulfide removal from blended permeate with easy expansion to 20 mgd. The degasifiers are located within the center of the site to better hide them from neighbors and reduce blower noise impacts. A hard-piped cleaning system with chemical mixing tank simplifies maintenance. **Alt 1** locates degasifiers and blowers at grade for better access and to create a lower profile to hide them from neighbors. **Alt 2** elevates the degasifiers to allow gravity flow in a longer pipeline to the downstream clearwell with blowers located underneath at grade for easy access. Both alternatives show a header to allow each of the blowers to feed any of the operating degasifiers.
2. **Biological Odor Scrubbers** Scrubbers cost effectively remove odors before discharging air to atmosphere. Each biotower is sized for 1 degasifier flow and a common header allows any of the biotowers to treat air from any of the degasifiers.
3. **Clearwell** sized for only control volume for the transfer pumps through Phase 2 reduces size and associated cost.
4. **Transfer Pumps s**end finished water to the on-site storage tanks. **Alt 1** locates transfer pumps on the clearwell to minimize overall footprint. **Alt 2** shows the use of can-type pumps outside of the clearwell to reduce the potential for pump corrosion allowing lower cost cast iron materials compared to 316 SST when placed in the clearwell.
5. **Chlorine Feed** within a larger diameter pipe is a lower cost option than using contact time within the clearwell or downstream storage tanks. Adding chemicals within the pipe also provides precise feed control, excellent mixing, and accurate residual monitoring. **Alt 1** injects chlorine after the transfer pumps to provide chlorine-free water for RO cleaning in the clearwell and to take advantage of the distance to the ground storage tanks for contact time. **Alt 2** provides efficient 4-log virus inactivation within a serpentine pipe before the clearwell keeping the chemical feeds closer together.
6. **Disinfection Compliance Monitoring and Ammonia Feed Point** provides continuous CT compliance monitoring before ammonia injection to create chloramines before the ground storage reservoirs. Chemicals for stabilization and corrosion control are also added with the ammonia in-pipe for better mixing, control and monitoring.
7. **Post Treatment Chemical Building** Building houses corrosion inhibitor and caustic storage and feed systems near the injection points. This facility may house liquid ammonia storage and feed if gas is discontinued.
8. **Clarified Lime Storage and Feed** (if required) adds hardness to the RO permeate without the need for blending that would significantly increase chloride that may cause distribution pipe corrosion.
9. **CO2 Storage and Pressurized Solution Feed** efficiently reduces pH before the degasifiers for optimal sulfide removal and within the finished water to increase alkalinity when combined with caustic or lime.
10. **Chlorine and Ammonia Storage and Feed** using existing building to reduce cost and store sodium hypochlorite and house the chlorine and ammonia feed systems. The conversion to hypochlorite can be using bulk delivery or on-site generation with the best option being dependent on City goals and local supply availability. We will collaborate with the City using our experience and decision-making tools to develop the best option for this and other facilities. Ammonia gas can be maintained at this location or liquid ammonia can be incorporated into the post treatment chemical building.
11. **Post-treatment Electrical Building** adds expanded electrical capacity closer to post-treatment power needs. See page 4-33 for electrical approach and layout figures.
12. **Future Post Treatment Area** provides space for an independent post-treatment train when expanding to 30 mgd during Phase 3 or during Phase 2 if added redundancy is needed.

PROJECT BUILD-OUT PROVIDES A LEGACY 40-MGD FACILITY

Building on the City's objectives and the nearly 50 innovations and enhancements we've developed for the Rangeline project, we've conceptualized potential build-out of Alternatives 1 and 2 on the west side of the site with a potential Distribution Administration/Maintenance Building on the east side of the pond. The site includes optimized access to facilities and future roads to the north and west of the site. **Alternative 1** shows a more compact site, with the independent 10-MGD surface water treatment facility located on the west side of the site. **Alternative 2** shows a less compact site, with the surface water treatment facility more integrated with the 30-MGD RO facility.

Alternative 1 – Compact Layout with Independent Surface Water Facility

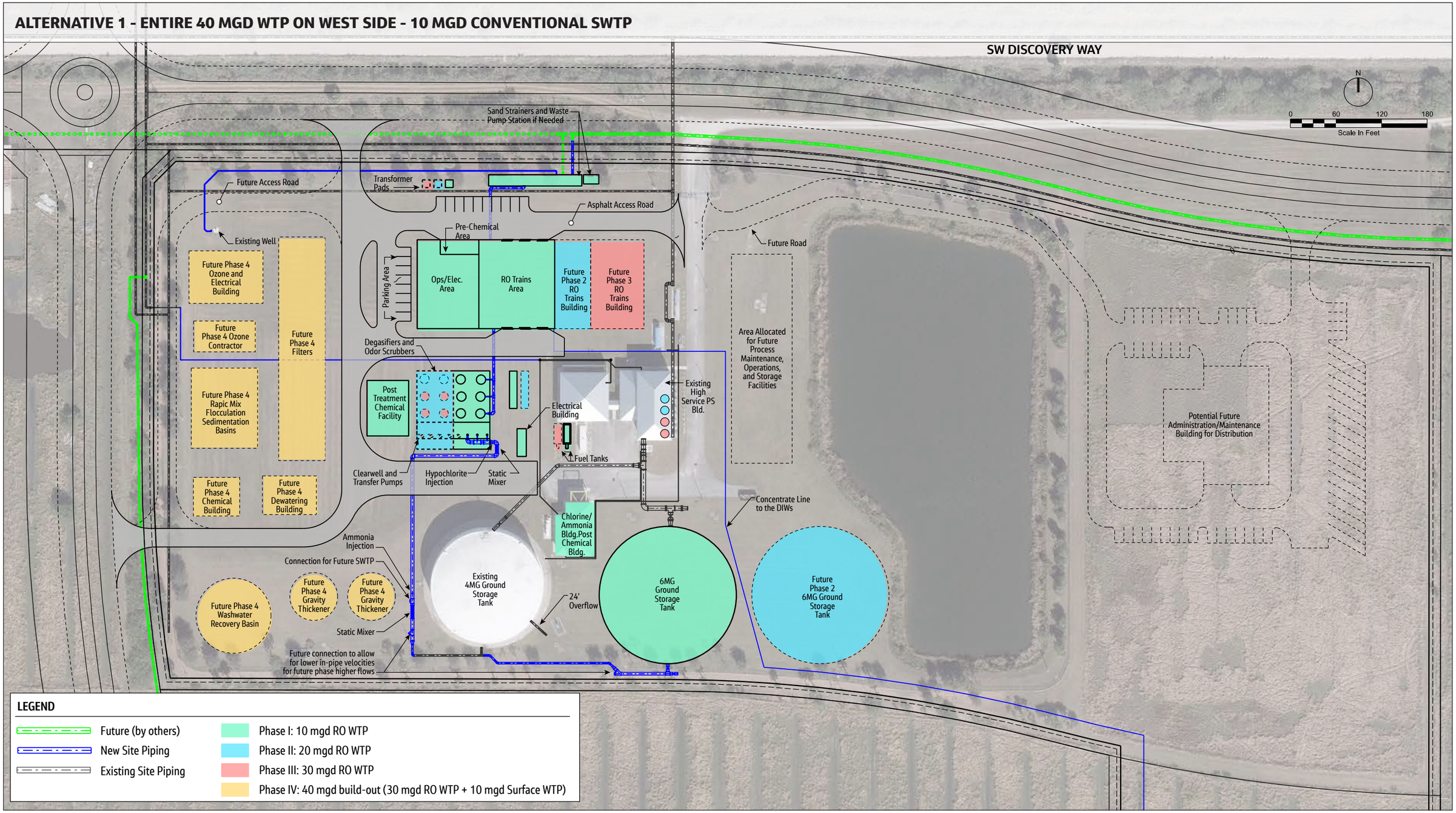
Alternative 2 – Spread Out Layout with Integrated Surface Water Facility

Project Build-Out Key

1. **RO Process Building** including the Phases 2 and 3 expansions with two interconnected sides that can operate independently.
2. **Operations Center** designed to meet the City's operations needs.
3. **Degasifier and Odor Scrubbers** located central within the site to hide the towers and noisy blowers from neighbors configured to operate as two independent process train for added reliability.
4. **Clearwell and Transfer Pumps** sized only for process control to minimize footprint and associated cost.
5. **Post-Treatment Chemical Storage and Feed** facilities located near chemical injection locations.
6. **Sodium Hypochlorite Storage and Feed** within the retrofitted existing building to leverage the City's investment.
7. **6-MG Storage Tanks** maximized based on our partner CROM's analysis to provide the operational flexibility.
8. **Existing 4-MG Storage Tank** operated in parallel with new tanks including piping connections sized to distribute water proportionally to tank size to maintain similar hydraulic retention time and minimize water age.
9. **High Service Pump Building** with pumping and electrical to accommodate peak hour flow for the 40 mgd facility.
10. **Electrical Building and Generators** with capacity for Phase 3 RO and high service electrical and backup needs.
11. **Post Treatment Electrical Building** with electrical capacity closer to powered post-treatment facilities. See page 4-33 for Electrical Approach and layout figures.
12. **Sand Strainer Area** (if necessary) to inexpensively mitigate potential variable source water quality.
13. **Electrical Transformers** with independent electrical feeds for overall facility reliability.
14. **Conventional Surface Water Treatment Facility** to treat 10 mgd, demonstrating adequate space for is available for either this concept or a smaller footprint dual membrane facility.
15. **Existing Stormwater Detention Pond** that we have preliminarily determined to be sized for the full 40 MGD WTP. Should permitting determine more storage is needed, the pond can be easily modified to accommodate an increase in storage during a later phase of WTP expansion.
16. **Distribution Administration/Maintenance Building** or other City facility that is accessed independently of the water treatment facilities.
17. **Future Build-Out Area** allocated for future process, maintenance, operations, and/or storage facilities.

PROJECT PHASING PROVIDES FLEXIBILITY TO BUILD NOW OR LATER

This example phasing plan for Alternative 1 (centralized layout) demonstrates how we might phase the 40-MGD WTP built on the west side of the site. This flexible design can be built in four phases, allowing the City to expand as capacity is needed, defraying capital costs.



PRELIMINARY PROJECT SCHEDULE

We've developed a preliminary project delivery schedule on page 4-10 that meets your schedule objectives by delivering:

- 6-MG GST Tank by June 2027, and as early as January 2027 if requested by the City
- 4-MGD additional RO WTP capacity by December 2028, and as early as January 2028 by implementing innovative approaches
- Full 10-MGD RO WTP capacity by May 2029

Our schedule approach includes multiple GMP work packages to enable onsite work and the procurement of high-priority and long-lead equipment to begin early. Three GMPs will be developed at the 90% level of design for each design package, allowing for the fastest overall delivery, most competitive market pricing, and least amount of contingency carried in the GMP. Our approach is flexible, and we'll work with you during conceptual design to determine the optimal number of GMPs to best meet your objectives (see page 4-38).

We have the in-house resources to self-perform the first 13 months of the critical path, allowing us to get off to a quick start and providing ample time to procure trade subcontractors at a competitive price for the remaining work. We'll aggressively manage our subcontractors during construction with proven and disciplined project controls and self-perform critical components on the back end of the project, making sure the schedule finishes on time and the transition to operations is smooth.

Aggressive Schedule Management Ensures On Time Delivery

Meeting your schedule objectives requires a disciplined scheduling approach. Upon project award, we'll develop a baseline project schedule through collaboration with the City and your Owner's Representative. Schedule detail will increase as the design and preconstruction activities progress through collaboration with the collective team, including trade subcontractors bidding on the project, until a GMP schedule is created.

During construction, our resource-loaded Primavera P6 schedule provides the foundation for monitoring progress, forecasting milestones, and managing schedule risk. We'll continuously refine the schedule to account for field progress, long-lead procurement, and permitting updates. In conjunction with the overall project schedule, a 6-week look ahead will be reviewed weekly at team progress and planning meetings to discuss imminent work.

Our project schedule is a dynamic tool that allows us to identify changes impacting the critical path as soon as they occur so we can implement corrective measures immediately to mitigate any adverse schedule impacts. Developing and continuously updating a resource-loaded Critical Path Method (CPM) schedule will mitigate the risk of not meeting critical milestone dates.

Reliable, Flexible Path to Completion

Our conceptual project schedule provides the City with a clear, achievable path from design through commissioning. The phased GMP strategy, supported by early site work and procurement packages and concurrent workstreams, offers the flexibility to accelerate early capacity and optimize delivery based on funding and regulatory priorities. Through disciplined schedule control, proactive coordination, and continuous communication, we'll deliver a future-ready water treatment facility that meets the City's operational needs and future objectives.

KEY MILESTONE AND CRITAL PATH

Milestone	Target Date
Project Kickoff and Design NTP	April 22, 2026
GMP 1 Early Site, GST, and High Priority ODP Electrical Equipment NTP	December 1, 2026
Additional 6-MG GST Milestone	June 29, 2027*
GMP 2 Early WTP Foundations Work and Long Lead ODP Process and Electrical Equipment NTP	June 8, 2027
4-MGD Early Capacity Milestone	December 19, 2028**
GMP 3 Remaining WTP Work and ODP process Equipment NTP	September 10, 2027
10-MGD Full Capacity Milestone and Project Substantial Completion	May 1, 2029
Final Project Completion	July 2, 2029

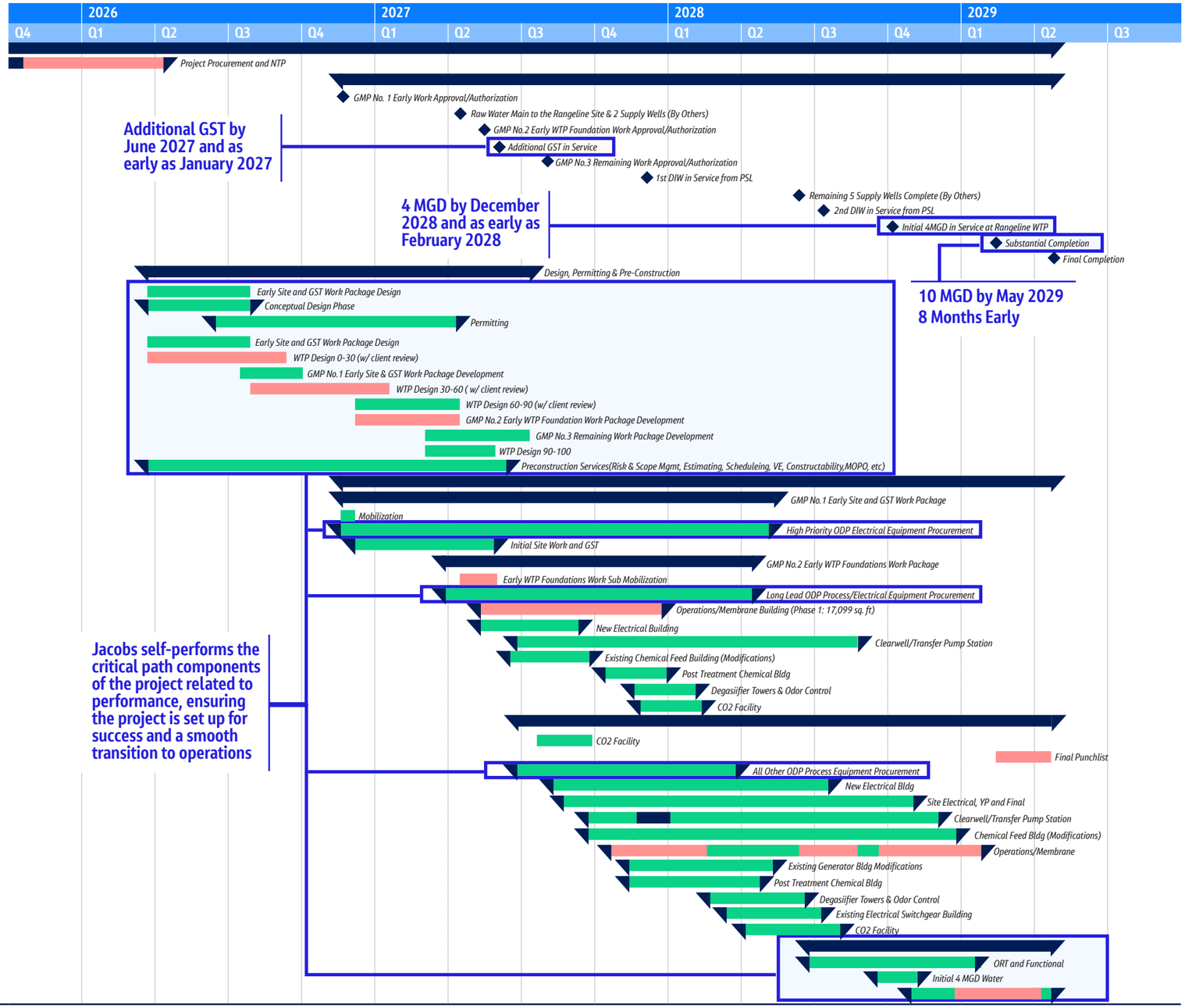
**Our approach is based on continuous construction work from GMP1 NTP through final completion of the project. The new 6-MG GST can be completed by January 2027, if requested by the City. However, this would create a gap between GMPs 1 and 2 work, requiring us to demobilize from the site for a few months and remobilize once GMP 2 work is ready to begin.*

*** We also offer optional innovative approaches discussed in our Project Overview to provide 4 MGD of additional capacity as early as February 2028.*

PROJECT SCHEDULE THAT PROVIDES OPPORTUNITIES TO IMPROVE DELIVERY AND OPERATIONAL FLEXIBILITY

Our approach to meeting the City's schedule objectives on the Rangeline WTP project is founded on multiple early work GMP packages, flexibility that allows the City to customize the schedule to best meet their project objectives, and self performing all components of the project that have the highest impact on project performance. By aligning design, procurement, construction, and commissioning activities under a single, transparent framework, we'll maintain visibility across all project phases, allowing the City to make timely, informed decisions that keep the project on track.

Activity Name
City of Port St. Lucie - Rangeline RO WTP
DESIGN, PERMITTING AND PRECON SERVICES
Project Procurement and NTP
Project Milestones
GMP No.1 Early Site & GST Work Approval/Authorization
Raw Water Main to the Rangeline Site & 2 Supply Wells (By Others)
GMP No.2 Early WTP Foundation Work Approval/Authorization
Additional GST in Service
GMP No.3 Remaining Work Approval/Authorization
1st DIW in Service from PSL
Remaining 5 Supply Wells Complete (By Others)
2nd DIW in Service from PSL
Initial 4MGD in Service at Rangeline WTP
Substantial Completion (Remaining 6 MGD In Service at Rangeline WTP)
Final Completion
Design, Permitting & Pre-Construction
Preconstruction Services(Risk & Scope Mgmt, Estimating, Scheduleing, VE, Constructability,MOPO, etc)
Conceptual Design Phase
Early Site and GST Work Package Design
WTP Design 0-30 (w/ client review)
GMP No.1 Early Site & GST Work Package Development
WTP Design 30-60 (w/ client review)
WTP Design 60-90 (w/ client review)
GMP No.2 Early WTP Foundation Work Package Development
GMP No.3 Remaining Work Package Development
WTP Design 90-100
Permitting
CONSTRUCTION AND COMMISSIONING SERVICES
GMP No.1 Early Site and GST Work Package
Mobilization
High Priority ODP Electrical Equipment Procurement
Initial Site Work and GST
GMP No.2 Early WTP Foundations Work Package
Early WTP Foundations Work Sub Mobilization
Long Lead ODP Process/Electrical Equipment Procurement
Operations/Membrane Building (Phase 1: 17,099 sq. ft)
New Post-Treatment Electrical Building
Clearwell/Transfer Pump Station
Existing Chemical Feed Building (Modifications)
Post Treatment Chemical Bldg
Degasifier Towers & Odor Control
CO2 Facility
GMP No.3 Remaining WTP Work Package
Remaining Sub Mobilization
Final Punchlist
All Other ODP Process Equipment Procurement
New Post-Treatment Electrical Building
Site Electrical, YP and Final Site Work
Clearwell/Transfer Pump Station
Chemical Feed Bldg (Modifications)
Operations/Membrane Building (Phase 1: 17,099 sq. ft)
Existing Generator Bldg Modifications
Post Treatment Chemical Bldg
Degasifier Towers & Odor Control
Existing Electrical Switchgear Building Modifications
CO2 Facility
Commissioning
ORT and Functional Testing
Initial 4 MGD Water Production, PAT & Training
Additional 6 MGD Water Production, PAT & Training



INNOVATIVE APPROACHES TO ACHIEVE 4 MGD BEFORE 2029

A key feature of our approach is that we've developed three innovative alternatives to bring 4 MGD of treatment capacity online early to meet your water demand projections. This can be achieved through staged construction and the use of permanent or temporary RO skids at the Rangeline WTP **(Options 1 and 2)**, or modifying the existing RO trains while using existing post-treatment at the JEA WTP **(Option 3)**. We'll work with the City early on conceptual design and can perform an alternatives analysis, if needed, to help select the optimal option for the City.

Construct Permanent Facilities at the Rangeline WTP

(4 MGD operational by December 2028)

4 MGD obtained early at Rangeline WTP via permanent RO skids and post treatment facilities.

This option would involve:

- Use two new raw water source wells and transmission main and one DIW once completed
- Fast-track construction and commissioning of the RO Building, clearwell, degasifier, and post chemical treatment areas with the following equipment: 1 cartridge filter, 2 feed pumps, 2 RO trains, 1 degasifier, 1 transfer pump, chemical tanks, and feed skids for 4 MGD total capacity
- Fast-track construction and commissioning of the RO Building Electrical Room, Post Treatment Electrical Building, improvements in the existing HSPS and Generator Rooms, and all needed electrical, controls, and yard piping infrastructure for 4 MGD capacity
- Odor control could be deferred until 10 MGD as there's no development immediately adjacent to the proposed degasifiers

Final site improvements would not be completed until the remaining 6 MGD is online, but the site and facilities would be accessible to City operations, or Jacobs could operate the 4-MGD WTP and train City Operations staff so ownership can be handed off after the full 10-MGD PAT is complete.

ADVANTAGE: Minimal costs for 4-MGD capacity increase

DISADVANTAGE: Latest date for 4-MGD capacity increase

Temporary RO Units at the Rangeline WTP

(4 MGD available by June 2028)

4 MGD obtained early at Rangeline WTP via temporary RO skids and permanent post treatment facilities.

This option would involve:

- Use two new raw water source wells and transmission main and one DIW once completed
- Lease four 1-MGD mobile closed-circuit RO (CCRO) units or conventional RO skids with feed pumps and pretreatment
- Fast-track construction and commissioning of one degasifier, one transfer pump, and post-treatment chemical tanks and skids for 4-MGD
- Fast-track construction and commissioning of the Post Treatment Electrical Building, improvements in the existing HSPS Electrical Room, and all needed electrical, controls, and yard piping infrastructure for 4-MGD capacity at the post treatment facilities.
- Power temporary mobile RO units from existing HSPS electrical or the new FP&L feed for the Rangeline RO WTP

This schedule would prioritize the electrical provisions needed to operate the temporary RO skids as well as construction and commissioning of the degasifier, clearwell, and transfer pump (the Operations and Membrane Treatment Building would not be fast tracked). Like Option 1, the site and facilities would be accessible to City Operations, or Jacobs could operate the plant temporarily.

ADVANTAGE: Earlier date for 4-MGD capacity increase

DISADVANTAGE: Some additional costs associated with rental of mobile RO units to obtain the 4-MGD capacity increase

WTP Improvements at the JEA WTP

(2-4 MGD operational by February 2028)

2-4 MGD obtained early at the JEA WTP ***(assumes two additional supply wells have been drilled and are operational).***

The following scenarios would be evaluated for this option:

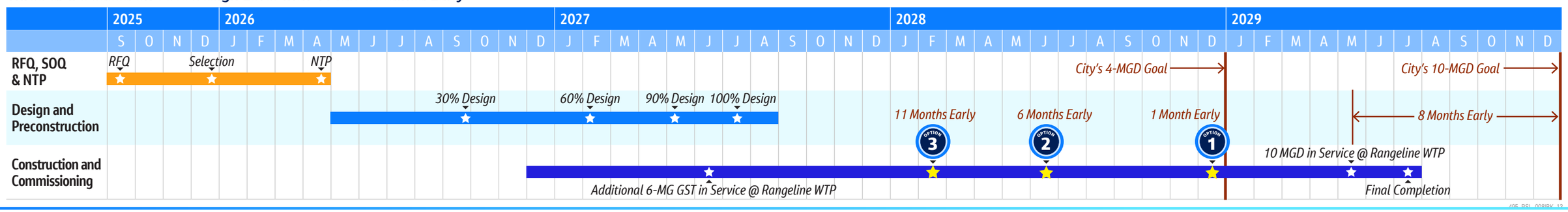
- Run eight existing skids at lower recovery (~70%) to reduce feed pressure requirements while maintaining current 2-MGD capacity
- Add separate third-stage high pressure skids to treat existing skid concentrate, recovering 4 MGD of additional permeate
- Install two 2-MGD RO permanent or mobile trailer units to recover 4-MGD of additional permeate from existing JEA concentrate stream
- Convert two existing RO trains and feed pumps to high pressure third-stage skids
- Combine third-stage permeate with existing RO permeate going to existing JEA post treatment facilities
- Send third-stage concentrate to existing DIWs

ADVANTAGE: Earliest date for an additional capacity increase and potential deferment/saving of 2-4 MGD at Rangeline WTP.

DISADVANTAGE: Additional investment in an older WTP; additional capacity is located further from the Rangeline WTP service area

Schedule Comparison – Additional 4 MGD Capacity Alternatives

Three GMPs based on 90% Design Level with 4 MGD Obtained Early



THE PROJECT'S TOP RISKS AND OUR PLAN FOR MITIGATION

We'll continuously manage risk throughout all project phases with a comprehensive risk register developed collaboratively with the City and your Owner's Representative. Our current top10 design-builder and 3 City risks will be entered into the register along with newly identified and less critical risks. Each risk will include mitigation strategies, accountability, and monitoring to protect budget and schedule.

Risk No.	Assigned Party	Risk Description	Proposed Mitigation Approach
1	Design-Builder	Schedule deadlines are not met	› Accelerate PDB delivery by aligning all stakeholders early, setting clear decision-making processes and timelines, and conducting workshops to enable fast, informed decisions. › Pre-select critical equipment and launch early work packages to expedite field activities. Multiple options to get 4 MGD online before 2029 and 10 MGD as early as May 2029. › Self-perform key schedule drivers like design, preconstruction, equipment procurement, I&C integration, commissioning, and construction management. › Procure qualified subs who have demonstrated resources & availability; utilize Jacobs' superintendents and Crom craft labor or other known subs to assist any subs who fall behind.
2	Design-Builder	GMP(s) exceed project budget	› Work with the City at NTP to ensure all parties understand the budget and the processes to develop estimates and GMP(s), including bid packaging to promote participation and flexibility. › Develop and maintain an initial cost model after kickoff meeting, adding detail with full transparency within 60 days of NTP to provide a baseline estimate for sound decision-making. › Use and maintain transparent cost model and decision log, with any cost impacts noted to design to the City's established budget; hold VE sessions and implement VE ideas as needed.
3	Design-Builder	Impacts/interruption to Rangeline Repump pump station operations	› Engage City Operations early and often to identify operational constraints, challenges, and goals. › Identify required tie-ins, perform targeted field investigations, and closely coordinate each with City Operations. › Develop detailed MOPO and construction sequence plan that minimizes impacts. › Ensure subcontractors fully understand MOPO, sequence and tie-in plan; prepare detailed work plans with contingency plans and obtain buy in with City Operations prior to implementation.
4	Design-Builder	Supply chain issues result in schedule delays	› Identify long-lead equipment and materials and develop a final procurement strategy (as reflected in our schedule approach on page 4-10) prior to 30% design completion. › Engage and pre-qualify equipment suppliers prior to solicitation and provide a best value selection, where ability to meet and experience meeting schedule is a key criteria. › Prioritize, communicate, and implement fast-track internal and external approvals for submittal reviews and identify acceptable alternates with City approval, as a contingency plan.
5	Design-Builder	Availability of adequately skilled labor resulting in quality and or schedule impacts	› Host outreach events with local and regional subcontractors prior to 30% design and create work packages that maximize participation and bid flexibility. › Perform market outreach to get a minimum of three bidders per work package; engage these subs in design reviews, cost and constructability feedback so they are engaged and show up on bid day. › Select subs who have demonstrated resources and availability and a track record of meeting schedule; be prepared to augment subs with Jacobs or Crom staff if they fall behind.
6	Design-Builder	Construction negatively impacts surrounding community (e.g. noise, dust, traffic)	› Provide support to the City via Merchant Strategies for community engagement events/notifications and communicate to the City regarding any upcoming disruptive activities. › Develop and implement traffic & erosion control plans and dust mitigation plans, limit noisy work to designated hours, and use noise-reducing equipment and barriers where needed.
7	Design-Builder	Project does not adequately address City's future needs	› Masterplan the WTP and project site by evaluating innovative, implementable alternatives and layouts and selecting those that best meet the City's current and future objectives. › Work closely with the City to ensure the design accommodates future WTP expansion, surrounding development, changing regulations, and operational and maintenance needs. › Implement cost-effective measures to allow for future flexibility, including approaches identified on pages 4-5 through 4-8.
8	Design-Builder	Volatile market conditions such as tariffs or other cost escalations	› Leverage Jacobs global procurement experts to track tariff developments and other potential market conditions that could impact cost and schedule and adjust procurement plans accordingly. › Allow for alternative materials or manufacturers during design with City's approval to enable more cost-effective substitutions that avoid tariff impacts. › Collaborate with the City to define escalation responsibilities; include contingency items in GMP for any predictable costs (e.g., labor) and tie any volatile items to federal price indices.
9	Design-Builder	Impacts of water quality and hydraulics on existing water distribution system	› Work with the City early in project to identify and coordinate possible hydraulic considerations to be addressed during the project. › Perform distribution system water quality testing and analysis to develop a corrosion control strategy that protects the distribution system from corrosion or precipitation. › Incorporate flexibility within the post-treatment design, which could include carbon dioxide, liquid lime, corrosion inhibitor, and/or sodium hydroxide to match distribution system quality.
10	Design-Builder	Permitting delays	› Identify, track, and manage all required permits until approval is received using a detailed permit log with input and collaboration from the City. › Meet with regulatory agencies early and often to obtain buy-in and incorporate feedback into design; conduct pre-application submittal meetings and coordinate required construction activities.
11	City	City's decision-making process or late scope changes result in project delays	› Select a collaborative and integrated PDB team well versed in delivering large, complex PDB projects with proven processes to support the City in helping them make decisions. › Use the decision log to prioritize decisions on a weekly basis, to clearly communicate project impacts of decisions, and memorialize decisions so decisions are not revisited. › Perform routine check-ins with the project team on the project decision making process and create an escalation ladder to escalate decisions if necessary.
12	City	Supply wells and/or DIW (by others) are not ready in time to support Rangeline WTP commissioning	› Conduct kickoff meeting with well contractors and Design-Builder to facilitate clear understanding of roles/responsibilities, constraints, contractual milestones, etc. amongst parties. › Select a Design-Builder that will partner with the City's Supply Well and DIW teams to coordinate activities and offer experience to leverage lessons learned. › Evaluate implementing alternative approaches, such as obtaining early capacity at the JEA WTP or disposing of the concentrate temporarily in the WW collection system.
13	City	Supply well water quality and/or operation impacts optimization and performance of Rangeline WTP	› Select a Design-Builder with extensive experience and optimization models to address well water quality challenges (increasing TDS, TSS, air entrainment, ferrous/sulfide precipitation, etc.). › Include scope for workshops with all parties to review water quality as it becomes available, design plans for supply wells/piping and the piping/controls interface with the new WTP. › Include "Future Degraded Raw Water Quality" condition within the WTP project criteria including provisions for upgraded electrical capacity and future pretreatment processes. › Include design criteria for the Supply Well Design-Builder that includes quantified, performance-based metrics for measurable parameters such as elevated SDI, ORP or DO in the raw water.

Project Management and Controls

Proven, effective project management and controls are essential for delivering a project that meets your budget, schedule, safety, and quality goals. **With more than 75 years in the industry, Jacobs will implement a management framework that consistently achieves cost predictability, schedule reliability, industry leading safety, and award-winning quality.** Our management approach has been proven effective on $28 billion in water and wastewater design-build projects, $3 billion of which were delivered right here in Florida.

Jacobs' Engagement and Communication Approach

Our structured engagement process keeps City leadership and project teams connected, informed, and aligned from kickoff through completion.

Kickoff and Team Chartering

The project will begin with a kickoff session and team **chartering workshop to confirm the City's vision and goals,** define roles, and establish a mutually agreed 90-day schedule to launch critical activities. We'll continue to meet regularly with the City to track progress, address issues, and keep the project on schedule for the 2029 completion milestone.

Targeted Engagement

Jacobs will engage the right City and Owner's Representative staff and design-build team members at the right time, using a **"need-to-know" approach that minimizes disruption to daily operations** while ensuring integrated and informed decision-making. Focused coordination will align technical, construction, and operational input early to drive timely, best-for-project decisions.

Digital Platforms

The City and Owner's Representative will have **secure access to Jacobs' SharePoint document management system** housing all project materials, including the Project Execution Plan, Quality and Safety Plans, design drawings, schedules, and meeting notes. During construction, the City will also have access to Jacobs' PIMS for RFIs, submittals, design change notifications, QC documentation, six-week look-aheads, and P6 schedules. Additional tools—such as 3D design models, Bluebeam Studio Sessions, and the Decision Log—provide real-time visibility, promote collaboration, and give the City confidence in every decision.

Meetings and Check-ins with City Leadership

Jacobs will hold recurring coordination and **status meetings to keep City leadership fully informed of project progress.** These meetings—attended by Executive Sponsor Ashley Currey, Project Director Dave Schoster, and Project Manager Grant Misterly—will be scheduled at mutually convenient intervals. Jacobs will prepare and distribute all materials in advance, including presentations, schedules, and budget reports, to support focused and productive discussions.

Monthly Progress Reporting with Key Metrics

Jacobs will apply earned value methods to prepare **monthly progress reports that clearly summarize the value of work** performed on each activity. Reports will measure progress against the approved baseline schedule and budget, with all changes tracked through a structured change management process. This disciplined approach provides timely and reliable information to support informed decision-making and maintain alignment between the City and project team.

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PROJECT DELIVERY SYSTEM

At the core of our approach is our Project Delivery System (PDS)— a structured, five-step framework that guides each phase of project delivery from initiation through closeout.

The PDS integrates project management, change control, cost and schedule oversight, and transparent communication into one unified process, promoting consistent quality.

Project Manager Grant Misterly implements this PDS framework on every project that he manages, providing the City with a collaborative, transparent approach, where every decision is informed and consistent with project objectives. His leadership and application of our PDS will maintain alignment, accountability, and transparency throughout every phase of the project.

Project Leadership Spotlight

*Grant's collaborative management model has proven successful on several complex progressive design-build projects, such as Gainesville Regional Utilities' **$170M Main Street WRF PDB**, where his communication style has created a seamless partnership between the owner, designer, and contractor.*

Grant brings a structured, transparent, and responsive approach to deliver the **Rangeline Road WTP**—maintaining alignment, accountability, and momentum from start to finish:

- **Leadership by Example.** demonstrating transparent communication, accountability, and responsiveness.
- **Clear Expectations.** Roles, responsibilities, and desired outcomes are defined and communicated early.
- **Trust and Respect.** fostering an environment where everyone feels encouraged, respected, and empowered to contribute.
- **Collaborative Management Style.** Weekly meetings, joint workshops, BlueBeam design tool, and a Decision Log promote collaboration and transparency.

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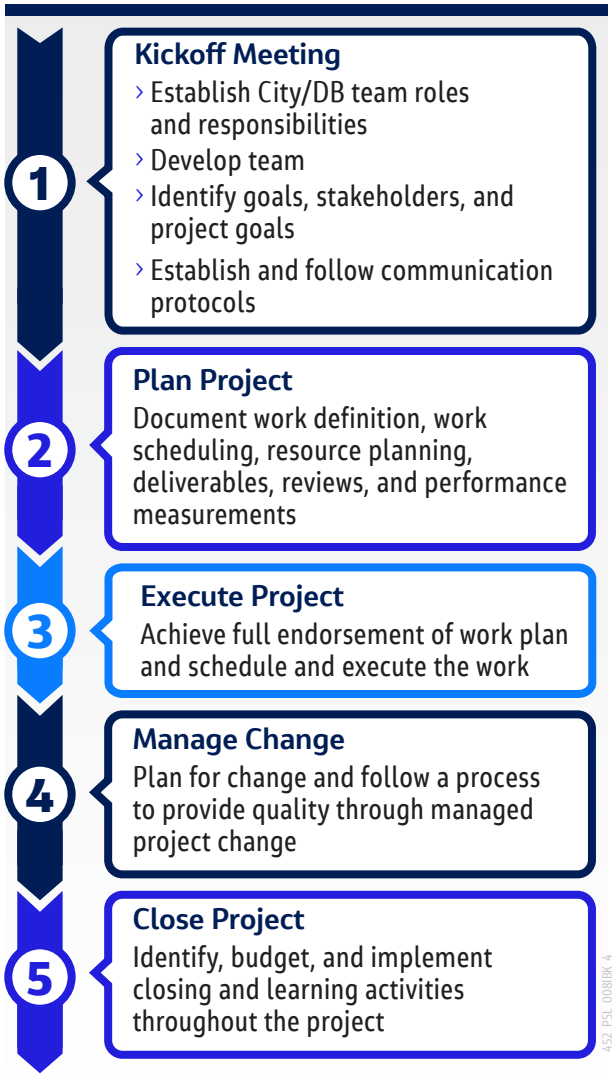
Jacobs' Five-Step Project Delivery System



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Our five-step Project Delivery System provides the framework for change, cost, and schedule control

PROJECT EXECUTION PLAN

Grant's primary responsibility is to understand the City's needs, monitor project schedule and budget, and lead a coordinated effort that enables informed decision making. He'll guide development and implementation of the Project Execution Plan (PEP)—an online document defining scope, schedule, budget, quality, risk, safety, and communication protocols.

The PEP will evolve throughout design and construction, and it will reside in a dynamic Excel-based dashboard that tracks action items, deliverables, and documentation in one searchable format.

COLLABORATION AND COMMUNICATION

Our approach to collaboration and communication is built on early alignment, targeted engagement, and transparent information sharing. From project kickoff through turnover, we'll maintain an open, two-way dialogue with the City, Owner's Representative, and other stakeholders to support "best-for-project" decisions at every stage.

Transparency forms the foundation for trust and project success. By sharing accurate, real-time information and partnering with all project stakeholders, we'll build the trust necessary for informed decision-making and successful project delivery.

PROJECT CONTROLS

Our project controls framework integrates scope, schedule, cost, change, and risk management into a single transparent system that keeps the project on track from concept through commissioning.

Working closely with Project Manager Grant Misterly, **Project Controls Lead Connor Wright** will monitor staffing, resources, document control, and budget and schedule across all project phases.

Working closely with Grant and Connor, **Preconstruction Manager and Lead Estimator Ralph Myers** will develop and maintain the project cost model and oversee schedule development and change and risk management during preconstruction.

Our Collaborative Biweekly Meetings Drive On Time Informed Decision Making

Biweekly Meetings

- Regularly scheduled every 2 weeks
- Topics vary based on priority: facility design, reviews, ODP, value engineering, Decision Log review, etc.

PowerPoint based Discussion

- Specific topic focused walk-through with the right team members instead of pre-meeting tech memos
- Present alternatives, info needed to make an informed decision and a recommendation

Live Note Taking

- Real-time documentation during meetings to capture decisions made
- Notes captured directly on the PowerPoint slides
- All key decisions transferred to the Decision Log

Automatic Meeting Minutes

- PowerPoint evolves into official meeting minutes
- Streamlined—no separate memo prep required

Action & Guidance Summary

Each meeting record begins with:

- Action items
- Decisions
- Risks
- Key design guidance

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Our planned biweekly meetings and other as-needed meetings and workshops foster collaboration and drive decision making, accountability, and continuous progress towards the 2029 completion date.

Our integrated project controls framework integrates cost, schedule, change, risk, and document management into a unified system that drives accountability and informed decision-making throughout design and construction. This data-driven, transparent, disciplined process will keep the Rangeline WTP on schedule, within budget, and performing to the City's expectations.

COST CONTROL

We'll manage cost through a transparent, open-book GMP process supported by continuous cost modeling. Our team will align technical and delivery approaches with the City's budget from project initiation to maximize investment and provide early cost certainty.

During design, we'll maintain a decision log and live cost model to track cost and schedule impacts in real time. This open, collaborative approach fosters trust and gives the City clear visibility to make timely, data-driven decisions. Proven on prior Florida PDB projects, this process has delivered competitive GMPs and returned unused contingency—demonstrating our commitment to best value.

SCHEDULE CONTROL

We'll use a resource-loaded P6 schedule to manage all project phases, from design through startup and commissioning. Weekly six-week look-ahead schedules will coordinate activities with subcontractors, the City, and your Owner's Representative, enabling proactive risk identification and timely mitigation.

Led by Project Manager Grant Misterly, we'll implement a detailed staffing plan to confirm the right resources are applied at the right time—keeping the project on track for the 2029 completion milestone.

Our disciplined project controls framework and proactive schedule management have consistently delivered early project completion across Florida and nationally. Through early work packaging, expedited permitting, and resource-loaded scheduling, we've shortened project durations by months—often surpassing aggressive client milestones. These proven strategies will guide delivery of the Rangeline WTP, providing the City with confidence that Jacobs will achieve the 2029 completion goal while maintaining quality, safety, and cost performance.

Integrated Project Controls

COST CONTROL
- Transparent, open-book GMP process with continuous cost modeling for early cost certainty and no surprises

SCHEDULE CONTROL
- 6-week look ahead and resource-loaded P6 schedules ensure project milestones are met

DOCUMENT CONTROL
- Centralized SharePoint and PIMS platforms provide real-time transparency for the City and Owner's Representative

RISK MANAGEMENT
- Continuous identification and mitigation of risk using the risk register yields the proper contingency for each GMP and minimizes cost impacts to the project

CHANGE MANAGEMENT
- Structured, transparent change management process minimizes cost impacts and surprises while supporting informed decisions

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Our integrated project controls work together to maintain discipline, drive accountability, avoid surprises, reduce cost, and support informed decision-making throughout design and construction.

DOCUMENT CONTROL

We'll maintain a project-specific SharePoint site to house all project documents, including the PEP, Quality Management Plan (QMP), Safety Management Plan, design drawings, cost model, schedules, meeting notes, and 3D models that the owner, Owner's Representative, and other key project stakeholders will have access to.

During construction, the City will also have access to our **Project Information Management System (PIMS)** for up-to-date construction information, including RFIs, submittals, design change notifications, QC documentation, six-week look-ahead, and P6 schedules. This system provides transparency and gives the City real-time visibility into project progress.

RISK MANAGEMENT

We'll embed proactive risk management into every phase of the Rangeline WTP project. Our team will maintain an online risk register beginning in early design, identifying, tracking, and managing risks and their associated mitigation strategies. The register will be updated continuously through construction as new information emerges and project conditions evolve.

In identifying the key risks that appear earlier in this section, we've developed a preliminary risk register, which we'll continue to develop once the project scope is finalized. For risks that can't be avoided or eliminated, we'll assign potential impacts in the risk register and then run a Monte Carlos analysis to develop the appropriate amount of contingency to carry for each GMP.

Risk Register

Jacobs

Risk ID	Risk Category	Type	Description	Response	Mitigation Title (also, if no longer valid, explain why)	Design changes and evolution %	Project Total Value
1	Construction	Threat	Unforeseen and existing conditions found in the field are different from those shown in as builts that could not be discovered through due diligence by Jacobs	Transfer	This is a risk commonly taken on by the owner as they are in a position to best manage the risk. As such, a change order would be needed if this comes up or an allowance or owner contingency budget could be carried in the GMP to fund this.		
2	Construction	Threat	Unforeseen and existing conditions found in the field are different from those shown in as builts or through limited investigation in the preconstruction phase that could be avoided through due diligence by Jacobs.	Accept	Perform some underground investigative work via GPR, vacuum excavations and soft digs. Also, contingency will be carried in GMP(s) for potential impacts. Early work package may provide some opportunities to discover differences so that impacts can be accounted for in final GMP.		
3	Construction	Threat	Unsuitable soils	Transfer	Mitigate as much as possible with geotechnical investigation and review of any previous geotechnical reports/work performed. This is a risk commonly taken on by the owner as they are in a position to best manage the risk. As such, a change order would be needed if this comes up or an allowance or owner contingency budget could be carried in the GMP to fund this.		
4	Construction	Threat	Spatial Limitation of the site. Tight and difficult access.	Accept	Mitigate and accept: Work closely with the City to establish available footprint/room, and access points to address their limitations and needs. Coordinate with the design & construction team on temporary measures, needs and best use of site areas. (See logistics plan)		
5	Eng/Design	Threat	Jacobs design approach is based upon the use of and interface with some existing structures of varying ages with unknown condition. If the condition of the existing structures is poor our concepts as presented and selected upon may not be feasible to implement or the approach may have to be adjusted.	Avoid	We have received a preliminary condition assessment and as built drawings that indicate the structures are in good condition and it would be feasible to use them as intended. Through further investigation during design, including potentially a limited dive inspection we can further mitigate any risks into our design.		
	[illegible]ign	Threat	Coordination with other ongoing design and construction work by others at the WTP		Mitigate and accept: Coordinate closely with the City's PM for open channel of [illegible]unication between projects and associated consultants and contractor[illegible]. Kee[illegible] communications and progress.		

Project risks will be logged into the risk register and continuously monitored until they're mitigated, avoided, or the project is closed out. They'll also provide the basis for contingency, which will be developed transparently with the City.

CHANGE MANAGEMENT

Effective change management begins with establishing a clear and documented baseline for scope, schedule, and budget at project initiation. We'll apply a proven scope management process to track and evaluate all changes from early design through construction, giving the City full visibility into potential impacts before decisions are made.

During design and GMP development, we'll maintain a Decision Log capturing all design refinements, scope clarifications, and cost and schedule implications in real time. Once the GMP is executed, we'll reconcile all changes against the GMP, documenting costs, buyout savings, and contingency use, and will share these logs with the City. This transparent, collaborative process minimizes costly change orders impacting budget and schedule.

HEALTH AND SAFETY

Safety is an essential part of our culture and is embodied in our BeyondZero® Health, Safety, and Environment (HSE) program. Our company culture is built on care, accountability, and prevention to promote safe work practices and protect people, property, and the environment. *The goal is simple: zero injuries, illnesses, and environmental impacts* across every phase of the Rangeline WTP project.

Decision Log Tracks Change to Reduce Risk

1		Jacobs	20	Norwood WTP Expansion Phase 1	7/31/2018	Agreement with Harn R/O for Membrane Supplier	Harn R/O		9/12/2018
2		Jacobs	20	Norwood WTP Expansion Phase 1	8/10/2018	Permitting with Miami Gardens and Derm Issues	DERM		9/28/2018
3		Harn R/O	20	Norwood WTP Expansion Phase 1	9/10/2018	Hard Offsite Storage and Billing	Harn R/O		9/10/2018
4		Jacobs	20	Norwood WTP Expansion Phase 1	8/28/2018	Subcontractors Master Schedule	Harn R/O		10/4/2018
5		Jacobs	20	Norwood WTP Expansion Phase 1	8/28/2018	Issue NTP to Subcontractors	Jacobs/Harn R/O		9/4/2018
6		Jacobs	20	Norwood WTP Expansion Phase 1	8/2/2018	Purchase Order from NMB amount does not match GMP submitted	NMB Water		
7		Jacobs	20	Norwood WTP Expansion Phase 1	8/2/2018	Signed and Sealed Conformed Drawings	DERM		10/2/2018
8		Harn R/O	20	Norwood WTP Expansion Phase 1		Line Item Price Discrepancy			9/12/2018
		Jacobs	20	Norwood WTP	9/13/2018	Available Raw			

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Our Decision Log captures all design decisions that could impact cost or schedule, promoting informed decision making and an accurate cost model throughout preconstruction.

Our BeyondZero® culture delivers industry leading results

0.18 **Total Recordable Incident Rate (TRIR):** industry average: 2.4

0.04 **Lost Time Incident Rate (LTIR):** 20x better than dustry average

More than 24 million consecutive work hours without a lost-time incident.

Zero recordable incidents on the Bonita Springs Utilities RO WTP.

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Safety Manager Alan Cyrier will lead development of project-specific HSE, which includes OSHA standards and best practices throughout design and construction. This plan will be initiated during the design phase and continuously updated through construction and commissioning. It will define roles, responsibilities, and procedures for identifying and mitigating risks while fostering a culture of safety awareness and shared responsibility.

Alan will work closely with our regional HSE leadership and the City to meet or exceed all OSHA, State of Florida, and Jacobs' safety standards by focusing on eliminating:

- Injuries or illnesses to staff, subcontractors, or individuals onsite
- Detrimental impacts on the environment
- Violations of applicable occupational health, safety, and environmental regulations

Six Core Elements of Jacobs' HSE Program

Jacobs' HSE framework aligns with the City of Port St. Lucie's safety and environmental priorities—building a culture of accountability and prevention that protects people and the environment throughout project delivery:

- **Comprehensive Project-Specific HSE Plan:** Developed and implemented at project initiation to address hazards, required training, and emergency response procedures.
- **Daily Engagement:** Tailgate meetings, site briefings, and ongoing safety communications led by field supervisors and project leadership.
- **Active Field Leadership:** Jacobs' leaders will maintain a strong field presence, reinforcing accountability and safe work behaviors.
- **Subcontractor Integration:** Prequalification based on safety performance (EMR < 1.0) and alignment with Jacobs' BeyondZero principles.
- **Behavior-Based Safety (BBS):** Ongoing observation, coaching, and recognition to encourage positive safety actions.
- **Environmental Stewardship:** Stormwater protection, spill prevention, and responsible waste management to safeguard natural resources.

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Our HSE program is founded on proactive leadership, daily engagement, and accountability, reflecting our BeyondZero® culture. The program will drive safety and environmental performance from design through construction, aligning with the City's commitment to protecting its workforce, community, and environment. This structured approach confirms all work is performed in full compliance with OSHA, FDEP, and City standards.

QA/QC PROGRAM

We'll apply a comprehensive QA/QC program that embeds quality into every phase of the Rangeline WTP project—from design development through commissioning. This approach, proven on numerous successful PDB projects for the City of Tampa, Bonita Springs Utilities, and North Miami Beach Water, delivers facilities that perform reliably and meet long-term operational and regulatory goals.

Design/Preconstruction

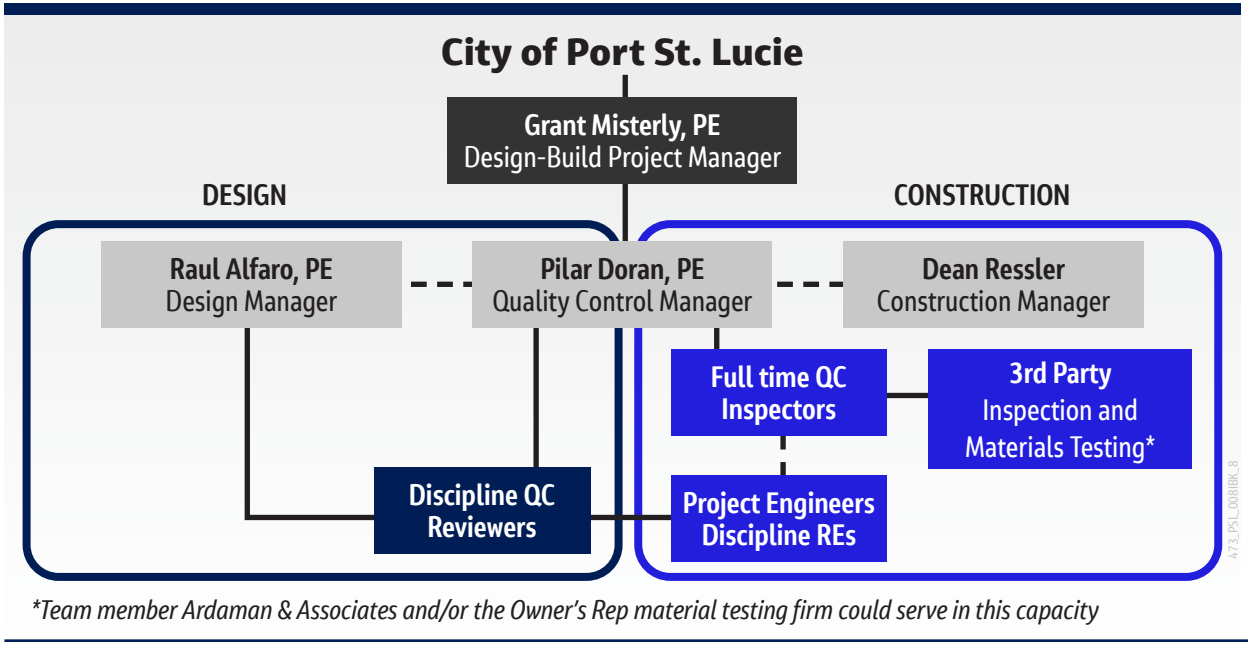
At project initiation, Quality Manager Pilar Doran will develop a project-specific Design QMP, collaborating with the City and its Owner's Representative.

Our QMP will align with Jacobs' ISO 9001:2015-certified global quality standards and industry best PDB practices. It will define the structure, responsibilities, and review procedures required to maintain quality and consistency throughout the preconstruction phase of the project.

We'll assign independent, senior-level reviewers—separate from day-to-day design—to verify reports, calculations, material specifications, and design documents for technical accuracy, compliance, and constructability. Early multidisciplinary reviews will identify potential issues, minimize downstream design changes, and reduce construction rework.

At each milestone (30%, 60%, and 90% design), we'll gather comments from all project stakeholders using an online Bluebeam platform, facilitate quality review workshops to adjudicate comments, discuss value engineering (VE) opportunities, and incorporate constructability and operations feedback. This collaborative approach integrates quality into the design process in a well-documented and streamlined manner rather than correcting issues at the end, which can be costly.

QA/QC Process



Our integrated organization provides multiple touchpoints for quality checks during design and construction.

Construction/Commissioning and Startup

We'll implement a Construction Quality Management Plan (CQMP) that builds on the quality framework established during preconstruction. Quality Manager Pilar Doran will work closely with Construction Manager Dean Ressler and Site Superintendent Gary Giordano to monitor daily quality performance and confirm all work complies with project specifications, contract documents, and regulatory requirements.

QC Staffing. We'll assign a dedicated QC Superintendent—reporting directly to Pilar and Dean—to conduct on-site inspections, including pre-pour, embedment, and pressure testing. Our onsite project engineers will provide continuity between design and construction to maintain design intent and support field decision-making.

Third-Party Testing. We'll engage either your Owner's Representative's third-party testing subconsultant or team member Ardaman to perform independent materials testing and special inspections, further validating compliance with project standards and technical requirements. Testing results, inspection reports, and photographs will be sent independently to Jacobs, the City, and your Owner's Representative and also uploaded to PIMS, allowing the City real-time visibility into project quality metrics.

Quality Issues Documentation. A Quality Issues Log will be housed on the project PIMS site and to track all nonconformances, corrective actions, and closeouts. During regular Quality Coordination Meetings, we'll review progress, discuss recurring themes, and identify continuous improvement opportunities. Monthly Quality Reports will be issued to the City and Owner's Representative summarizing field inspections, laboratory testing, and corrective actions, maintaining full alignment with City expectations.

Quality Issues Log Drives Quality Construction

RFI ID	RFI Title	Requested By	Final Review Status	Status	Closure Date
RFI 0001	L-2022M017 SJCUD Updated GMP drawings! Reply 10.24.23	Crom Corporation	Approved	Closed	11/2/2023
RFI 0002	Ladder cages on storage tanks	Crom Corporation	Approved	Closed	11/9/2023
RFI 0003	Ductile Iron Spool Piece Waterstop Location	JB Coxwell Contracting	Approved	Closed	11/1/2023
RFI 0004	Tanks and Under-Slab Piping	JB Coxwell Contracting	Approved	Closed	11/10/2023
RFI 0005	Scheduling for tanks and anti-vortex plate for Facility 50	Crom Corporation	Approved	Closed	11/8/2023
RFI 0006	Secondary Clarifier (30) Circular Mechanism	Jacobs	Approved	Closed	11/16/2023
RFI 0007	Secondary Clarifier Pole Lights	Jacobs	Approved	Closed	11/13/2023
RFI 0008	Width of Waterstop for Undertank Piping	JB Coxwell Contracting	Approved	Closed	11/22/2023
RFI 0009	PDPS JBC Submittal No. 6 ST-N3 Invert	JB Coxwell Contracting	Approved	Closed	11/22/2023
	equirements for Ditch Bottom Inlets	JB Coxwell Contracting	Approved	Closed	11/22/2023

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The Quality Issues Log will be reviewed at regular Quality Coordination Meetings to identify any quality concerns and document the resolution for each.

Integrated Design and Preconstruction

We deliver every PDB project using our fully integrated design and preconstruction approach, which combines innovation, transparency, and collaboration from project initiation through final commissioning. We'll deliver the Rangeline WTP project with the same approach, which aligns directly with the City's objectives for reliability, cost control, and long-term operability.

Our integrated design and preconstruction framework leverages our proven PDB process, combining design excellence with disciplined project management. By involving the City, your Owner's Representative, and key stakeholders early in design development, we'll create a seamless transition from concept to construction—reducing risk, maintaining cost and schedule certainty, and producing a best-for-project outcome.

Through structured workshops, early risk identification, and iterative reviews, we'll provide the City with real-time cost, schedule, and performance data to make informed decisions every step of the way.

Jacobs' Integrated Design and Preconstruction Advantages

Jacobs' design and preconstruction approach provides the City of Port St. Lucie with the proven framework, innovation, and collaboration needed to successfully deliver the Rangeline WTP.

- **One Integrated Team.** Designers, constructors, and operators work together from project initiation through commissioning, promoting alignment and efficiency.
- **Continuous Value Engineering.** Value engineering concepts are documented and costed throughout the design process.
- **Collaborative Workshops.** Structured sessions with City staff and Owner's Agent establish design criteria, prioritize goals, and make informed, transparent decisions.
- **Transparent Cost Modeling.** Real-time estimates and open-book GMP development provide cost certainty that fosters trust and informed best-for-project decision making.
- **Adaptive Master Planning.** Future-ready design enables phased expansion and resilience to changing regulatory and environmental conditions.
- **Innovative Tools.** Jacobs' proprietary platforms-Replica™, CPES, and Bluebeam Studio-optimize performance, cost, and communications.
- **Risk-Based Decision-Making.** Integrated risk identification and mitigation support cost certainty and schedule reliability.
- **Value Engineering, Constructability, and Operability Focus.** Continuous reviews by constructors and operators results in a cost-effective, buildable, safe, maintainable, and operator friendly

COLLABORATIVE PLANNING AND CONCEPTUAL DESIGN DEVELOPMENT

Thorough upfront planning is essential to design delivery success. Our collaborative process will engage the City and Owner's Representative through a variety of ways, helping you make informed decisions regarding facility design and establishing the foundation for a seamless construction process.

Early Alignment Workshops

The design process will begin with a series of collaborative workshops with the City, Owner's Representative, and key Jacobs team members to establish design criteria, confirm project goals and constraints, and identify priorities. These sessions will include representatives from the City's Engineering and Operations staff, Owner's Representative, and our design, construction and commissioning teams and will confirm expectations for cost, schedule, performance, water quality, flexibility, sustainability, and resilience.

Condition Assessment, Alternatives Analysis and Lifecycle Evaluation

Our team will conduct a condition assessment to better understand the actual condition of the existing Rangeline Repump Station and identify potential areas of vulnerability that require attention during this project or in the future. A workshop and summary technical memorandum capturing the related costs, risks and decisions made by the City will be produced and the short and long term needs will be included in the design and phasing plans, respectively.

We'll conduct a structured alternatives analysis in a series of workshops to evaluate design, site plans, membrane selection, and other process options for the Rangeline WTP during conceptual design development. Workshops will be no more than 1 to 2 hours in length, focused on vital topics with supporting information, and will include the right stakeholders and decision makers. The analysis will balance technical performance, capital and operating costs, schedule, and long-term lifecycle value. Each alternative will be assessed through a multi-criteria decision-making framework that incorporates reliability, maintainability, and energy efficiency.

We'll apply lifecycle cost modeling and probabilistic risk analysis using simulation techniques to help the City identify cost and schedule drivers. In parallel, Jacobs' proprietary **Replica™ optimization tool** will evaluate treatment processes to optimize water quality and minimize energy and chemical usage. These tools, along with the collaborative workshops, will allow the City to make informed decisions on the final design concepts to implement prior to detailed design development.

Master Planning with an Adaptive "Twist"

Our adaptive master planning approach is a more inclusive process that considers multiple potential pathways related to the future of water treatment, prioritizing immediate needs and adapting as needed to future conditions.

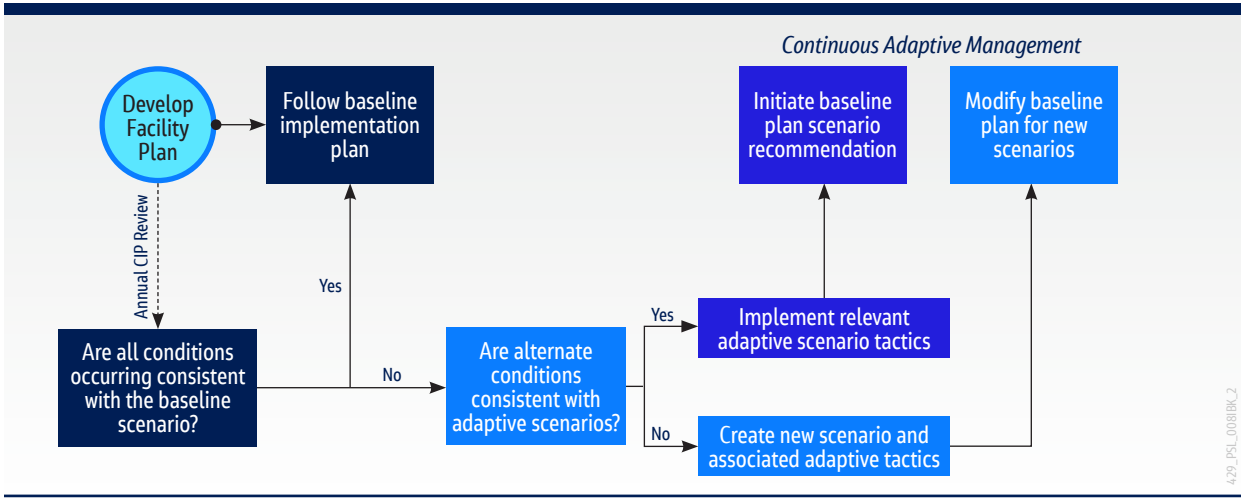
Investments made today must accommodate future conditions related to managing aging assets, looming regulatory mandates, water quality challenges, energy management, financial capacity and debt service coverage, new advances in technology, and extreme weather events.

Many of these conditions are difficult to consider linearly in a typical master planning effort as their impacts can change over time, can be minimized with advanced planning, and can be integrated with local sustainability and resilience priorities. For this reason, adaptive planning is surpassing conventional master planning for future-proofing municipal infrastructure.

While having an implementation strategy is important, the key to adaptive planning is not assuming when investments may be needed. Instead, we'll monitor triggers and investment drivers that ultimately indicate when it is time to expand, modify, and construct infrastructure. During the planning process, we'll collaborate with the City to develop a list of potential future scenarios and then engineer the best concept to implement in the event the scenario becomes a reality. This approach will provide the City with an action plan for addressing its biggest risks.

At the end of the conceptual design development process, we'll finalize the design concepts, site layout, and master plan approach in the Preliminary Engineering Report (PER) before entering into detailed design. This will allow our preconstruction team to develop a

Adaptive Planning Process Makes the Rangeline WTP "Future Proof"



Adaptive planning will provide the City with a "no regrets" solution that minimizes investment and provides maximum flexibility to respond to changing conditions.

cost model, determine the number of GMPs and work packages, and establish the project's risk profile in the risk register, which is discussed later in this section.

DESIGN DEVELOPMENT AND VERIFICATION

We'll implement an organized and transparent design development process aligned with key milestones. During each design phase, the City and Owner's Representative will participate in design component and milestone workshops, QA/QC reviews, and constructability assessments to confirm design direction and budget alignment.

Throughout design, we'll engage key stakeholders in cost model and schedule reviews as well as continuous value engineering (VE), ensuring the most viable concepts for reducing cost and optimizing performance are identified, evaluated, and costed so the City can make informed decisions on the final scope and the design team can effectively design to budget.

Preliminary Design (30%)

During preliminary design, we'll advance the conceptual layouts and system configurations and begin developing our construction approach based upon the major decisions presented in the PER. Using Replica™ and CPES estimating tools, we'll further establish and refine the cost model and schedule, update process simulations, and verify hydraulic performance. The 30% design will establish the basis for early equipment procurement, GMP work packages, and the sequence of work, as well as inform risk-based GMP development. General layout and section drawings for all facilities will be included, as well as detailed drawings and specifications for the work packages and electrical equipment included in GMP No. 1.

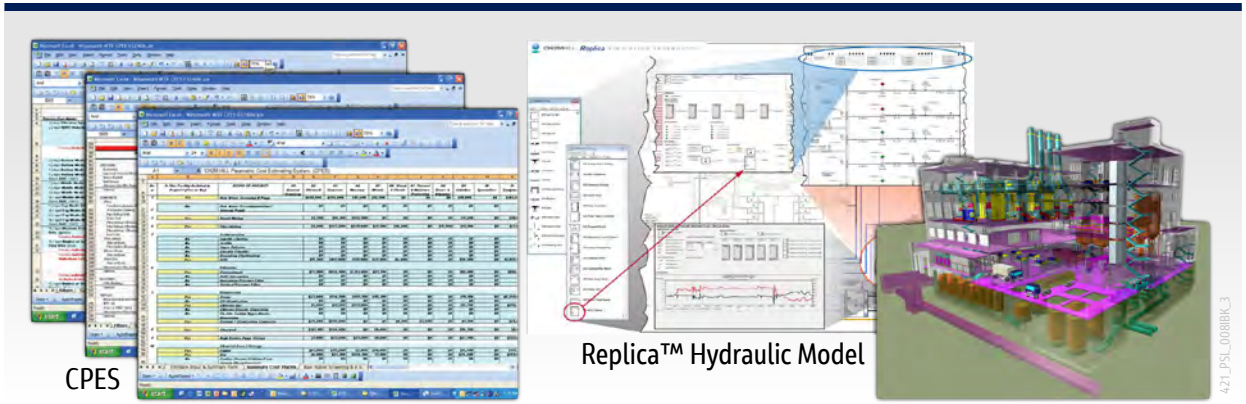
Intermediate Design (60%)

At 60% design, we'll further develop 3D models, detailed drawings, and specifications for the majority of the components at each facility and area of the WTP. Meanwhile, drawings and specifications for the work packages and process and electrical equipment included in GMP No. 2 will be brought to an approximate 90% level of design to support their early procurement and GMP development. The cost model, sequencing of work, and schedule detail will continue to evolve while constructability, operability, and maintainability are evaluated through multi-disciplinary reviews supported by 3D modeling sessions and digital walkthroughs.

Final Design (90% and 100%)

The remainder of the WTP work packages and process equipment will be brought to a 90% design level and form the basis for GMP No. 3. We'll advance the design to completion while concurrent GMP negotiation and permitting activities are underway. The 90% documents will serve as the basis for permit submittals and GMP procurement packages, while the 100% design will capture all feedback from the City, Owner's Representative, and subcontractors, increasing design certainty and lowering the risk exposure and contingency included in the GMP—saving the City money.

Jacobs Tools Facilitate Design Development



Making timely and informed decisions is key to meeting design milestones. Jacobs brings the City valuable tools that create early and accurate project designs and cost estimates from preliminary concepts. These tools—including our Conceptual and Parametric Estimating System (CPES), 3D design development, and Replica™, our dynamic process simulation model—quickly provide highly accurate information that can be used to compare design alternatives and make best-for-project-decisions.

Decision Log and BlueBeam Studio Sessions

We'll maintain a live, cloud-based Decision Log to document key technical and management decisions made throughout the preconstruction phase. The Decision Log will be hosted on the project SharePoint site, allowing City and your Owner's Representative to view real-time updates and trace decisions that affect scope, cost, and schedule.

Having a central repository with all key decisions captured, along with their cost and schedule impacts, allows our team to manage priorities, drive informed and timely decisions, and prevent trying to identify decisions previously made.

Interactive Bluebeam Studio Sessions will be used during design package facility/area and milestone reviews to facilitate collaboration, document review comments, and capture the adjudicated responses from the design-build team.

The City and Owner's Representative will be able to provide live feedback, comments, and markups directly within the design documents, supporting transparency, accelerating review turnaround, and providing a record of how review comments will be addressed.

STORMWATER DESIGN AND PERMITTING

The Rangeline site currently has pumping facilities, a water storage tank, three buildings, driveways, and stormwater management areas consisting of dry detention and wet detention areas. The project site is not located within a designated FEMA flood plain, which will simplify permitting efforts for future phases.

Permitting Status

The Riverland Development surrounds the proposed WTP site, and the master drainage system for the Riverland project will receive the stormwater discharge from the WTP project. This area was issued a South Florida Water Management District (SFWMD) Conceptual ERP Permit (Permit Nos. 56-00558-S and 56-00558-S04), and the proposed Rangeline WTP project will be required to meet the land use and storage assumptions established by this permit.

Online BlueBeam Design Tool Promotes Collaboration

Bluebeam Studio Sessions promote collaboration, continuous QC, transparency, and real-time City input during design development.

	Permitting Impervious Area	Existing Site	Remaining Permited Impervious Area	Phase 1 - 10 MGD WTP	Remaining Permited Impervious Area	Phase 2 - 20 MGD WTP	Remaining Permited Impervious Area	Phase 3 - 30 MGD WTP	Remaining Permited Impervious Area	Phase 4 - 40 MGD WTP	Remaining Permited Impervious Area	Total Existing and Proposed Impervious Area
	(SF)	(SF)	(SF)	(SF)	(SF)	(SF)	(SF)	(SF)	(SF)	(SF)	(SF)	(SF)
Roof Area	192,500	22,648	159,852	56,848	103,004	30,270	72,274	7,923	64,761	56,061	8,700	183,800
Paved Area	110,000	24,686	85,314	60,075	25,239	0	25,239	0	25,239	17,091	8,148	101,852
Total Impervious Area	302,500	57,334	245,166	116,925	128,243	30,270	97,973	7,923	90,000	73,152	16,848	285,652

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The intensity of development during the various project phases will determine whether the existing wet detention pond can accommodate all stormwater runoff.

The Rangeline Repump Station Project was issued an Environmental Resource Permit (ERP) No. 56-00558-S in 2007 by SFWMD. The site discharges from the existing wet detention area to the north into former agricultural ditches. However, upon construction of Southwest Discovery Way, it will discharge into the proposed road drainage system. The portion of Southwest Discovery Way adjacent to the proposed project is currently under review by SFWMD.

The wet detention area is sized for the existing development on the site and some, or all, of the future development. The proposed WTP project will need to meet the land use, grading, and discharge requirements of the Riverland Development Conceptual ERP permit. Based on our review of the SFWMD permitting website, an application is pending, which appears to include revisions to the land use and grading assumptions. The proposed Rangeline WTP project will be required to meet these revised assumptions also.

Preliminary Stormwater Assessment

Without knowing the revised assumptions of the Riverland Development Conceptual ERP and assuming that the original Rangeline Site ERP wet detention sizing and discharge will be incorporated into it, we performed a desktop review of the ERP to preliminarily assess if the existing wet detention pond can provide enough storage for the proposed WTP project. From that review, we've preliminarily determined that Phases 1 through 4, as shown in our Alternative 1 concept in the Project Overview, can be constructed using the existing stormwater pond, with a surplus of approximately 16,850 SF of impervious area.

This area includes the existing wet detention area and area west of the wet detention area. The area east of the wet detention area is not included and will likely require an additional stormwater management area, which could include expanding the existing wet detention or developing new dry or wet detention areas when improvements on the east side are designed and constructed.

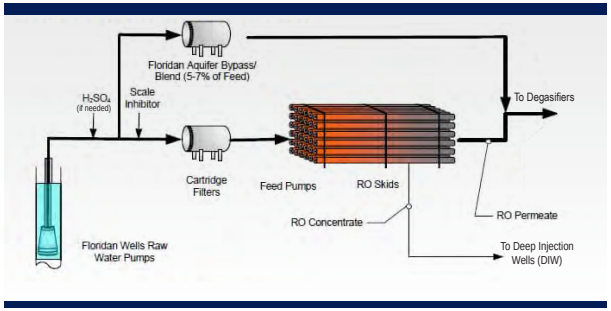
We anticipate that the area east of the existing wet detention area will require at least 15 percent of the developable land for stormwater management, which will vary, depending on the intensity of the proposed development.

Our research into these ERPs and our preliminary calculations will allow us to get off to a quick start working with SFWMD to make certain the WTP project complies with the revised Riverland Development Conceptual ERP. In the meantime, our preliminary findings based on the original Rangeline WTP ERP should give the City some confidence that the existing onsite wet detention pond is likely sized for a good portion of the WTP buildout and possibly all of it.

PRETREATMENT AND BLENDING

While the water quality of the new wellfield is largely unknown, the water quality measured from the onsite Floridan Aquifer well F-21 (~2,700 mg/L TDS) shows that it's less saline than the current well water quality at the nearby JEA wellfield. While salinity is expected to increase over time, the preliminary water quality indicates the potential to blend well water around the RO system, adding hardness and alkalinity to the permeate to reduce post-treatment cost. The high chloride-to-sulfate mass ratio within the well water blend could increase the corrosion potential of the finished water, which needs to be evaluated by our specialists during the optimal corrosion control treatment (OCCT) analysis.

Optional Bypass Blending



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We can include provisions for bypass blending to increase operational flexibility and decrease operational costs if water quality permits and the City is interested in implementing.

The JEA wellfield has not experienced issues with silt and sand production, which suggests cartridge filter pretreatment may be adequate to supply low-SDI feed water to the RO system. However, our experience has shown that wells can behave differently, even within the same wellfield. Multi-element sand strainers are a relatively low-cost protection against silt and sand production. They're also an excellent indication of excessive drawdown as sulfide is mixed with air and oxidized. Strainers can mitigate well water quality, which is one of the most common delays when commissioning membrane facilities.

For this reason, we recommend monitoring well water quality and allocating space on the WTP site for future strainers, even if the current Phase 1 wells do not show a need. A review of the preliminary water quality indicates that the new RO system can operate at 85+ percent recovery, without the need for sulfuric acid pretreatment.

We've allocated space within our preliminary RO building plans for both pretreatment sulfuric acid and scale inhibitor chemical storage and feed systems, in case they're needed. If additional well water quality data confirms that scale inhibitor is sufficient to control scale without acidification, the allocated space can be allocated to other operator uses.

MEMBRANE DESIGN AND OPTIMIZATION

The RO membrane system is the heart of the new WTP, and its optimization is critical for achieving the lowest lifecycle cost at the current water quality while maintaining the flexibility to treat changing future water quality. We'll use our proven collaborative membrane system design approach to provide the City with the best combination of current optimization and future flexibility.

Membrane System Modeling Optimizes the Design to Reduce Cost

Our Replica™ dynamic simulation model is linked to the latest membrane manufacturer projection software, feed pump, energy recovery device, and interstage pump curves, optimizing RO system performance. Using Replica™, we'll quickly evaluate hundreds of combinations of flux, recovery, membrane type, energy recovery, interstage pumping, and membrane staging configurations using both current and projected future water quality to optimize RO system performance, flexibility, and lifecycle cost. This modeling effort also includes a sensitivity analysis to determine the best combination of lowest lifecycle cost operation at the initial observed water quality while efficiently accommodating changes in future water quality.

REPLICA™ DYNAMIC MODELING

Digital solution that evolves with the project, enabling quick analysis and response to system changes

WHAT IT DOES

Adaptive Planning Capabilities

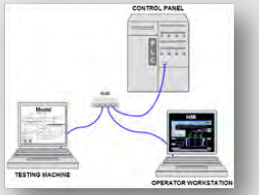
- Integrates existing models and data within a comprehensive, dynamic digital master plan
- Quickly analyzes system changes: new demands, regulations, and infrastructure; climate change
- Uses financial and non-financial metrics to right-size new infrastructure and phase appropriately

Integrated Design Analysis

- Facilitates alternatives evaluation
- Simulates hydraulics + process + automation/operations
- Considers system dynamics during design
- Optimizes process targets, energy, and chemical consumption
- Simulates control logic to resolve performance issues and optimize tuning

Streamlines Commissioning

- Connects model to PLC and testing programming
- Compares to controls design



Flight Simulator for Operators

- Trains operators by connecting model to offline system SCADA HMIs

Operational Support Digital Twin

- Feeds live data and uses model developed during design to simulate system
- Soft sensors observe system performance
- Observes pump performance
- Updates digital twin as system updates

PLANNING	DESIGN	CONSTRUCTION	FACILITY STARTUP	OPERATIONS
Optimize Adaptive Planning	Optimize Design	Control System Testing	Operator Training	Operations Support

BENEFITS TO THE CITY

Optimizes Level of Service

- Performs "what if" scenarios if the JEA or Prineville WTPs are down
- Right-sizes plant with a cost analysis and reliability optimization
- Optimizes phasing for reliability (now, 5 yrs, 15 yrs, 25 yrs)
- Provides demand forecast analyses (level of service)
- Provides planning-level cost estimates (CPES) and order-of-magnitude planning costs

Optimizes Mixing and Pump Selection

- Assesses ability to handle future demands and mixing scenarios
- Optimizes pump selection across anticipated demands
- Simulates dynamic demands to confirm pump sizing and optimizes energy consumption
- Simulates process conditions to optimize chemical dosing
- Understands operational implications of design decisions

Streamlines Factor Acceptance Testing

- Reduces commissioning issues and time to full operation

Enhances Operator Training

- Trains operators with a flight simulator that uses HMI connected to the model for realistic what-if scenario training

Provides Operational Support

- Digital twin analyzes what-if-scenarios to prepare, train, and optimize operations
- Observes pump performance with less instrumentation
- Explores emergency scenarios

Florida utilities have taken advantage of Replica™, including Bonita Springs Utilities, who worked with Jacobs to optimize its wellfield control strategy. Applying Replica™, we optimized total energy consumption at BSU's wellfield and RO WTP, saving $180K per year in energy costs.

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Designing RO Systems with Operations in Mind

Our membrane system design process is rooted in Jacobs' extensive operations experience developing full-scale systems that are operator- and maintenance-friendly. **Our real-world operations experience makes us more effective in integrating operational needs into RO skid designs when working with membrane suppliers. We don't settle for standard designs, but instead optimize based on your preferences and our operations experience and facility-specific needs, which include:**

- Providing access to equipment/instruments for maintenance and calibration
- Minimizing air intrusion and allowing for fast draining
- Easy loading of membranes

In addition to the RO skid, we take a holistic approach to membrane facility design, which includes:

- Developing an efficient building configuration that allows for maintenance, including membrane loading, pressure vessel replacement, and feed pump maintenance
- Encouraging collaboration early within the design process, including site visits to different membrane facilities to demonstrate and identify design features that are most important to City Operations before tailoring our design to meet your needs
- Incorporating building considerations, including center trenches, independent membrane train rows, space for rapid/ low cost future expansion, roll-up doors, bridge cranes, loading docks, and accessible HVAC/overhead lighting
- Configurating an operator friendly clean-in-place (CIP) system design that includes features like:
  - Sizing the system to clean an entire stage, reducing overall cleaning time
  - Chemical preparation / mixing within a makeup tank at ground level
  - Horizontal cartridge filters for easy changeouts between cleaning cycles
  - Accessible instrumentation and valves to allow cleaning by a single operator
  - Observation of CIP solution color at the diversion to the DIW
  - Quick filling of the cleaning tank with degasified permeate

Accommodating Future Conditions

In addition to modeling the impacts of future water quality, our proven membrane design process also considers the cost-benefit of installing "future-ready" components that allow maximum flexibility as the City's needs change, including:

- Expandable skids that are sized for future water quality. This approach, used in our Bonita Springs' design, sized the original RO feed pumps, pretreatment, and piping for low recovery, treating 8,000 mg/L total dissolved solids (TDS) feed water. The skids were cost-effectively expanded from 1.5 to 2.0 MGD by adding vessels when the water quality didn't degrade beyond 5,000 mg/L.
- Incorporating higher low-cost higher-pressure ratings of piping and pressure vessels
- Installing a future-ready feed pump with larger conduit, extra space within the electrical room, and larger pump cans to readily increase feed pump power and stages for future higher pressure operation, without losing efficiency
- Installing a flexible energy recovery device with changeable nozzles and volutes, along with connections for a future interstage booster pump for higher TDS operation
- Carefully considering materials of construction
- Accommodation for future higher-pressure third-stage conventional or closed-circuit RO skids to maintain high recovery if TDS increases beyond cost-effective limits within the primary RO skids

Future Proof RO Design

For Bonita Springs Utilities' RO WTP, we designed expandable skids sized for future water quality. We sized the original RO feed pumps, pretreatment, and piping for low recovery, treating 8,000 mg/L TDS feed water. The skids were cost-effectively expanded from 1.5 to 2.0 MGD by adding vessels when the water quality didn't degrade beyond 5,000 mg/L TDS.

Maximize the benefits of the PDB process by providing alternative bid items for evaluated proposal review, including:

- Lower energy, but higher initial cost RO membrane elements
- Alternative energy recovery devices and interstage pumps
- Alternative flow control valves

This alternative bid approach allows us to work with the City to identify the best value option that compares life cycle costs with capital costs for each of the proposed options. The best value is site- and utility-specific and often is not the lowest capital cost. Jacobs also has long relationships with all the major membrane system suppliers including working with them on our DB projects in Florida. Collaboration with Aerex, Biwater, H2O Innovation, Komline-Harn, and Wiggin among others has allowed us to streamline our specifications over the past 30+ years resulting in a better mutual understanding of scope and expectations. We also understand the true cost and schedule of using with each supplier and will account for this history when working with the City to determine the best value.

Commissioning for accountability and efficiency

- Specifying custom membrane-loading schedules that are proven to improve flux balancing between stages, reducing permeate TDS and energy consumption
- Holding membrane manufacturers and system suppliers accountable to meeting individual membrane / pressure vessel water quality and energy consumption projections

> *On BSU's RO WTP Phase III, the membrane manufacturer was selected based on overall lifecycle costs (not lowest initial capital cost) and we encouraged them to submit bid alternatives. The best value selection based upon overall lifecycle costs saved BSU $320K over the 10-year life of the membranes, and the alternative ERD bypass valves saved $61K when compared to the next bidder.*

POST-TREATMENT

Our team will take a holistic approach to optimizing post treatment based on inlet blended permeate water quality, the City's treated water goals, and results of the OCCT evaluation. The post treatment systems will be designed for maximum flexibility as follows:

- **Degasifiers**, either at grade or on an elevated platform similar to the JEA facility, will remove sulfide from the blended RO permeate before flowing to a downstream clearwell. An integrated cleaning system will allow for operator-friendly cleaning.

- **Odor scrubbers** will be important as the new WTP will be located within a neighborhood. Our experience with biological odor control systems shows they are the lowest lifecycle cost while being reliable for a baseload treatment facility like the Rangeline WTP. We'll work with the City during preliminary design to identify the best odor control option.
- **Disinfection** for required virus inactivation is efficiently achieved in pipe by free chlorine with less than 1 minute of contact time, either before or after the finished water clearwell. A larger diameter pipe is a lower cost option than using contact time within a clearwell or downstream storage tanks. Adding chlorine and ammonia within the pipe also allows thorough chemicals mixing, precise control, and accurate monitoring of compliance residual.
- **Clearwell and transfer pumping** is needed to send treated water to the onsite storage tanks. We have extensive experience optimizing these systems for lowest construction and operating cost. We use Replica™ to model transfer pumping control to improve energy efficiency and minimize clearwell size and cost when achieving disinfection within the pipeline. Transfer pumps can be located within the clearwell to reduce footprint or within separate cans to reduce transfer pump costs using non-stainless steel materials.
- **Bulk liquid sodium hypochlorite or onsite hypochlorite generation** (OSHG) will replace existing gaseous chlorine feed systems to eliminate the risk of chlorine gas exposure. We'll work with the City during preliminary design to identify the best option to meet your goals. Either system can be located within the existing chlorine building to reduce project cost.
- **Ammonia** will be added after the free chlorine contact time to create a chloramine residual. We'll assess the existing ammonia storage and feed system for reuse during Phase 1.
- **Corrosion inhibitor** will also be added to further control corrosion in the distribution system. This system will be located within a new post-treatment storage and feed facility, along with other post treatment chemicals located near the injection points to minimize chemical runs. We propose to use our proven design incorporating single-piece tubing within PVC carrier piping to eliminate the potential for leaks.
- **Sodium hydroxide** will be added to adjust finished water pH, which will be optimized to lower lead and copper solubility, maintain a more stable chloramine residual, and improved buffer intensity.
- **Stabilized calcium hydroxide (clarified lime) and/or carbon dioxide** may be used to achieve finished water hardness and alkalinity goals if the OCCT and lifecycle costs analyses demonstrate blending is not the best option.

Keeping Pipelines Corrosion Free

Jacobs has been helping Florida utilities solve OCCT issues since before the original 1991 Lead and Copper Rule. WTP Manager Joe Elarde has performed OCCT studies for facilities that blend treated water both within the treatment plant and distribution system. He's performed studies and designs for the cities of North Miami Beach, Melbourne, and Fort Lauderdale, all of whom are increasing their respective membrane treatment capacity.

FINISHED WATER STORAGE/PUMPING

Finished water storage is important for maintaining operational flexibility. We've worked closely with CROM to identify the largest finished water storage tank that will fit on the site—6 MG—within an accelerated delivery timeframe.

The added 6 MG of storage will provide the City with the flexibility to meet demands before the initial 4 MGD of capacity is commissioned, while also allowing extending shutdowns when connecting the new treatment process to the storage tank fill lines.

The existing high service pump station was designed with the future needs of the Rangeline WTP in mind. The pump station has two100-hp and two 300-hp pumps, with a total capacity sufficient for Phase 1 (10 MGD). The existing pump station has space for four additional 300-hp pumps, two of which would be installed to meet the needs of Phase 2 (20 MGD), and the last two installed for a total capacity that should be adequate for Phase 3 (30 MGD).

Our process mechanical and electrical teams have identified an innovative approach to replace the two 100-hp pumps with 300-hp pumps to provide additional redundancy or to meet the flow requirements of the 40-MGD Phase 4 capacity, if required. The existing 60-inch suction piping for the high service pump station is sized for future buildout.

Maintaining Corrosion Control

Successful implementation and optimization of corrosion control treatment (CCT) depends on selection of an effective treatment strategy and the stability of key water quality parameters in the distribution system. The degree, frequency, and duration that these water quality parameters deviate from target conditions directly impacts the potential for metal release.

Our primary objective in maintaining corrosion control is finished water stabilization when blending with the City's two other water supply sources.

Our sequential process begins with a desktop corrosion control analysis involving (1) characterizing the existing distribution system and (2) modeling current and anticipated water chemistry to assess potential lead release and pipe scale predominance under alternative strategies.

Water quality and pipe scale modeling programs Water!Pro™ and Spana™ will be used to evaluate the tendency of the treated water to deposit or dissolve calcium carbonate pipe scales, resist pH changes, and release metals caused by treated water variability and distribution system water blending under current and alternative CCT scenarios. These models provide insights for balancing lead reduction with other water quality priorities and produce a strong rationale for the CCT alternatives to include in potential follow-up studies, such as bench-scale immersion coupon testing or a flow-through pipe loop study.

The study outcome will confirm post treatment stabilization requirements for optimal corrosion control treatment and Lead and Copper Rule compliance and the optimal corrosion inhibitor formulation and dosage. Post treatment options will also be evaluated, which could include a partial raw water blend with RO permeate to introduce calcium hardness and alkalinity, potentially minimizing the use of costly post treatment chemicals like stabilized calcium hydroxide, sodium hydroxide, and carbon dioxide.

Analyze Historic Data, Blend Models and Water Quality

WaterPro

Initial desktop assessment of historical finished water quality and projected finished water quality changes.

Calculate Corrosion Indices

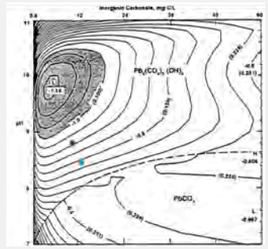
Water Corrosion Parameters
pH
Langelier Saturation Index (LSI)
Aggressivity Index (AI)
Chloride to Sulfate Mass Rario (CSMR)
Buffer Intensity (BI)(nM/pH)
Larson Rartio

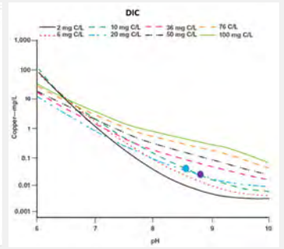
Distribution System Assessment

High and Low Flow Hydrant Sampling in Fort Lauderdale

Establishes bulk water quality and conditions of internal pipe scales in the system.

Pourbaix, Solubility, and Buffer Intensity Charts





- Current lead speciation
- Predicted lead speciation
- Current copper solubility
- Predicted opper solubility

Establishes stability of current lead, copper, and other scales to determine impacts of water quality changes.

Possible Follow-up Study: Bench-Scale Immersion Coupon Testing

Jacobs' Immersion Coupon Testing in Fort Lauderdale

Verify on lab/bench-scale indicative impacts of water quality changes and to limit number of options on pilot flow-through scale.

Assess Potential Impacts

Water quality improvements:

- Changes in pH, hardness/alkalinity, and DIC
- Changes in buffer intensity
- Potential changes in chloride concentrations
- Changes in lead & copper solubility

Port St. Lucie should pay attention to:

- Change of CSMR; which can increase galvanic corrosion and release lead from leaded components
- Change of Larson Ratio; which can impact iron and steel corrosion rates.
- Reduction in pH can increase copper corrosion rate

Possible Follow-up Study: Flow-through Pipe Loop Study

Jacobs' Pipe Loop Study in Fort Lauderdale

Verify pilot-scale water quality changes and corrosion inhibitor dosage using harvested pipes and new pipe materials.

ELECTRICAL APPROACH

Our approach maximizes the use of existing electrical infrastructure for the new RO WTP and future expansions of the HSPS, while providing the flexibility to replace or even relocate the HSP switchgear (SWGR) and other electrical gear during Phase 1 or future phases. The optimal time for replacement or relocation will be when the existing equipment has reached the end of its design life or when spare parts become hard to acquire. At the outset of the project, our electrical experts will perform a condition assessment and provide an alternatives analysis and recommendations based upon such factors as cost, impacts to operations, flexibility, reliability, and resilience so the City can make an informed decision.

New 40 MGD Rangeline WTP Phased Approach. Our approach reflects your desire to maintain a 480V distribution system and is phased to align with four 10-MGD phases of the Rangeline WTP project. The existing HSPS and new RO WTP electrical components fed from it will maintain their existing FP&L primary feed and transformer, while the new RO WTP Phases 1-3 and the new surface WTP Phase 4 will each have their own FP&L primary feeds and transformer(s). The preliminary approach for each phase is outlined below. The final approach implemented will be developed collaboratively with the City during the preconstruction phase.

Phase 1 - 10 MGD RO WTP. The existing switchgear (SWGR) will be used to power a new single-ended MCC (TPS-MCC1) located inside the new Post Treatment Electrical Building, which will power the three new 100-hp transfer pumps and three new 40-hp degasifiers (Figure 1). A new switchgear (RO-SWGR-1) and motor control center (RO-MCC-1) will be located inside the new Operations Center Electrical Room (Figure 2). RO-SWGR-1 will power the six new 500-hp RO feed pumps and RO-MCC-1. RO-MCC-1 will power the chemical feed pump, HVAC system, and misc. loads inside the Operations Center. A new generator and fuel tank will be installed at the existing generator building using one of two available locations for future generators and fuel tanks (Figure 3).

Phase 2 - 20 MGD RO WTP. The existing SWGR will be used to power two new 300-hp high service pumps, and the new MCC (TSP-MCC-1) installed under Phase 1 in the Post Treatment Electrical Building will be used to power two new transfer pumps and one new 40 hp degasifier (Figure 1). A new switchgear (RO-SWGR-2) will be located in the Operations Center Electrical Room (Figure 2). ROSWGR-2 will also power the four new 500-hp RO feed pumps. It's not anticipated that a new generator will be required for the Phase 2 expansion.

Phase 3 - 30 MGD RO WTP. The existing SWGR will be used to power the two new 300-hp high service pumps, and the new MCC (TSP-MCC-1) installed under Phase 1 in the Post Treatment Electrical Building will be used to power the two new transfer pumps and two new 40-hp degasifier (Figure 1). A new switchgear (RO-SWGR3) located in the Operations Center Electrical Room (Figure 2) will power the six new 500-hp RO feed pumps. A new generator and fuel tank will be installed at the existing generator building, using the last remaining location for future generators and fuel

Phase 4 - 40 MGD RO WTP. The future 10-MGD surface water treatment plant expansion is assumed to be electrically independent from the RO plant, thus it will require a new 480-V utility service and electrical distribution system. This will include new electrical buildings, switchgear, new MCCs and a new stand-by generator(s). If the City desires to combine the electrical service and distribution system with the RO WTF described in Phases 1-3, we'll work with you during conceptual and detailed design to include those provisions.

FIGURE 1. POST TREATMENT ELECTRICAL BUILDING PLAN

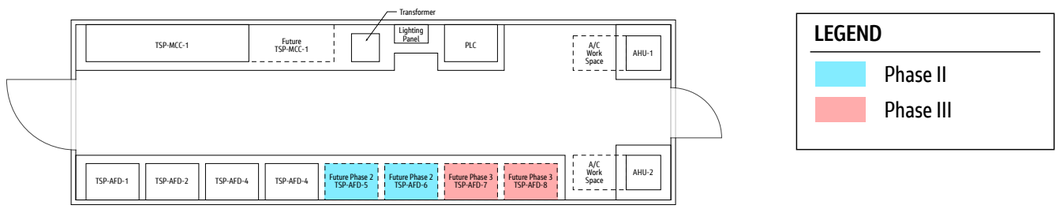


FIGURE 2. OPERATIONS CENTER ELECTRICAL ROOM PLAN

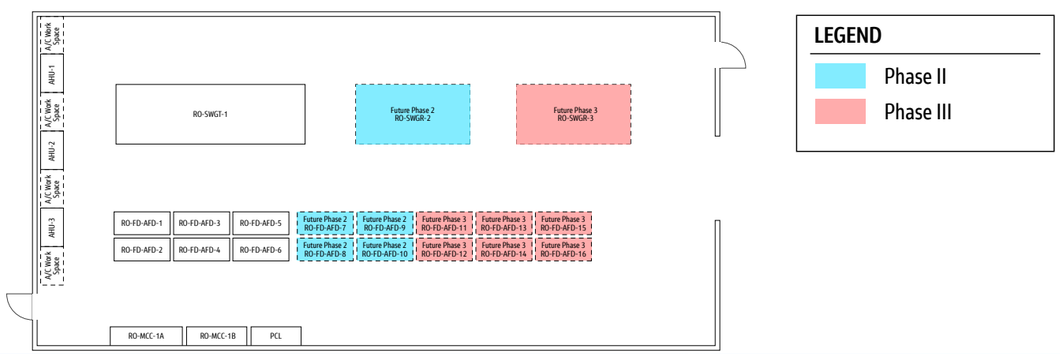
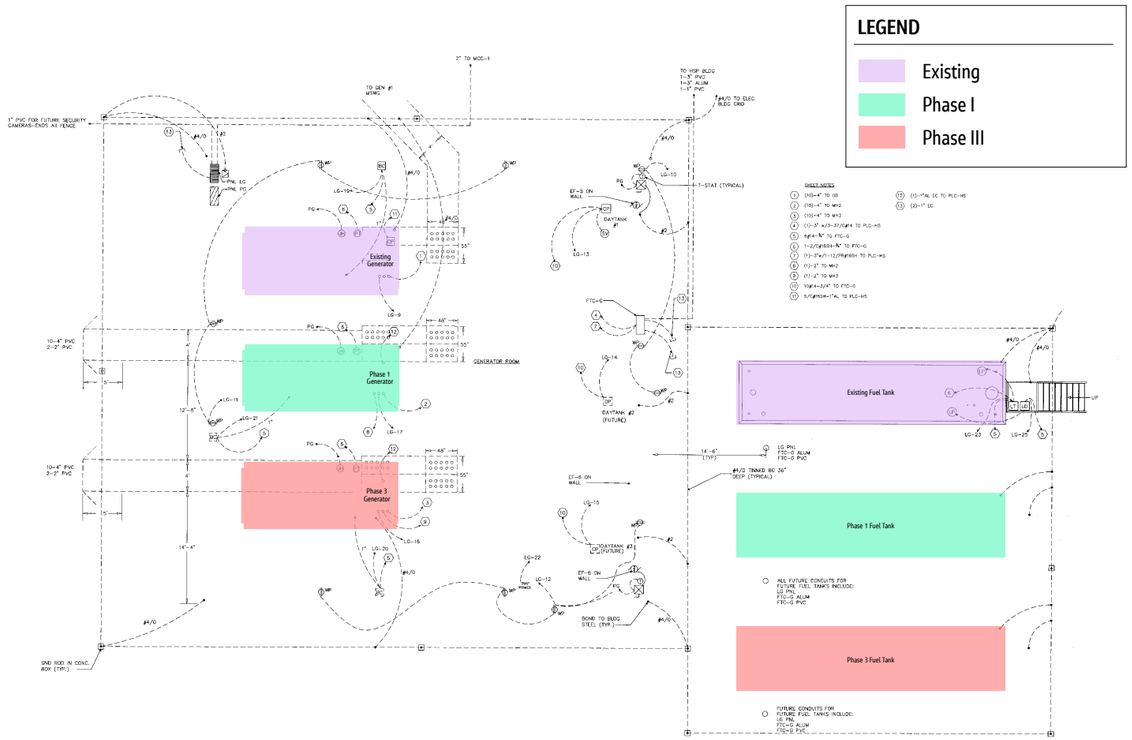


FIGURE 3. EXISTING GENERATOR BUILDING



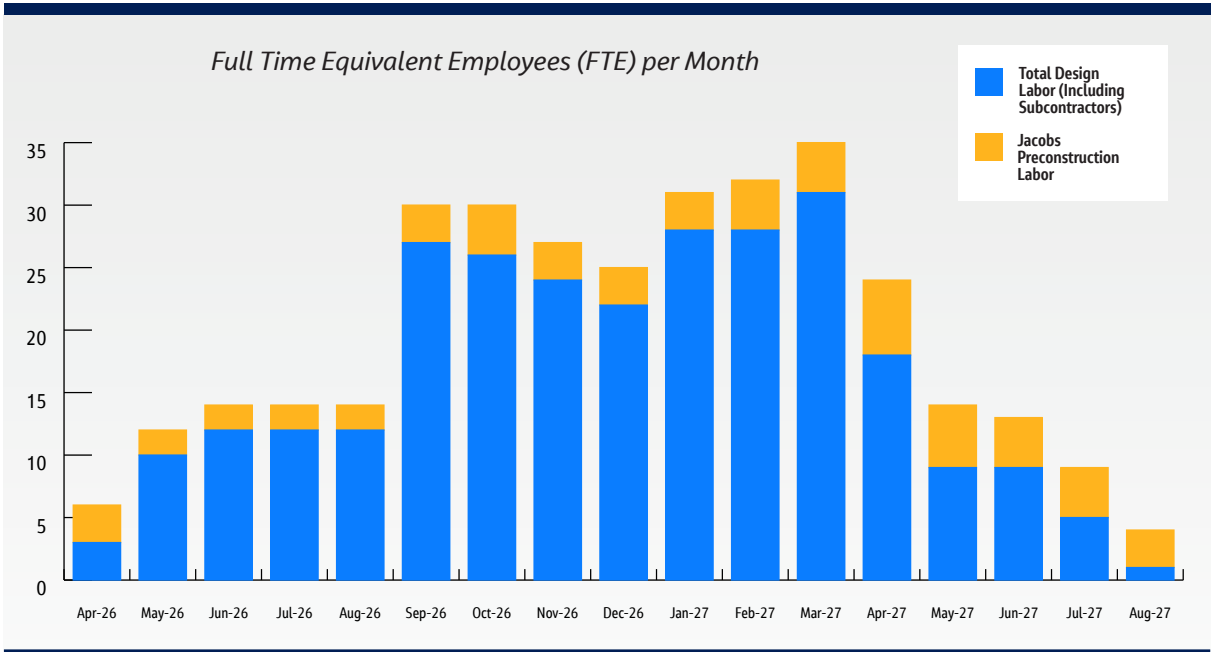
Preconstruction

Our preconstruction, construction and commissioning teams will be fully integrated with design development, providing continuous cost, schedule, risk, constructability, and operability feedback to maintain alignment with the City's objectives.

Our team will identify constructability and operational enhancements, cost-saving opportunities, and risk mitigation and sequencing strategies early in the process to support a successful construction and commissioning phase.

The importance of the preconstruction phase cannot be understated since this is where all critical decisions are made that relate to the WTP's long-term performance and where the project is truly set up for success. Getting off to a fast start will set the stage for successful delivery.

Preliminary Design and Preconstruction Labor Forecast



The Jacobs team understands and has the resources necessary to deliver the preconstruction phase of the project, which represents the first 13 months of the project's critical path.

That's why Jacobs—as an integrated design-builder with all project resources under one roof—will self-perform the majority of the work during this phase, promoting a fast start and controlling the critical path from the onset of the project.

SCHEDULE DEVELOPMENT

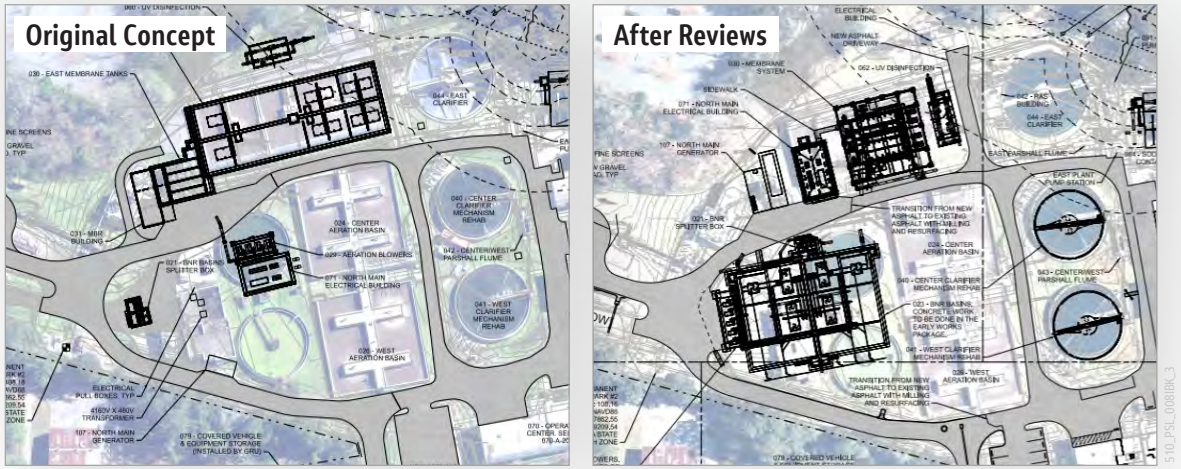
Lead Scheduler **Ivan Trullenque** will further develop our detailed schedule in Primavera P6 to reflect the baseline scope of the project once it's established during conceptual design, incorporating all design, permitting, procurement, construction, and commissioning activities. Activity sequencing and detail will expand as the detail of design grows, and schedule updates incorporating the collective team's and stakeholder feedback will be performed on a regular basis. All schedule updates will be located on the project SharePoint site for transparency.

CONSTRUCTABILITY AND OPERABILITY REVIEWS

We'll integrate constructability and operability reviews into each design phase to confirm the Rangeline WTP is practical, efficient, and safe to build, maintain, and operate. **The construction and commissioning teams will provide continuous feedback on buildability, sequencing, and potential impacts on cost and schedule, allowing early issue identification and resolution.** We'll also include the City's Operations and Engineering teams in these reviews, as well as individuals from our operations side of the business to fully meet the City's construction and operations goals and expectations. At each major design milestone, we'll host combined design, construction, and operations reviews to evaluate layout efficiency, accessibility, safety, and maintainability. This approach ensures operational needs—such as flushing, sampling points, and access for maintenance—are fully incorporated into the design. By maintaining this iterative process, we'll deliver a facility that is constructible, maintainable, and optimized for long-term performance.

Sound Constructability and VE Reviews Yield Project Benefits

The 30% design of GRU's Main Street WRF Phase 2 design involved demolishing the East Basin and building a new biological nutrient removal basin and membrane bioreactor in its place. A focused constructability review workshop determined that the project presented significant construction complexity and risk because of the deep excavation, surrounding congested pipes, and high groundwater table. During the review session, Jacobs and GRU collaborated to develop an alternative layout that not only resolved the construction complexities and risk, but also saved GRU $1.5 million. Our cost estimators ability to provide quick ROM cost values helped guide the decision and the updated cost model confirmed this making this informed decision an easy one for GRU to make.



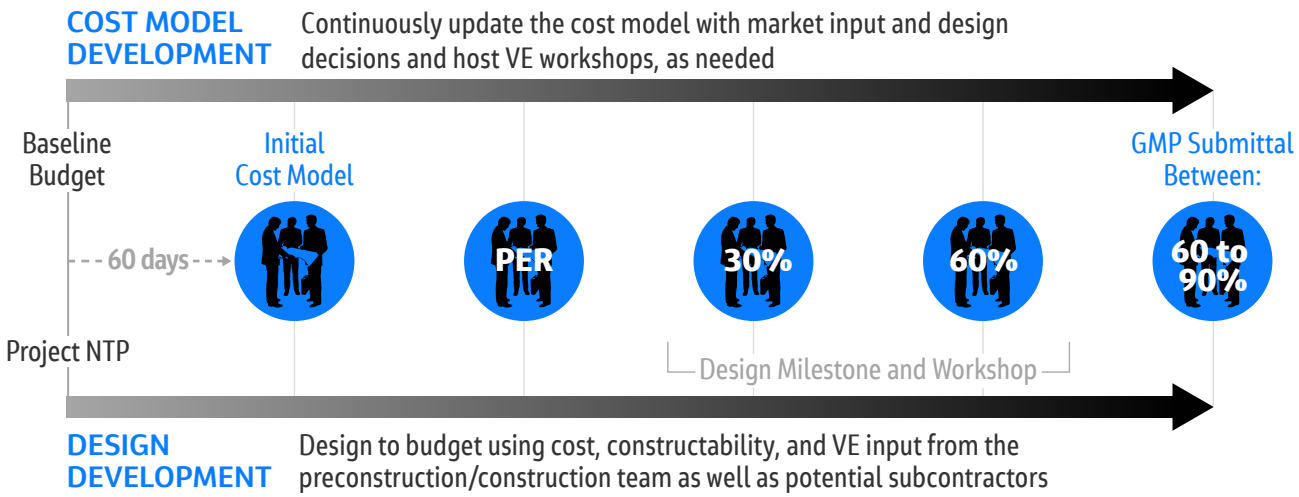
Our integrated team will help the City capitalize on sound constructability and VE input, reducing costs while guiding our designers to design to your budget.

COST MODEL DEVELOPMENT

We'll establish a comprehensive project baseline cost model at project initiation using CPES and Timberline software. The baseline cost model will be used in conjunction with the Decision Log to guide scope management and cost trending from project start. Beginning with a good baseline cost estimate and effective trending, we'll ensure there are no surprises and a successful GMP.

A detailed cost model will be provided within the first 60 days of the project, and detail will continue to evolve along with advancement of the design. The model will be continuously refined at each design milestone using real-time market data and input from our estimators, as well as captured and potential subcontractors.

Cost Model Development Process



Historical GMP Accoracy vs Owner Baseline Budget:

- -0.1% DLTWTF HSPS & Improvements
- -1.0% BSU RO WTP Phase I-III
- -1.7% NMB Norwood RO/NF WTP Improvements
- -1.3% DLTWTF Expansion
- -4.2% GRU MSWRF Expansion

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Progressive cost estimating aligns design development with budget so there are no "surprises" during GMP development.

The cost model developed at each design milestone will be used in conjunction with the Decision Log, so our collective team knows and understands the real-time cost of the project at any given time. Early market sounding will be performed to validate local labor, equipment, and material costs, supporting accurate, data-driven estimates that will further increase the City's level of confidence in the cost model.

Value Engineering and Cost Alignment

Value engineering will be an ongoing component of the design process and cost model development to help the team design to the City's budget. VE workshops will be held with our integrated team members and interested subcontractors and vendors in the market to evaluate materials, layout, and equipment alternatives through a total lifecycle cost analysis.

Direct access to the detailed cost model and our preconstruction team will allow the design team to quickly identify VE ideas as they design. For instance, knowing the cost of each valve and foot of pipe allows the team to weigh cost vs benefit of material and or piping configuration changes.

All VE recommendations will be documented in a Value Engineering Log and integrated into the Decision Log for consideration by the City and the Owner's Representative. All VE items implemented in the design will be recorded in the Decision Log to memorialize the decision and the cost model will be updated.

> *Early market sounding and subcontractor engagement will increase the City's level of confidence in the cost model while promoting interest and participation in the bid process.*

PROVEN GMP DEVELOPMENT PROCESS

We'll develop, negotiate, and finalize GMP packages collaboratively with the City and your Owner's Representative through an open-book, transparent process. Preconstruction Manager **Ralph Myers**, a Florida-certified contractor, will facilitate the process, hosting GMP workshops to define project phasing, identify work packages, and determine the optimal level of design completion for each GMP.

The GMP development process will incorporate scope definition, subcontractor engagement, risk-based contingency modeling, and reconciliation with the City's budget so there are no surprises.

PDB Project Name	% GMP Savings	GMP Success
SJCUD SR 207 WRF and Improvements Project, FL	12.1%	**Saved $23M** on the final submitted and approved GMP by changing the procurement approach from subcontracting the work in 5 subcontract work packages to 11 subcontract work packages
City of Tampa DLTWTF High Service Pump Station, FL	4.2%	**Saved $4M** by optimizing the number of bid packages and shoring and excavation work through VE efforts prior to GMP development
BSU East WRF, FL	1.4%	Consolidated site footprint and **achieved $800k in savings** through unused contingency funds
BSU RO WTP Phase I-III, FL	3.3%	Efficient RO installation and early equipment procurement helped achieve more than **$2M under the GMP**
North Miami Beach Norwood RO/NF WTP Improvements, FL	7.8%	**$2.3M in savings** returned to the City through effective scope and risk management implementation
City of Tampa DLTWTF Expansion, FL	4.4%	Repurposing existing facilities completed construction 5 months early and **returned $2.4M to the City**

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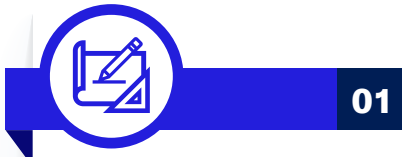
The efficacy of our GMP process is demonstrated by the many clients who have benefitted from our shared cost savings.

Our Collaborative GMP Development Process is Transparent

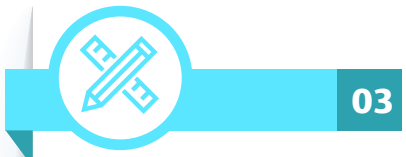


01 DETERMINE GMPS & WORK PACKAGES

We'll work with the City to determine the optimal number of GMPs and the level of design to develop each GMP to, as well as the scope of work and ODP equipment packages that will be included with each GMP.

02 DEVELOP BIDDERS LIST

With a 75+ year history in Florida, we've developed strong relationships with a long list of qualified bidders, including those located in South Florida. We'll also sponsor outreach events to advertise job opportunities, increasing local participation.



03 DEVELOP BID PACKAGES

We'll develop the bid packages and make sure they are accurate and complete, with no gaps or omissions and then solicit the market for bids.

04 REVIEW & RECOMMEND BIDS

We'll thoroughly review bids for completeness and accuracy and tabulate the results, and then evaluate them according to our Best Value Subcontractor Selection Process. This informationwill be provided to the City along with a recommendation for award.

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Preconstruction Manager Ralph Myers will lead our collaborative GMP development process, with the City engaged every step of the way.

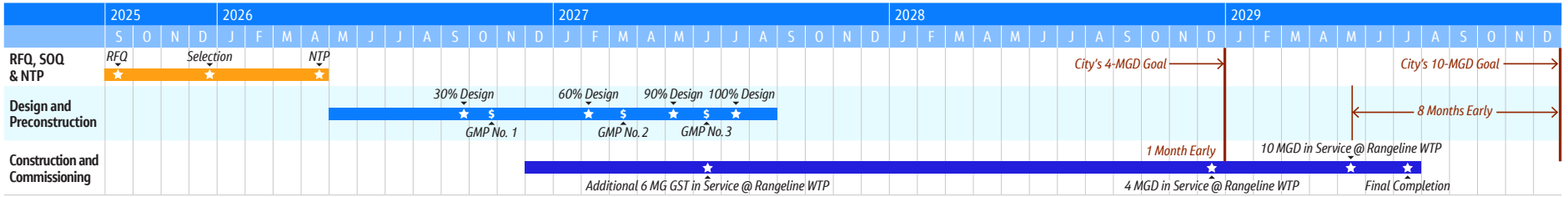
Optimizing the Number and Timing of GMPs

During conceptual design, we'll work with the City to select the optimal number of GMPs and the design milestones we'll use as the basis for each.

We've developed a few variations that we'll explore with the City to determine the right combination, maximizing the drivers and benefits most important to you with regards to schedule, cost, and risk. For the purposes of this proposal, we've preliminarily selected three GMPs (top option shown below), each developed at the 90% design level, to deliver the fastest schedule with the lowest amount of contingency to be carried in each GMP. We can also deliver under one of the other two options shown below if the City's drivers align better with one of these options.

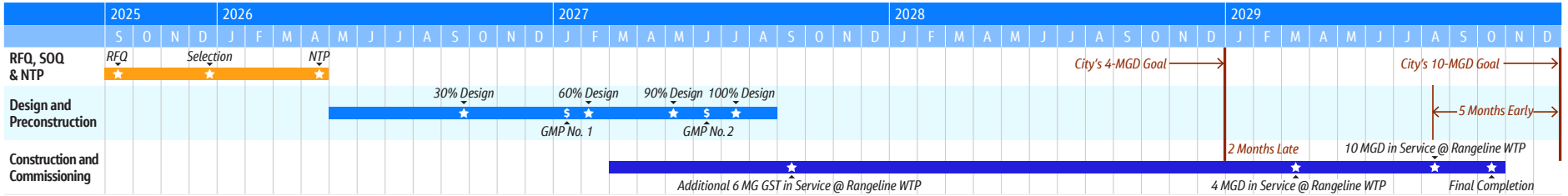
Potential GMP Delivery Options

Three GMPs developed at the 90% Design Level



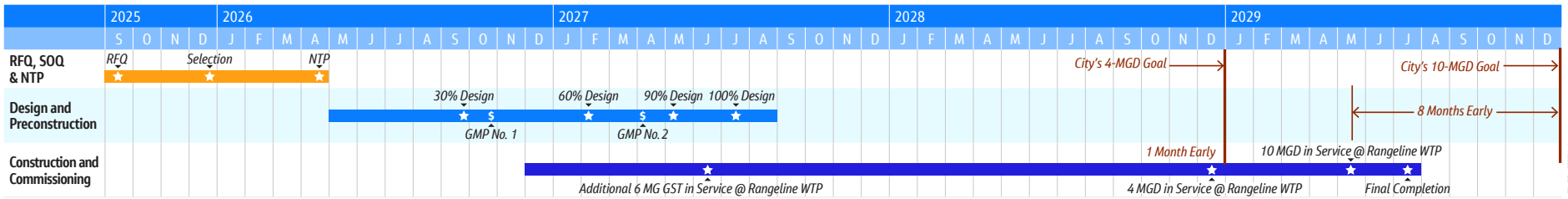
› **SELECT THIS OPTION IF:** You want the fastest overall delivery schedule, the lowest amount of contingency to minimize the potential buyout savings to the Design-Builder, and you are amenable to three GMPs

Two GMPs developed at the 90% Design Level



› **SELECT THIS OPTION IF:** You want two GMPs, the lowest amount of contingency to minimize the potential buyout savings to the Design-Builder, and are amenable to an approximately 3-month longer schedule

Two GMPs developed at the 60% Design Level



› **SELECT THIS OPTION IF:** You want the fastest overall delivery schedule and two GMPs and are amenable to carrying more contingency in the GMP and a higher potential amount of buyout savings going to the Design- Builder

Aligning your project drivers to the right number of GMPs, and the level of design for each will help the City best meet its project objectives.

Work Package Development

We'll also work with the City to identify work packages to include in each GMP; the best alternative to obtain 4 MGD early, as outlined in our Project Overview; and the initial maintenance of plant operations (MOPO) and commissioning plans to keep the existing Repump Station facilities operational during construction and a smooth transition to RO WTP operations.

As an integrated delivery company, Jacobs will be responsible for, and will lead, all the project components impacting project performance, including design, preconstruction, construction management, quality, safety, electrical and process equipment procurement, I&C integration, and system commissioning.

With CROM as our captured subcontractor, we'll be able to perform the GST work early and we'll also have access to their field staff, allowing us to self-perform the majority of the early site work and onsite mobilization efforts. The remaining scopes of work will be bid to the market for competitive pricing. Leveraging our nearly 30 years of lessons learned in the Florida PDB market, we'll perform a market evaluation to determine how to divide the project into work packages. The availability of subcontractors and projected bid participation typically drives these decisions.

Finally, applying our best value selection process, we'll identify, procure, and select the most qualified subcontractors at the best price for each work package.

Preliminary Self Performance and Subcontracting Plan

Scope of Work	Impact on Performance	Jacobs	CROM	Competitively Bid Components*
Design/Permitting/Compliance	*High*	■		
Construction Management/Schedule/Costs	*High*	■		
Safety/Quality/Procurement	*High*	■		
Early Site Work	*Low*	■	■	
GST Underslab Piping	*Medium*	■	■	
Process Equipment Procurement	*High*	■		■
Bridgecrane Procurement	*High*	■		■
Electrical Equipment Procurement	*High*	■		■
Programming/SCADA/I&C Integration	*High*	■		
System Commissioning/Testing/Training	*High*	■		
Process Equipment/Piping Installation	*Medium*			■
Prestressed Concrete GST	*Medium*		■	
Early Under Slab Electrical Conduits	*Low*			■
Earthwork/Excavation/Yard Piping	*Low*			■
Concrete Foundations/Structural Concrete	*Medium*			■
Masonry/Structural Steel	*Medium*			■
Miscellaneous Metals/Grating/Handrail	*Low*			■
Doors/Windows/Finishes	*Low*			■
Paintings & Coatings	*Medium*			■
Mechanical/Plumbing/Fire Protection	*Medium*			■
Electrical Control & Power	*Medium*			■
Roofing	*Low*			■
Materials Testing and Inspection	*Medium*			■
Final Site/Paving/Landscaping	*Low*			■
Fire/Security System	*Medium*			■
I&C Panel Fabrication	*Medium*			■

Cost Savings
Approximately 77% of the project will be competitively bid to the market—30% more than the non—integrated teams

Jacobs self-performs the scope of work with the highest impact on project performance and we'll subcontract and manage the rest, yielding significant cost savings through competitive bidding and best value selection.

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Preliminary Procurement Plan

We've developed a preliminary procurement plan that includes three GMPs, with opportunities for early work packages allowing construction to begin early and accelerating schedule while taking each design package to a later stage of design, reducing the amount of design evolution contingency.

The GMPs are:

- **GMP 1**—Early Site and Prestressed Ground Storage Tank (GST), FP&L Power Feed, and High Priority ODP Electrical Equipment Work Package
- **GMP 2**—Early WTP Foundations and Long Lead ODP Process/Electrical Equipment Work Package
- **GMP 3**—Remaining WTP and Process Equipment Work Package

A summary of the three GMPs and work packages and the timing for each is detailed below.

Preliminary Procurement Plan Summary

What are the different procurement packages?	GMP No. 1 **	GMP No. 2 **	GMP No. 3
When is it delivered to the City?	October 28, 2026	May 6, 2027	August 10, 2027
How long does the City get to review the package?	22 working days	22 working days	22 working days
When does it need to be Authorized by the City?	December 1, 2026	June 8, 2027	September 10, 2027
What construction work does it include?	**Early Site Work, Prestressed GST Package:** › Entrance road and laydown areas grading and base; clearing and grubbing, erosion control, demolition, select YP modifications and any cut/fill work, temporary electric, temporary fencing and site security, mobilization of trailers, laydown areas, etc. (Jacobs and CROM) › Primary electric feed (FP&L) › Prestressed Concrete Ground Storage Tank and underslab piping (CROM)	**Early WTP Structural Concrete Package:** › Under slab piping at all facilities (TBD Sub) › Electrical & I&C conduits at all facilities (TBD Sub) › Structural Concrete Package at all facilties including all foundations, slab on grade, pads, columns, walls and suspended slab work (TBD Sub)	**Remaining WTP Work Package:** › Remaining yard piping (TBD Sub) › Remaining grading, final site civil and landscaping (TBD Sub) › Remaining electrical work & ODP install (TBD Sub) › I&C panels/instrumentation (TBD Sub) › I&C Integration and programming (Jacobs) › Above grade mechanical and ODP install (TBD Sub) › Building trades (TBD Subs)
What ODP Procurement does it include?	**High Priority ODP Electrical Equipment:** › Generator and Fuel Tank (TBD Vendor) › Low Voltage Switchgear (TBD Vendor) › Transformer(s) (TBD Vendor)	**Long Lead ODP Process/Electrical Equipment:** › RO Feed Pumps (TBD Vendor) › Transfer Pumps (TBD Vendor) › RO Membrane Skids and CIP System (TBD Vendor) › Degasifier and Odor Control Towers (TBD Vendor) › MCC and AFDs (TBD Vendor)	**All Other ODP Process Equipment:** › Cartridge Filters (TBD Vendor) › Chemical tank, metering pumps, etc. (TBD Vendor) › CO2 System (TBD Vendor) › All other equipment (TBD Vendors)

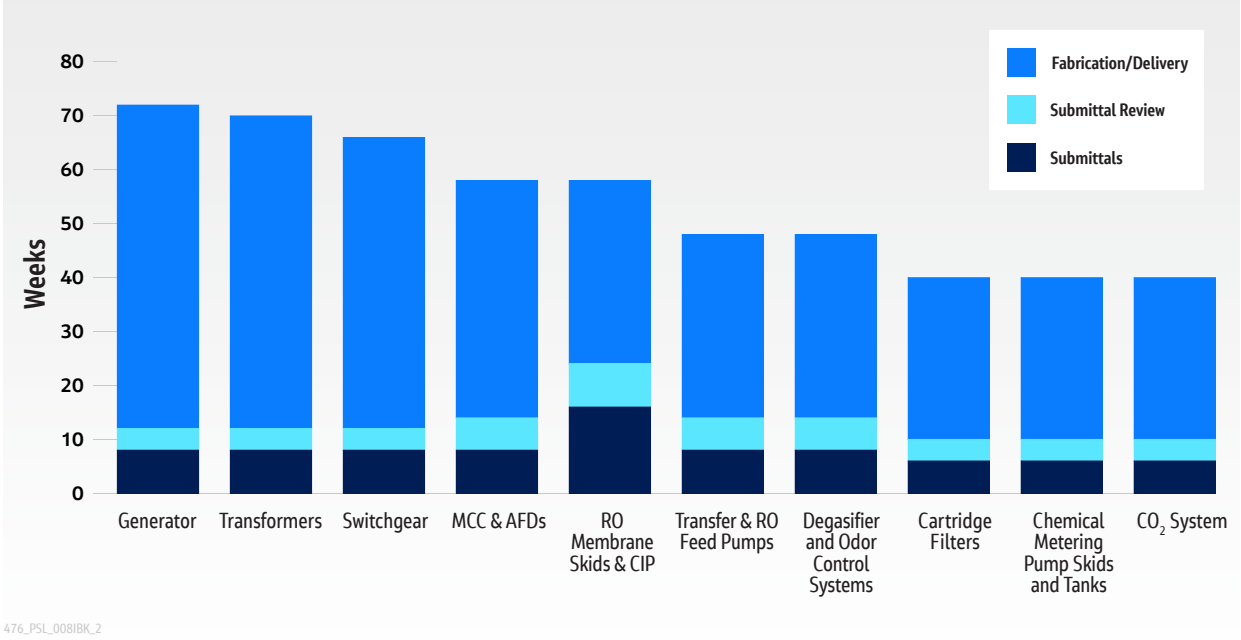
***At the City's option, GMP No. 1 and/or GMP No. 2 could be included as allowances in the initial preconstruction phase contract. This could save the City 2 months on the schedule. The allowances would be developed by Jacobs and mutually agreed to with the City during preconstruction contract negotiations. Jacobs would then provide a detailed bid book complete with self performance estimates and subcontractor/vendor proposals, including fully open book and transparent back-up pricing, substantiating the allowance requests at the times listed above for each. Any unused allowance funds would be returned to the City.*

Owner Direct Purchase Saves Money

We'll collaborate with the City to determine the equipment to be procured in each work package using the State of Florida's ODP program, reducing the cost associated with taxes and optimizing the time to purchase it. We have a solid understanding of the lead times for the equipment required for you project and our relationships with vendors will achieve the participation and competitive pricing needed to meet your schedule and budget goals.

We'll implement an aggressive procurement approach designed to address current market conditions and equipment lead times. Labor and materials shortages and supply chain disruptions from tariffs require an aggressive approach to minimize impacts. Market conditions change, and because we procure equipment for hundreds of projects nationwide at any one time, we stay apprised of market trends and will adjust our plan, as needed.

ODP Equipment Lead Times



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Our equipment procurement approach is based on current market conditions, allowing more than enough time to procure time-critical project equipment without jeopardizing the schedule.

Committed to Going Further to Maximize ODP Value

We know how to effectively and efficiently administer the State's ODP program to the City's advantage. With more than $380M in ODP purchases and $24M in tax savings for our clients over the past 20 years, we'll maximize your savings and minimize risk.

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Our ODP process will ensure the City complies with the State's ODP Program while maximizing savings and reducing your risk.

Critical long lead items, such as electrical switchgear, will be procured using detailed design documents at the overall 30% design milestone, while all other major process and electrical equipment will be procured using detailed design documents at the overall 60% and/or 90% design milestone.

We understand the risks associated with ODP equipment, and our proven process ensures these risks are mitigated and that the City complies with and realizes the full benefits of the ODP program.

Subcontractor Participation

Around the overall 30% design milestone, we'll conduct subcontractor outreach in coordination with the City and local partners to promote bid participation and make sure our preliminary work breakdown yields maximum participation and the most competitive pricing during the bidding process. Jacobs has access to more than 90 prequalified subcontractors in the South Florida market.

Job Fairs Maximize Subcontractor Participation

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For the City of Tampa's DLTFWTF HSPS design-build, our job fair attracted more than 40 local minority firms, 28 of which were hired to perform $11.2M in work, building local wealth in Tampa. We'll apply this same successful model for Port St. Lucie's project.

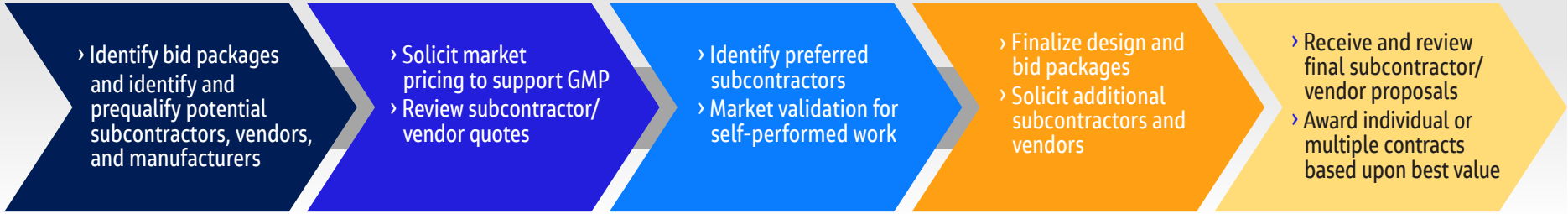
We'll leverage these relationships and the outreach event to build a robust bid list to promote the participation required for competitive bidding and the quality construction the City expects and deserves. Work packages will be developed in conjunction with detailed design development. We'll solicit input from subcontractors on the bid list to obtain input on constructability, VE, cost estimating, sequencing and schedule for our preconstruction and design teams to help guide design and cost model development.

Early and continuous subcontractor input and engagement will improve bid participation, constructability, VE ideas, construction sequencing, and overall schedule performance and will also play a crucial role in developing a reliable and successful GMP.

Bid Package Development, Procurement, and Award

Our preconstruction team will develop thorough bid packages for each GMP, which we'll confirm are accurate and complete, with no gaps or omissions, and then solicit the market for bids. Subcontractor bids will be evaluated for completeness, tabulated in a bid summary for each work package, and selected based upon a best value selection process comprised of available resources to meet schedule, construction approach, price, team member qualifications, and previous safety, quality, and delivery performance. Subcontractor feedback

Subcontractor Involvement in GMP Development



Early and continuous subcontractor involvement increases bid participation and strengthens Port St. Lucie's confidence in project costs.

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received with bid submissions will be used to make any final modifications to the design, sequence, schedule, and commissioning plan and reflected in the final GMP. The final GMPs will be submitted to the City and your Owner's Representative along with each work package with a recommendation for award.

Definition of Appropriate Contingency for each GMP

Our Risk Register is linked to our Primavera scheduling system and is the primary means of quantifying risks and opportunities. Once identified, we forecast the potential cost and schedule impacts of project risks using a Monte Carlo analysis, producing a range of probable cost and schedule impacts.

Project risk information is used to help define project contingencies included in each GMP in an open-book, transparent manner and in full collaboration with the City and your Owner's Representative.

Best Value Selection of Subcontractors

Pool of Subcontractors per Bid Package

- Buildings
- Concrete
- Electrical
- I&C
- Paintings/Coatings
- Pipeline
- Prestressed Tanks
- Process Mechanical
- Yard Piping/Site Work

Jacobs Network > 90 Firms in Southwest Florida

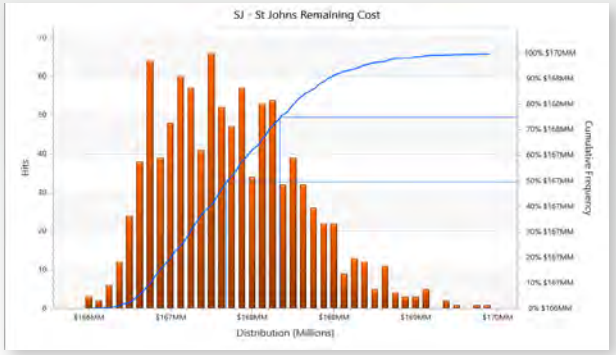
Best Value Selection Criteria | Ability to meet Schedule | Safety | Resource Availability and Backlog | Financial Health | Price | Experience and Performance History

Experience in the South Florida market promotes robust competition from a qualified pool of subcontractors when soliciting bids.

This process ensures that the appropriate contingency is carried for the actual level of risk involved with each GMP.

Our contingency development and continuous risk management approaches further minimize the use of contingency funds, which returns savings to the City and reduces the risk of change orders. As demonstrated by our risk management approach earlier in our Project Overview, our design-build team is experienced in managing the project risks that can impact schedule, such as market-driven or weather delays, keeping your project on schedule.

Tightly Defining and Managing Project Contingency



Efficiently managing project contingency is based on identifying, forecasting, and quantifying the likelihood of risk. Jacobs uses our Risk and Opportunity Management Tool (ROMT) to assign a monetary impact to each project risk and perform a probabilistic Monte Carlo analysis. This helps determine the likelihood and impact of each risk as well as the appropriate level of contingency funding. Once the risk has been avoided or mitigated, contingency funding can be reallocated as needed to best serve the project.

Cost Competitiveness and Transparency Deliver a Successful GMP

Jacobs brings the City a 100% success rate of GMP development and owner negotiations as none of our PDB projects have ever used the contractual "off-ramp." We're proud of our track record developing timely and accurate GMPs in full collaboration with project owners and attribute that success to our proven process and full transparency.

All market prices obtained for the work packages, along with any estimated values for work not defined well enough to obtain market pricing or that Jacobs self-performs, are

carried into the GMP. The GMP is assembled into an organized "bid book" that includes and documents every cost in fully transparency and detail, along with all backup proposals from subcontractors and vendors.

The result is a market-competitive, open book GMP with lower risk and greater cost certainty. A copy of an example "bid book" defining this transparency can be found in the Appendix at the end of our approach.

After the GMP is submitted, negotiated, and approved by the City, we use a scope management process to continue tracking and managing changes and any associated cost impacts against the GMP to make certain costs are controlled as the design evolves. All final costs are then reconciled once the design is completed, and any buyout savings or uses against contingency are determined and recorded in their respective logs.

PERMITTING STRATEGY MITIGATES THE RISK OF DELAYS

Jacobs is experienced in navigating complex permitting processes for PDB projects and has a successful history obtaining permits quickly and with minimal RAIs. We'll maintain continuous communication with local and state regulatory agencies to promote alignment and maintain schedule predictability, expediting the permitting processes for site layout, facility design, and building. Our comprehensive permitting plan integrates all regulatory requirements seamlessly into project delivery.

Preliminary Rangeline WTP Permitting Matrix

Port St. Lucie Preliminary Permit Matrix

Level	Type	Submitting Party	Permit Name	Permitting Agency
City	Zoning	City	Zoning Reclassification	Planning & Zoning Department
City			Development Review Committee (DRC) Site Plan Approval	
City	Construction	Jacobs	Site Work Permit (Master Permit)	Building Dept
State	Construction	Jacobs	*FDEP Permit to Construct (FDEP Water Facility Construction)*	FDEP
State	Water	Jacobs	Construction General Permit Stormwater Permit (NPDES)	FDEP
State			Stormwater Pollution Prevention Plan (SWPPP)	
	Land	Jacobs	Environmental Resource Permit/Modification	FDEP
	Air	Jacobs	FDEP Air Permit (Only needed if Generator per Year)	

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Our draft project permit matrix provides a head start in obtaining the necessary approvals for the Rangeline WTP project to move forward.

In preparation for the Rangeline project, we've already developed a permit matrix that identifies all required local, state, and federal permits, anticipated review durations, and critical path dependencies.

We'll refine this matrix with the City's input during scope definition and contract negotiations prior to obtaining the project NTP.

Early coordination meetings with permitting agencies will occur during conceptual design to confirm permit requirements and expedite approvals. These early meetings will help us address regulatory concerns with our design to avoid late changes. They will also help gain regulatory agency consensus, expediting permit approval time and reducing requests for additional information (RAIs).

On-time Permit Approvals


NOTICE OF AMENDED PERMIT ISSUANCE

APPROVED

PERMITEE:
Jacobs Engineering Group,
David Schoster, PE, Project
643 SW 4th Ave Suite 400
Gainsville, FL 32601
Dave.Schoster@jacobs.com

7-1575 WC/12 FDEP

Expiration Date: June 21, 2026
COUNTY: Hillsborough
PROJECT: DLTWTF High Service Pump Station and Miscellaneous Improvements
MAX. DAILY CAPACITY: 140 MGD

One of the most complex aspects of delivering the City of Tampa's David L. Tippin WTF High Service Pump Station Design-Build was obtaining clearances from the Florida Department of Health. With more than 27 critical tie-ins, our construction manager collaborated closely with City operations staff. As a result, **the permit was received in less than 3 months, and most important, our submittals were reviewed and approved in less than 3 days.**

I have never seen a better permit application package than the one Jacobs put together for this project.

– Therese LaDouceur, Environmental Supervisor, Florida Department of Health

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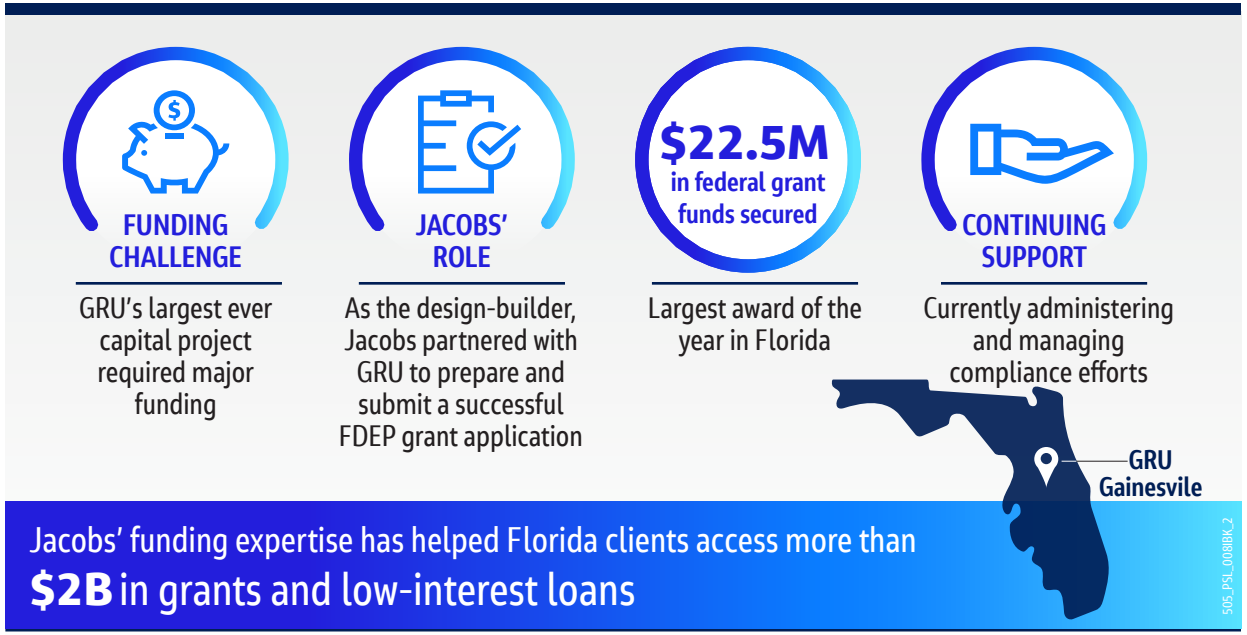
STRATEGIC FUNDING SUPPORT

Jacobs has secured more than $2 billion in grants and funding for our clients and can help support your funding efforts. Funding Lead Mike Matichich is a member of our Government Affairs team in Washington, DC, with experience obtaining the following types of funding for client projects:

- **Principal forgiveness loans (grants) and traditional loans through the State Revolving Fund (SRF) programs.** These principal forgiveness loans and grants are for disadvantaged communities, but the State has indicated it may provide funding to larger communities. We are monitoring the State's plans and could help the City apply for loans and grants if the State broadens eligibility for those funds.
- **Direct federal appropriations (earmarks).** Our Government Relations team can help support requests for direct federal appropriations, which are available for water sector projects.
- **Water Infrastructure Finance & Innovation Act (WIFIA) loans.** We've helped clients secure WIFIA loans for projects with more than $2 billion in total project value during the past 8 years, including helping the City of North Miami Beach secure a WIFIA loan for $90 million in water treatment-related projects. Even though it is not "free" money, the flexible repayment allowed through the WIFIA program could be useful in helping the City ease the impact of rate increases over time.

Driving Funding Success across Florida Utilities



- **Other federal agency programs.** Beyond the traditional EPA and State SRF agency programs, the BIL legislation provides grant funding that water sector agencies can qualify for funding through a number of other federal agencies, such as the Federal Emergency Management Agency (FEMA), the Department of Housing & Urban Development (HUD), and the Economic Development Administration (EDA).
- **Other Grants and Loans.** We can use the GrantFinder tool and other targeted research efforts to identify additional potential funding programs that could fund a portion of your project.

Mike can work with the City and your Owner's Representative to identify potential new sources of funding. Also, our construction and project controls team can also assist in coordinating with public agencies and providing documentation to meet compliance requirements, including Davis-Bacon wage verification, Buy American and Build American (BABA) compliance, and project reporting.

PUBLIC OUTREACH

We recognize that community engagement is an essential element of project success, so we're collaborating with The Merchant Strategy, who brings extensive experience in Florida community relations and stakeholder communications. Sharon Merchant and her team are capable of leading or assisting with public outreach at the City's discretion, with services ranging from public involvement plans to developing project materials, such as door hangers and fact sheets.

Merchant is providing similar services for the City's raw water supply well design-build project, which will provide efficiencies and consistency on the Rangeline WTP project.

Targeted Outreach Services

Merchant can provide the full range of community outreach services, including project web pages, developing and maintaining stakeholder databases, facilitating public meetings or workshops with neighborhood associations or other concerned parties, and producing news releases for the local media. These efforts will help the City maintain an open and positive dialogue with the community.

Communications during Construction

Community outreach is especially important during project construction, when the public could be impacted by construction activities. Merchant can assist with publicizing construction schedules and any road closures or outages impacting residential areas or businesses.

SUBCONTRACTOR OUTREACH

In addition to providing a safe and reliable source of drinking water, the Rangeline WTP project will benefit the community by creating jobs and job training opportunities for local businesses.

Workforce Development

Community outreach and workforce development are crucial to local wealth building, and subcontractor outreach expert Sharon Merchant is prepared to work with the City, at your request, to employ a variety of means to engage local small businesses.

Sharon and her team will coordinate with our delivery team at the outset of the project to understand the timing, work packages, and sequencing of GMP development activities. Then, they'll perform an initial needs assessment to identify the appropriate subcontractor markets and most effective means of communicating with them about project opportunities, such as job fairs, to gain greater interest and participation in the project.

Job/Skill Training

Based on our 30 years of experience working in the Treasure Coast area, we understand the need for local job and skill training, and the Rangeline WTP project provides an excellent opportunity to do so.

At the City's request, The Merchant Company can work with you and our leadership team to establish a technical knowledge-based job skills program for project construction. Firms that are professionally credentialed but without strong experience can be mentored by our team. When the project is completed, these trained employees will have further developed technical knowledge and abilities that will help them win larger, more complex roles on future projects, leaving a positive and lasting impact on the community.

Subcontractor Outreach

Merchant works throughout the Treasure Coast, which will help us publicize job fairs that attract local subcontractors.

Construction and Commissioning Approach

The construction and commissioning phase is where the promise of design turns into reality through precise planning, efficient delivery, and hard work. **Because Jacobs leads every aspect of the project, our fully integrated team using our proven collaborative approach will deliver a well-coordinated project as we transition from design through construction completion.**

We understand the importance of planning the work and working the plan, and our construction approach responds to each and every challenge as it occurs, delivering results. Working within the footprint of the project site requires balancing several interests:

- The Rangeline Repump Station must remain operational
- Access to the site from the end of SW Discovery Way must be developed if the final roadway is not developed first
- Construction activity and truck traffic must be maintained and coordinated
- Impacts to existing operations and the surrounding neighborhood must be minimized

Addressing these project challenges—along with many more to be defined together with the City—is what makes Jacobs' construction experience different. Over the past 30 years, we've ***built more than 300 treatment plants using design-build delivery,*** more than any other delivery firm in North America. Key to our growth and success has been development of the PDB delivery as a preferred choice for water and wastewater project delivery.

Our construction management approach emphasizes a commitment to transparency and collaboration, proactive planning, layered oversight, and direct engagement with the City. From the start of construction through final turnover, our focus will be on maintaining safety, quality, cost, and schedule control while minimizing operational disruptions and promoting collaboration among all project partners.

Advantages of our Construction Experience and Approach

Collaborative Environment Enhances Project Success by establishing a partnership with the City through all phases of the project.

Teamwork and Communications Promote Efficiency, employing processes and tools that keep the City fully informed of project progress.

Our Project Schedule Achieves the 2029 Completion Milestone with carefully sequenced activities that seamlessly integrate the new facilities within the operational system.

Transparent GMP Development and Scope and Contingency Management Processes reduce the likelihood of change orders and deliver the project scope within budget.

Innovative Approaches Help the City Achieve its Water Treatment Goals, including a variety of GMP and early 4-MGD capacity alternatives as well as a flexible site concept to meet your project objectives.

Emphasis on Quality across All Phases of the Project, engaging construction and operations experts during design and deploying a multi-disciplinary team of QC reviewers at key milestones.

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Our integrated construction approach promotes alignment, accountability, and reliable delivery for the City.

CONSTRUCTION MANAGEMENT

One of the greatest benefits of our integrated model is that the City and our construction and commissioning team will have direct access to the Engineer for greater speed of delivery and more efficient quality control.

We'll deliver construction and commissioning services with the same commitment to collaboration, transparency, and quality that defines our design and preconstruction phase. We know the importance of planning the work and working the plan, and our construction and commissioning teams are prepared to meet these challenges in the following ways:

- **Our comprehensive construction approach results in a safe, quality project that minimizes risk and cost, reduces impacts on systems operations and nearby residents, and meets key milestones.** Our implementation approach carefully plans the work and achieves seamless integration with the City's existing system.
- **Our comprehensive commissioning approach meets all performance requirements, promotes seamless integration of the new WTP, and trains operations staff while maintaining existing operations.** While much of WTP project success hinges on the last 5% of the work, the success of that work starts early in the project, and it continues through successful startup. Our proven commissioning and training approach seamlessly transitions from construction to long-term operations.

Dedicated Field Leadership

Jacobs will deliver comprehensive general conditions services, including field engineering, temporary facilities, supervision, ODP coordination and handling, and quality, safety, cost, schedule, and document control and management. Construction Manager **Dean Ressler** and Site Superintendent **Gary Giordano** will lead day-to-day construction activities, supported by Jacobs' onsite project engineers and trade superintendents. Our Project Manager **Grant Misterly** will also be engaged in construction, providing continuity between what was committed in the GMP and what is delivered during construction and as a constant line of communication with the City.

Dean and Gary will apply our proven construction management practices to coordinate subcontractors; manage budget, schedule, and logistics; and maintain safety and quality performance throughout the project. From the start of construction through final turnover, their focus will be on maintaining safety, quality, cost, and schedule control while minimizing operational disruptions and promoting collaboration among all project partners.

All construction documentation—including submittals, RFIs, and progress reports—will be stored in our **Project Information Management System (PIMS)** on a secure SharePoint platform accessible to the City and Owner's Representative.

Aggressive Subcontractor Management Benefits GRU PDB

On GRU's Main Street WRF PDB, a local subcontractor's bid came in much lower than the other bids. Jacobs worked with them to confirm their bid was complete and with GRU to create a subcontractor allowance in the event they fell behind schedule and needed help. During construction, the subcontractor fell behind schedule, so we used some of the allowance to mobilize additional resources to keep the project on schedule. This **strategy saved GRU millions of dollars** and helped increase the local subcontractor's knowledge and expertise.

PIMS Links Project Office to Field on St. Johns County's SR 207 WRF PDB

The PIMS dashboard provides the City and Owner's Representative with real-time inspection and testing documentation.

Collaborating to Solve Construction Challenges

Solving complex construction challenges when there are existing operational facilities requires collaboration between all project stakeholders to make sure issues are identified and the right solutions implemented. Based on lessons learned and successes earned from past projects, we'll develop best-for-project solutions in full collaboration with the City.

To promote collaboration, weekly coordination meetings will be held with the City, Owner's Representative, and subcontractors to review progress, safety, and schedule. Also, our PIMS dashboards will provide real-time visibility regarding project activities, allowing stakeholders to monitor work completion, materials delivery, RFI and submittal status, and the construction schedule.

Quality Management

Building on the quality management framework developed during the project management phase, we'll implement a **field-specific QMP** tailored to construction activities. The QMP will define responsibilities, inspection protocols, and documentation procedures for each discipline. Superintendent **Gary Giordano** will oversee daily QA/QC inspections, supported by our independent third-party testing firm Ardaman & Associates.

Our field team will work closely with our engineering team to conduct QC reviews, which will be documented on PIMS. We'll also verify materials, workmanship, and installation methods through continuous inspections before work is covered up. We'll also coordinate any third-party material testing or special inspections.

All testing results, inspection photos, and reports will be uploaded to PIMS for real-time access by the City. A **Quality Issues Log** will be used to track nonconformances and corrective actions, maintaining complete transparency and accountability.

Safety Management

Jacobs' **BeyondZero®** safety culture will guide all construction activities. Safety Manager **Alan Cyrier** will lead development and implementation of a site-specific **Health, Safety, and Environment (HSE)** Plan, building upon the framework introduced in our Project Management approach. The HSE Plan will identify site hazards, outline training requirements, and define emergency response procedures. Daily tailgate meetings, safety stand-downs, and routine audits will reinforce Jacobs' commitment to a safe, accountable jobsite.

We conduct self-assessments with project safety coordinators and periodic audits by corporate HSE professionals. These audits focus on both compliance and mentorship, cultivating a learning-oriented safety culture. Safety observations, corrective actions, and follow-up items will be uploaded to and accessible via PIMS.

BeyondZero

Jacobs is dedicated to the health and safety of our clients, project personnel, subcontractors, and the public during the design, construction, and operation of the City's new WTP. Our unwavering commitment to safety is demonstrated by our "BeyondZero" safety program, which empowers all Jacobs employees and subcontractors to take responsibility for achieving **zero injuries, zero adverse impacts, and perfect first-time quality**. Year over year, Jacobs consistently delivers exemplary safety performance, achieving an OSHA Experience Modification Rate consistently lower than the construction industry average of 1.0.

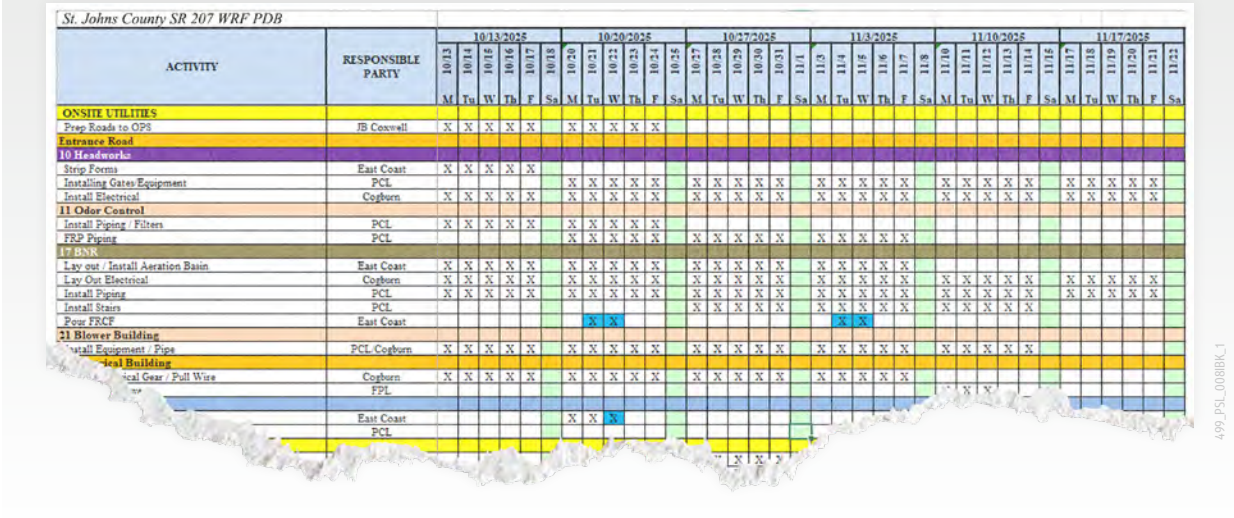
Year	EMR
2024	0.46
2023	0.45
2022	0.52
2021	0.51
2020	0.47

Schedule Management and Cost Control

We'll maintain **strict schedule control using Primavera P6** to manage the baseline critical path schedule. The construction schedule will be resource- and cost-loaded, capturing design dependencies, permitting milestones, procurement activities, and construction sequencing. We'll also use a **detailed six-week look-ahead schedule** to coordinate field activities and forecast near-term work. Weekly reviews with subcontractors and the City will confirm progress, identify potential risks, and support proactive adjustments.

We'll use earned value analysis to measure actual progress against planned budget and schedule performance. Monthly reports will summarize earned value metrics, cost trends, and potential forecast adjustments. This data-driven approach will promote accountability and early identification of potential schedule concerns.

6-Week Look Ahead Schedule



The 6-week look-ahead schedule makes it possible to make proactive schedule adjustments and keep upcoming construction activities on schedule.

Aggressive Schedule Management Achieves On Time or Early Completion

PDB Project Name	Schedule Results	Schedule Mitigation Strategies
BSU RO WTP Ph I Project, FL*	Completed project 2 months early	Efficient RO installation and the use of early equipment procurement resulted in time savings. Significant risks were tracked and mitigated, including fast track schedules.
BSU RO WTP Ph II Expansion and Lime Softening WTP Improvements Project, FL*	Completed project 4 months early	Comprehensive resource loaded schedule was developed and managed in conjunction with efficient construction delivery, Saturday work and early equipment procurement to reduce construction delivery time.
SJCUD SR 207 WRF, St Augustine, FL*	Started construction 6 months after the NTP and on track to be designed and commissioned within 43 months at approximately 85% project completion	We mobilized to the site within 6 months to start construction before the start of the rainy season. Performed early site work and procured long lead electrical and process equipment in an early package in preconstruction and aggressively managed subcontractors and the schedule during construction to keep the project on schedule.
City of Tampa DLTWTF Expansion Project , FL*	Reached construction completion milestones 5 months early	Comprehensive schedule was developed and closely managed enabling higher than expected productivity and the construction team partnered with operations to strategically schedule and expedite shutdowns and critical tie ins which resulted in time savings.

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*** Reference Project**

Schedule mitigation strategies like these will keep the Rangeline WTP on or ahead of schedule, no matter the challenge.

Effective Change and Risk Management

Change management continues into and throughout the construction phase of the project. Project issues that arise in construction are tracked, managed, and memorialized using our Project Issue Log (PIL). All threats and opportunities are transferred into our risk register and the top project threats and opportunities are discussed during regularly scheduled construction meetings to allow for timely decisions until the item is mitigated or avoided and eventually closed. If contingency is needed to mitigate the risk, its use is closely tracked and managed in the project contingency log, and that log is reviewed and discussed with the City on a frequent basis.

The up-to-date PIL, risk register, and contingency log are maintained on PIMS, allowing us to continuously monitor trends, take proactive action, effectively manage change, and minimize project impacts. Disciplined and transparent change management throughout the life of the project helps deliver the GMP under the City's budget and mitigates risk, minimizing the use of contingency and returning savings to the City during construction.

ODP Materials and Equipment Management

Jacobs will oversee the delivery, handling, and storage of ODP materials and equipment. Our field staff will follow the plan developed during the preconstruction phase to ready the site for delivery and then track fabrication, shipping, and delivery schedules in a log on PIMS, in close coordination with the City and Owner's Representative, maintaining alignment between procurement and construction milestones.

We'll ensure all ODP materials and equipment pass the required factory acceptance testing prior to shipment. Upon arrival, we'll inspect them for compliance with submittal requirements and then store them safely, protected from environmental exposure until installation. We'll also manage all vendor coordination, warranty and closeout documentation, spare parts inventory, and manufacturer services to facilitate smooth installation and commissioning.

Project Issues Log Proactively Manages Change

NMBwater | Jacobs

NORWOOD WTP DB PROJECT ISSUES LOG

Issue Number	PCO #	Initiated By	Work Order	Project Name	Issue Date	Issue	Ball in Court	Due Date	Date Resolved
1		Jacobs	20	Norwood WTP Expansion Phase 1	7/31/2018	Agreement with Harn R/O for Membrane Supplier	Harn R/O		9/12/2018
2		Jacobs	20	Norwood WTP Expansion Phase 1	8/10/2018	Permitting with Miami Gardens and Derm Issues	DERM		9/28/2018
3		Harn R/O	20	Norwood WTP Expansion Phase 1	9/10/2018	Harn Offsite Storage and Billing	Harn R/O		9/10/2018
4		Jacobs	20	Norwood WTP Expansion Phase 1	8/28/2018	Subcontractor Master Schedule	Harn R/O		10/4/2018
5		Jacobs	20	Norwood WTP Expansion Phase 1	8/28/2018	Issue NTP to Subcontractors	Jacobs/Harn R/O		9/4/2018
6		Jacobs	20	Norwood WTP Expansion Phase 1	8/2/2018	Purchase Order from NMB amount does not match GMP submitted	NMB Water		
7		Jacobs	20	Norwood WTP Expansion Phase 1	8/2/2018	Signed and Sealed Conformed Drawings	DERM		10/2/2018
8		Harn R/O	20	Norwood WTP Expansion Phase 1	9/12/2018	Line Item Price Discrepancy			9/12/2018
9		Jacobs	20	Norwood WTP	9/13/2018	Available Raw Water for Testing	Jacobs		11/7/2018

Norwood WTP- PIL

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The Project Issues Log tracks construction issues that can impact quality, cost, or schedule, supporting timely resolution and contingency management that returns savings to the City.

Proper ODP Management Mitigates Schedule Impacts

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We'll track ODP equipment delivery and properly handle and store it to avoid schedule delays.

Construction Sequencing Plan

When developing the overall sequence of construction activities for the new 10-MGD RO WTP, one of the primary objectives will be to maintain safe, uninterrupted operation of the Rangeline Repump Station.

First, we'll confirm that the repump station will reliably operate during construction by performing a condition assessment during preconstruction to identify potential areas of vulnerability. Any needed improvements to "harden" any operational components will be planned, priced, and submitted for approval in an early GMP or allowance use request, and the work will be conducted before any critical tie-ins or outages are performed.

Another area of focus will be identifying, protecting, and/or relocating any infrastructure in the footprint of the new facilities subject to the impacts of construction. For example, there are several raw and finished water as well as sanitary and stormwater pipelines, incoming FP&L power feeds, and other infrastructure on the site that will need to be located prior to construction and relocated or protected.

Our team is well versed in the utility relocation process, as demonstrated by our recent work on the City of Tampa's HSPS project at its100-year-old DLTWTF.

Our final activity prior to construction will be to establish a well-organized site logistics plan that optimizes the site space for safe and productive field work.

We've developed a preliminary site logistics and construction sequence plan for Alternative 1 (entire 40 MGD on west side of the site), with plenty of space for material laydown and parking, as well as site access for WTP field staff and the other field staff associated with the DIW and water supply projects. The final plan will be developed in close collaboration with the City, your Owner's representative, and all other contractors working on adjacent sites to our work areas.

Construction Work Breakdown and Early Work Packages

In our Project Overview section, we've developed a preliminary work breakdown that supports our schedule and assumes Jacobs will self-perform all the items impacting project performance, such as general conditions, equipment procurement and handling ,I&C integration, and commissioning, while CROM Corporation will be responsible for the prestressed concrete ground storage tank and other early site work in GMP 1.

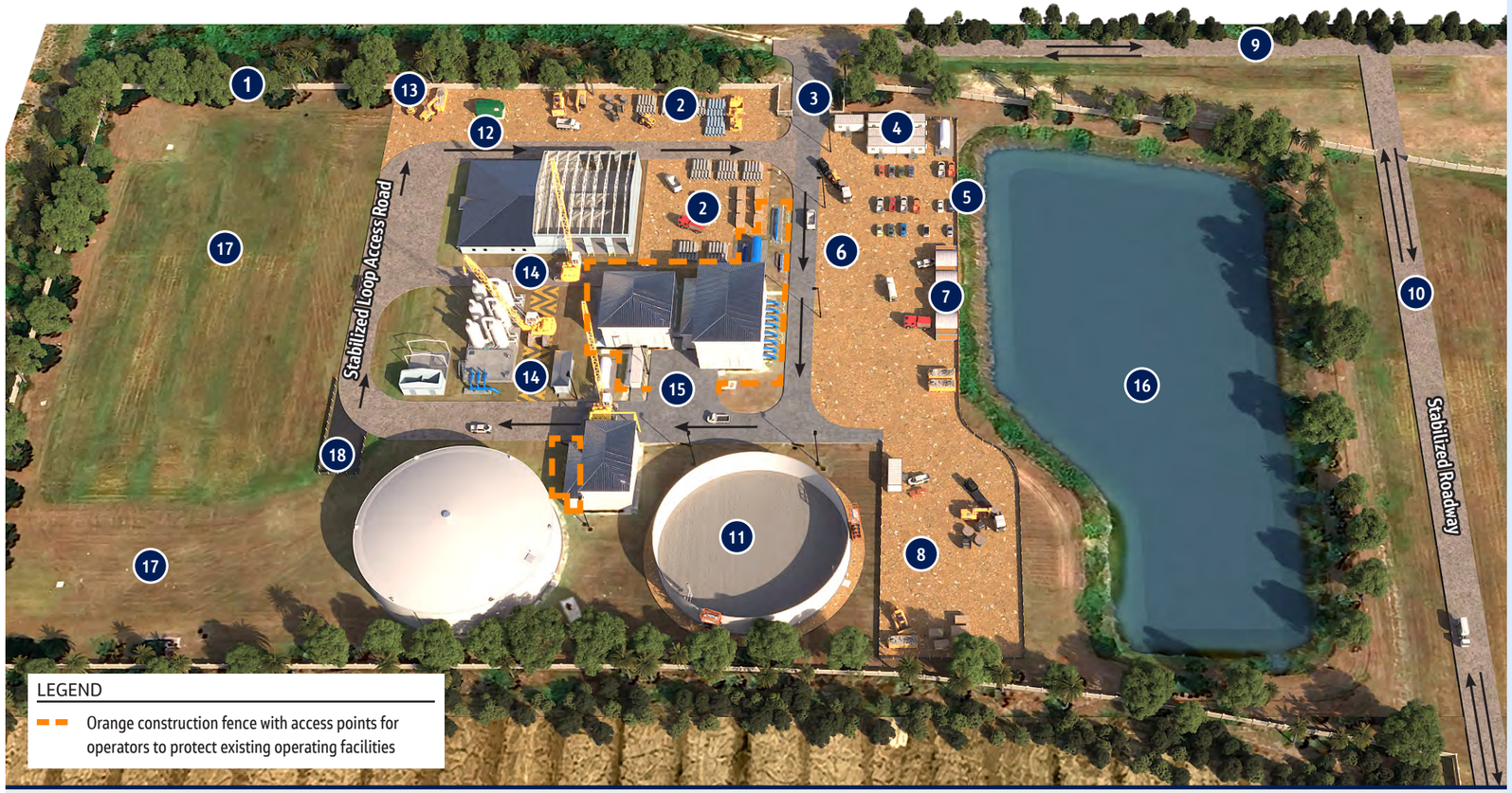
Preliminary Work Breakdown Summary

GMP 1 Work Breakdown Dec 2026 - June 2027	GMP 2 Work Breakdown May 2027 - June 2028	GMP 3 Work Breakdown Aug 2027 - July 2029
Early Site Work, Prestressed GST Package: › Early sitework and mobilization (Jacobs & Crom Self Perform) › Primary electric feed (by FP&L) › Prestressed concrete GST and under slab piping (CROM)	**Early WTP Structural Concrete Package:** › Under slab piping subcontractor (TBD) › Under slab electrical & I&C subcontractor (TBD) › Structural Concrete subcontractor (TBD)	**Remaining WTP Work Package:** › Yard piping subcontractor (TBD) › Above grade mechanical subcontractor (TBD) › Building subcontractor(s) (TBD) › Painting and coatings subcontractor (TBD) › Final site civil subcontractor (TBD) › Landscaping subcontractor (TBD) › Electrical subcontractor (TBD) › I&C Panels/Instrumentation subcontractor (TBD) › I&C integration and programming (Jacobs)
High Priority ODP Electrical Equipment: › Generator and Fuel Tank vendor (TBD) › Low Voltage Switchgear vendor (TBD) › Transformer(s) vendor (TBD)	**Long Lead ODP Process/ Electrical Equipment:** › RO Feed Pumps vendor (TBD) › Transfer Pumps vendor (TBD) › RO Membrane Skids and CIP System vendor (TBD) › Degasifier and Odor Control Towers vendor (TBD) › MCCs and AFDs vendor (TBD)	**All Other ODP Process Equipment:** › Cartridge Filter vendor (TBD) › Chemical tank & metering pumps vendor(s) (TBD) › CO2 System vendor (TBD) › All other equipment vendors (TBD)

Our preliminary approach expedites the schedule while achieving significant savings for the City by maximizing the amount of first tier subs/vendors and competitively bidding 23 subcontractor and equipment packages. Jacobs will issue PO's via ODP to all vendors and contract directly with all subcontractors listed above, making us soley accountable for all construction work.

Preliminary Construction Site Logistics Plan

Our preliminary site logistics plan for Alternative 1 (entire 40 MGD on west side of the site) provides plenty of room for materials laydown and other critical construction activities.



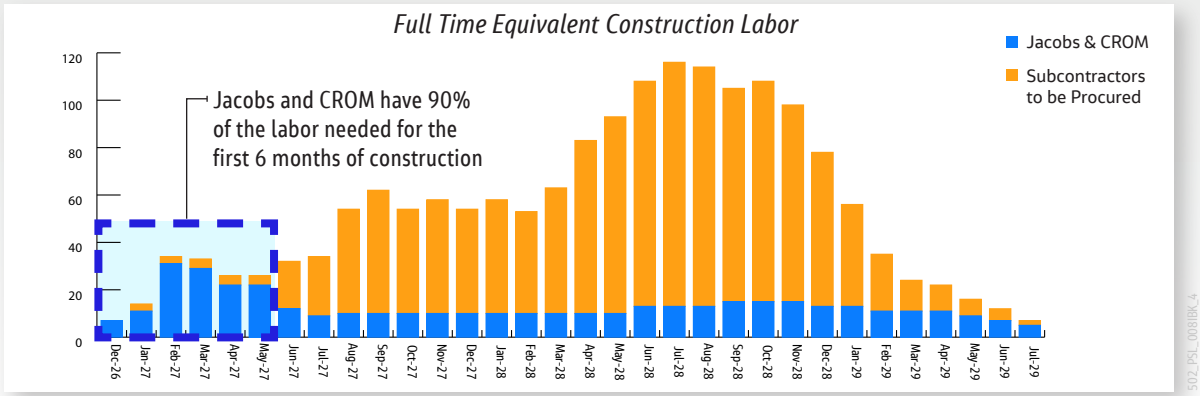
Plan Key

1. **Existing Chain Linked Fence for Site Security**
2. **Stabilized Material Laydown Areas** *(includes temporary toilets and wash stations)*
3. **Site Entrance with Access Control** *(includes project signage and contact information for construction deliveries)*
4. **Construction Trailer Area**
5. **Silt Fence and Erosion Control** *(as needed)*
6. **Management and Craft Labor Parking Area**
7. **Conex Storage Area for ODP, Tools, and Materials** *(covers in between to provide shaded workshop and worker break areas)*
8. **CROM Trailer, Parking, and Material Laydown Area**
9. **Stabilized Site Access Road** *(install and maintain until SW Discovery Parkway is constructed)*
10. **Stabilized DIW Work Area Access Road** *(by others)*
11. **Prestressed Concrete GST Work Area** *(with 20-foot stabilized ring to construct the GST)* **(CROM)**
12. **Protected Area for New FP&L Primary Feed and Transformer**
13. **Dumpster Area**
14. **Crane Path** *(temporary)*
15. **City Only Parking and Access to the Repump Station Facilities**
16. **Existing Wet Detention Pond** *(to be maintained and used for SWPPP discharge, including all permitted dewatering discharges)*
17. **Green Spaces** *(not impacted by construction, to be protected and preserved)*
18. **Concrete Washout Area**

Preliminary General Construction Sequencing Plan

- Address any areas of need at the Existing Repump Station identified in the Condition Assessment.
- Identify and flag all existing utilities via GPR and soft digs.
- Mobilize to the site, stabilize the access road along SW Discovery Way, install BMP erosion control measures and temporary stormwater collection and dewatering systems per the permitted SWPPP..
- Clear and grub, perform rough grading, and stabilize surfaces for laydown, trailers, etc.
- Delivery and install trailers, temporary holding tanks, utilities, etc. Deliver and setup conexes as the work progresses and as needed.
- Construct 6-MG Prestressed GST, yard piping modifications to tie into the fill side of the GST using the existing valve and the suction side of the repump station (a brief shutdown likely during off hours to install a 42" BFV and tie the GST in is required), and temporary chlorine and ammonia chemical trim lines on the GST fill line.
- Disinfect and commission the new 6-MG GST tank into the existing repump station to provide added flexibility in operations.
- Make modifications to FP&L's distribution system and install new primary feed to the WTP (by FP&L).
- Receive and properly stored materials on site.
- Construct in and under piping and electrical conduits at the Membrane Building and new Clearwell Electrical Building and then all other buildings according to schedule.
- Construct site yard piping, stormwater, electrical improvements and tie ins in coordination with ongoing construction activities.
- Construct building shell, process mechanical, electrical, and interior and exterior finishes at the Membrane Building and new Clearwell Electrical Building and then all other buildings according to schedule.
- Make modifications to the existing repump station Electrical Room and Generator Room.
- Receive and properly stored ODP process and electrical equipment on site.
- Install ODP process and electrical equipment, prioritizing work along the critical path of the project per the schedule.
- Pull wire and terminate at all process and electrical equipment, control panels, and instrumentation, prioritizing work along the critical path of the project per the schedule.
- Perform functional testing of the 4-MGD RO WTP using any temporary piping needed.
- Perform tie-in of the new RO WTP Transfer Pump Station discharge line into the existing GST influent lines (a brief shutdown to tie this line in is required and 10 MGD of storage can be used to keep the repump station on line).
- Commission the 4-MGD RO WTP per the schedule and commissioning plan; turn over O&M and SOPs and train operators.
- Construct final grade, paved access roads, sidewalks, irrigation, sod, and all other final site improvements.
- Develop and address punchlist items with the City and your Owner's Representative.
- Commission the remaining 6 MGD at the RO WTP per the schedule and commissioning plan and turn over O&M and SOPs and train operators

Construction Labor Forecast



Jacobs' and CROM's in-house construction resources get the project off to a fast, reliable start and allow plenty of time to procure the remaining subcontractors needed at a competitive cost.

Additional subcontractors, who will perform the remainder of the work, will be selected using a best value selection process, identifying the most qualified bidders at the best price. The actual work breakdown will be determined in collaboration with the City and your Owner's Representative after conducting market outreach and analysis.

We understand the importance of schedule to the City's project and have identified two potential early work packages (GMPs 1 and 2) to accelerate progress and mitigate schedule risks. Early packages include site development, mobilization, the FP&L electrical feed, procurement of long lead equipment, under slab piping and conduits, and foundation construction to accelerate progress while design and permitting advance.

We also have a clear understanding of the labor resources needed to construct the WTP, which is plotted in the labor forecast chart below. The Jacobs team, including our subcontracting partner CROM, have 90% of the labor resources to deliver the first 6 months of construction work in-house, for a fast and reliable start. **Using our best value subcontractor selection process, we'll have plenty of time to procure the rest of the subcontractors to perform the remaining trade packages, saving the City money.**

Maintenance of Plant Operations (MOPO)

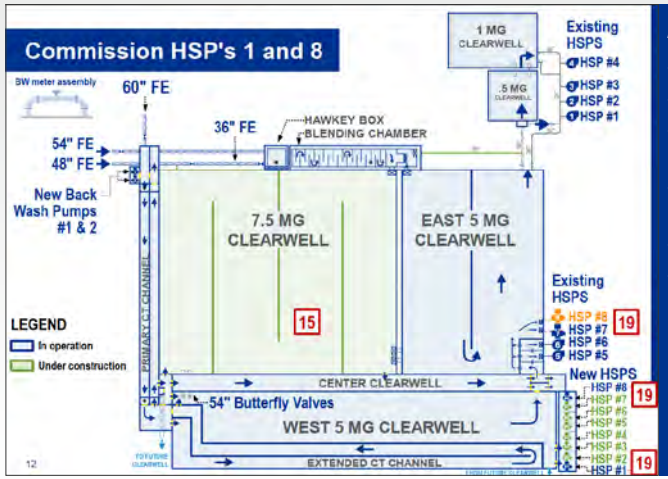
One of the most important aspects of collaborating with the City's operations staff is identifying the temporary shutdowns and tie-ins needed between the new and existing facilities and capturing this information in a MOPO plan. To maintain operations throughout construction, the planning process begins as

Case Study: Protecting Critical Infrastructure is Key to MOPO

Integrating a new WTP into an existing system requires the expertise of the most qualified and experienced team. Jacobs provides that certainty through our collaborative and integrated approach with the City and our qualified team of partners. This approach has proven to eliminate unplanned outages and system upsets.

A critical challenge during our PDB work at the 100-year-old, 120-MGD David L. Tippin WTF in Tampa was building a new chlorine contact basin (CCB) around existing 48" and 54" ductile iron pipelines carrying 100% of the City's drinking water. Any impact to these lines would be catastrophic to the water supply. We developed detailed construction sequence and maintenance of operations plans that included a temporary support system to ensure operational stability for these pipes during construction. After carefully installing the support system, the new CCB was safely constructed with no impact to operations or surrounding infrastructure.

A Strong MOPO Plan Ensures Continuous Operations



Active Construction Work:

- Commission Center Clearwell
- Rework 7.5 MG Clearwell
- Hawkey Box and Blending Chamner in Service
- Commission New HSP's 1 & 8 in Service
- Decommission existing HSP 8
- Maintain remaining HSP's in Service

Jacobs

DLTWTF HSPS and Improvements Project
Critical Tie-Ins & Outages Schedule
November 2, 2020

Outage Number	Description	Requested Shutdown Duration (Hours unless noted otherwise)	Affected Plant Process	Required Valves/Gate Operability	Comments
	7.5 MG Clearwell Shutdown and Modifications (West 5 MG CW back in service)				
15	Modifications to the existing 7.5 MG CW	150 work days	FW STORAGE - 7.5 MG CW	CW-01, CW-03 and BC-02-05 Gates - ALL are assumed already Closed CW-19 54" BFV CW-20 54" BFV CW-07 24 X 60 SLUICE GATE CW-08 24 X 60 SLUICE GATE BC-10 48 X 60 SLUICE GATE	Isolate and drain clearwell for modifications. Cut two north 54" pipes between West 5 MG and 7.5 MG CW. Sump Construction and clearwell strengthening.
	New Segment A 48" Header Tie into 48" CIAC Line				
16	Tie new segment A 48" header into the existing 48" CIAC Line	8	FW Transmission - 48" CIAC Line	2018-1 36" BFV 2018-2 36" BFV 2018-3 36" BFV 1925-1 30" BFV 1942-1 36" BFV	Install new line up to tie in point, isolate and close valves, demo existing pipe and valves back to 48" line and connect.
	New Segment C 48" Header Tie into 1990 48" Line				
17	Tie new segment C 48" header into the existing 1990 48" Line	12	FW Transmission - 1990 48" Line	1990-1 48" BFV 1990-2 48" BFV 1990 48" BFV near Hanna Ave	Install new 48" line up to and tie into 1990 48" line and then isolate and close valves. The 1942 36", 1925 30" and 1953 36" lines will NOT be tied in until 6 of the 8 new pumps are on line.

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Our carefully developed MOPO plan for the City of Tampa's DLTWTF HSPS PDB included more than 27 shutdowns and tie-ins, which kept the 100-year-old plant operational during 4 years of construction.

soon as the scope of the project is defined, and it continues into construction until the work is successfully executed and the risk has been eliminated.

Jacobs has successfully implemented numerous MOPO plans for design-build projects with operational facilities in Florida since 1994, and in the process have optimized our approach. The MOPO plan begins with a comprehensive risk assessment of the system or interface for each critical tie in and outage. Documenting risk and consequence of failure associated with each system provides a basis for prioritization of the work.

We focus on interim improvements and enhanced contingency planning to ensure the risk of unplanned interruptions doesn't occur before permanent improvements are in place. Prior to each major system tie-in, we'll host collaborative workshops with the City and Owner's Representative to review the sequencing plan, associated risks, and contingency measures. Each tie-in will be assigned float in the master schedule to maintain flexibility and meet critical milestones. During this process, we will help identify ways to mitigate any impacts such as scheduling tie-ins during low demand periods and ensuring water tanks are full prior to shutdowns.

Mitigating Construction Impacts on the Community

We understand the importance of coordinating with neighbors who may be affected by traffic and noise created by heavy equipment, concrete mixer trucks, and concrete pumps.

Our construction team has extensive experience mitigating these impacts, such as:

- Using quieter electrically driven equipment rather than diesel engines
- Limiting the durations and operating hours of heavy equipment operation to help reduce diesel fumes and potential for spills
- Adhering to municipal noise ordinances
- Providing dust control via wetting dusty surfaces and temporary noise barriers around noise-producing equipment
- Providing construction signage and secure site perimeters
- Strategic and well-coordinated access points which direct construction traffic further away from residents if possible and schedule deliveries around high-density traffic times

If necessary and requested by the City, we'll engage The Merchant Strategy to assist the City in managing public perception during design and/or construction.

ENGINEERING SERVICES DURING CONSTRUCTION

Our integrated structure gives the City direct access to the engineer providing services during construction (SDCs) and the commissioning team. This approach helps ensure the quality of construction. Our commissioning team communicates directly with the City to ensure quality of our startup and commissioning efforts, including standard operating procedures, training, and record documentation.

We'll maintain a strong onsite engineering presence to support construction and expedite responses to field conditions. Onsite project engineers **Avery Fulford** and **Josue Alvarez** will act as the liaison to the design team, expediting responses and improving quality.

They'll facilitate coordination between the design and construction teams by:

- Managing RFIs, submittals, and as-built drawings
- Verifying equipment delivery and installation accuracy
- Coordinating with vendors
- Maintaining the submittal register
- Leading weekly technical coordination meetings

We'll be a Courteous Neighbor during Construction

Maintain service continuity at the existing repump station while constructing the new WTP and sequencing cutovers.

Plan work hours consistent with City requirements (standard hours 7:00 a.m. to sundown, with noise permits and advance notice required for night or weekend work), incorporating construction

Coordinate construction deliveries to occur M-F during normal business hours and include instructions and a contact number in the PO for truck drivers to avoid staging semi trucks after hours.

Coordinate traffic and access along Range Line Road and within the site to minimize community impacts and construction conflicts.

Engage operations staff and other stakeholders with clear communications, particularly when there are construction activities that could affect operations during startup and acceptance testing.

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We understand the community and will deliver the Rangeline WTP project in a way that respects your operations staff and local residents, maintains services, and minimizes disruption.

This continuity of engineering support will keep communications open between the field and design teams, enabling efficient problem-solving and documentation. Our same engineering team, including Design Production Manager **Gaibey Zreibi,** will stay engaged throughout the construction process to make sure the project is built according to the project drawings and specifications. Their responsibilities will include reviewing RFIs and submittals; developing record drawings, SOPs, and design change notifications, as well as commissioning, permitting, and QC inspection support.

As the Engineer and Contractor, an expedited schedule and performance guarantees are some of the greatest benefits you'll receive with our integrated PDB delivery model. Because we are a single entity responsible for all project components, we take these benefits seriously. Our fully integrated team is focused on—and knows how to—work together to get things done quickly and done right to ensure performance is not impacted.

Startup, Commissioning, and Training

Starting up and commissioning the new Rangeline WTP is where the practices of design and construction meet the reality of project performance. However, this process is about more than just starting up membrane process trains, post treatment structure, and supporting equipment—it also involves integration between the new raw water supply wells, DIW, and existing Repump Station—all of which must operate as one cohesive system and perform consistently, reliably, and economically throughout the process.

THE JACOBS DIFFERENCE

As a design-builder with more than 75 years of operations experience, Jacobs understands these project complexities and will maintain 100% responsibility for commissioning your project.

To ensure that startup and commissioning go smoothly, Class A WTP Operator Veronica Llaneza—who lives less than an hour from the Rangeline site—will lead the process. Veronica will incorporate the lessons learned from past projects, including the many membrane treatment projects described in Section 3 of our proposal, as well as your O&M preferences, to ensure a smooth and efficient process and transition back to the City.

Testing, Startup, and Commissioning Process

Pre-Commissioning

- Design input for safety and operability
- Develop planning documents, SOPs, and detailed checklists
- Finalize sequencing and schedule
- Witness factory testing
- Perform initial checks and visual observations, including Pre-Testing, Facility Power-Up Testing, and Loop Testing
- Identify temporary components and operational scenarios
- Define roles, responsibilities, and communication protocol
- Validate P&IDs, equipment specs, and membrane selection pre-commissioning

Functional Testing

- Manufacturers' certifications received
- Liquids and solids facilities functionally ready to go online
- Network configuration
- I&C operational readiness testing
- Mechanical checks (equipment dry and wet runs)
- Alarming and interlock verification
- Schedule just-in-time membrane delivery and/or controlled environment storage
- Vendor and manufacturer training for PSL staff
- Install permeate orifice plugs in RO vessels

System Testing & Startup

- Demonstrate hydraulic testing across a range of flows
- Perform leak test and low pressure flush
- Disinfection and bacteriological testing
- Element install to purge air and each time system is started
- Coordinate final tie-ins with the City
- Initial treatment of water through process trains
- Control system fine tuning
- Ongoing hands-on training and oversight for PSL staff

Performance Testing & Transition Handover

- Full demonstration of process performance
- Treatment over a range of flow and conditions
- Daily and weekly reporting
- Test results, deviations, corrective actions, and system settings
- Finalize SOPs, maintenance schedule, and unit process control troubleshooting guides
- Establish maintenance flushing schedule to minimize preservation requirements
- Establish baseline for membrane performance and fouling and normalized trends
- Conduct training on system operation, monitoring, and maintenance

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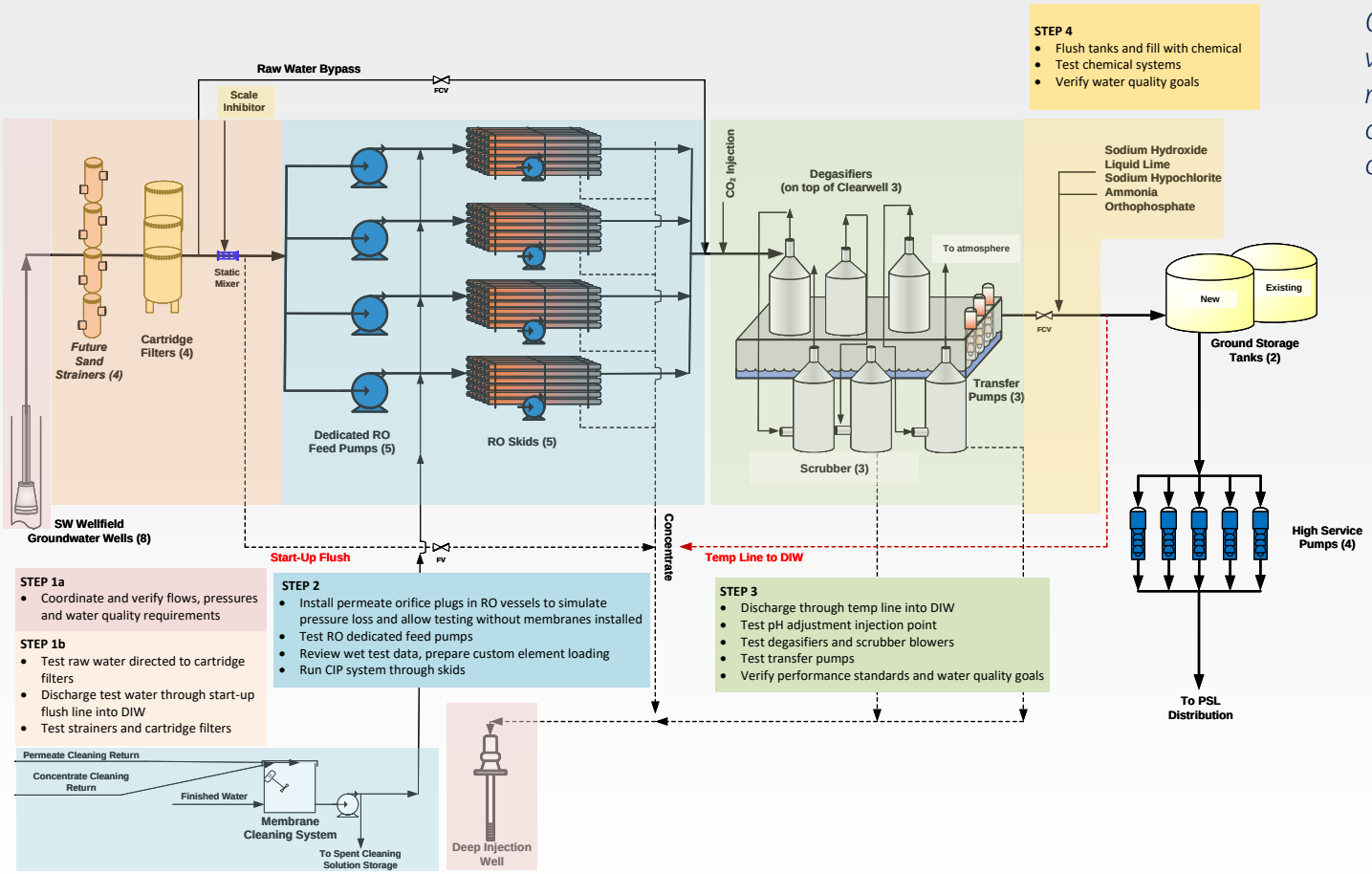
COLLABORATIVE PERFORMANCE TESTING PROCESS

The key to a well-developed commissioning plan is collaboration with the City to jointly finalize the WTP performance requirements. This will serve as a critical milestone in developing testing plans and achieving final completion.

WTP Design Lead Joe Elarde will be engaged during operational readiness and functional tests for each of the individual unit processes and the entire process train to ensure the design criteria is met within the performance requirements. Performance requirements include hydraulic capacity, process control, monitoring, water quality and energy efficiency.

The processes will be pressure tested, disinfected, and biologically cleared to meet FDEP rules before being cleared for service and placed online. After being cleared for service, we'll gradually ramp up flows until full

Rangeline WTP Process Startup



Our four-step startup process verifies raw water quality and methodically tests all process components before full-scale operation begins.

treatment capacity is achieved at the required performance criteria.

At that point, we're ready to demonstrate full plant performance testing. The final performance test is not an isolated activity, but rather, the culmination of the complex series of distinct startup and commissioning steps designed to deliver success the first time around.

Once water is being treated with the new facilities, we validate performance across a range of criteria to confirm each unit process has the flexibility and reliability needed for long-term operation. These unit process tests and criteria are based on our recent local successes designing and commissioning similar membrane facilities for Bonita Springs Utilities, Collier County, and the cities of Marco Island, Melbourne, and North Miami Beach Water.

DELIVERING SAFE, RELIABLE OPERATIONS

Creating confidence in performance of the Rangeline WTP starts with detailed planning and execution of a robust startup and commissioning process focused on the following key tasks:

- **Establish a dedicated commissioning team** with deep experience in the testing and operation of membrane treatment systems.
- **Engage the commissioning team early** during design to clearly establish goals, objectives, and milestones for commissioning.
- **Develop detailed plans and testing procedures** for commissioning activities, including identification of risks and contingency plans.
- **Execute commissioning based on the processes defined in the commissioning plan,** with a focus on the daily tasks at hand.
- **Provide robust training of Rangeline operations staff** using classroom, hands-on, and shadowing methods.
- **Collaborate and communicate continuously** with stakeholders on commissioning phase progress, issues, and schedule.
- **Commit to safety** in planning and execution of the work.

SEAMLESS TRANSITION FROM COMMISSIONING TO OPERATIONS

We understand the importance of coordinating, planning, and executing a seamless transition between commissioning and full operations of the Rangeline WTP during the performance validation phase. There are several ways to accomplish this, and we'll work with you to make sure our approach best positions your staff for long-term operation success.

While we fully expect your operations staff to be ready to operate the WTP on Day One of treating water, we've also experienced that the transition and staffing of a new facility with qualified staff can be a challenge. **Jacobs operates more than 250 water and wastewater facilities in North America and is ready and able to provide any level of O&M support that might be needed during performance validation and beyond, if requested, to ensure successful, seamless operations.**

> *We've got the City's back when it comes to maintaining operations, meeting schedule, and transitioning smoothly into operations:*
>
> - Agressive scheduling and subcontractor management that delivers the project on time with the track record to prove it.
> - A robust sequencing and MOPO plan that includes a sound, cost effective electrical approach that provides a new drop to power the new RO improvements with an option to power the post treatment facilities from the existing Repump electrical system.
> - A commissioning plan that keeps the repump station online until the RO WTP is fully tested and ready to be operated safely and reliably.

Safety Data

OSHA's Form 300A (Rev. 01/2004)

Summary of Work-Related Injuries and Illnesses

Year 2024

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0."

Employees former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
0	3	3	3
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
119	260
(K)	(L)

Injury and Illness Types

Total number of… (M)			
(1) Injury	9	(4) Poisoning	0
(2) Skin Disorder	0	(5) Hearing Loss	0
(3) Respiratory Condition	0	(6) All Other Illnesses	0

Post this Summary page from February 1 to April 30 of the year following the year covered by the form

Establishment information

Your establishment name: Jacobs Project Management Company

Street: 1999 Bryan Street, Suite 3500

City: Dallas State: TX Zip: 75201

Industry description (e.g., Manufacture of motor truck trailers)
Engineering Services

Standard Industrial Classification (SIC), if known (e.g., SIC 3715)
8 7 1 1

North American Industrial Classification (NAICS), if known (e.g., 336212)
5 4 1 3 3 0

Employment information

Annual average number of employees: 1,992

Total hours worked by all employees last year: 3,784,166

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

Company executive

President
Title

310-666-6139
Phone

01/23/2025
Date

OSHA's Form 300A (Rev. 01/2004)

Summary of Work-Related Injuries and Illnesses

Year 2023

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0."

Employees former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
0	4	2	7
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
159	443
(K)	(L)

Injury and Illness Types

Total number of… (M)			
(1) Injury	13	(4) Poisoning	0
(2) Skin Disorder	0	(5) Hearing Loss	0
(3) Respiratory Condition	0	(6) All Other Illnesses	0

Post this Summary page from February 1 to April 30 of the year following the year covered by the form

Establishment information

Your establishment name: **Jacobs Project Management Company**

Street: **1999 Bryan Street, Suite 3500**

City: **Dallas** State: **TX** Zip: **75201**

Industry description (e.g., Manufacture of motor truck trailers)
Engineering Services

Standard Industrial Classification (SIC), if known (e.g., SIC 3715)
8 7 1 1

North American Industrial Classification (NAICS), if known (e.g., 336212)
5 4 1 3 3 0

Employment information

Annual average number of employees: **1,987**

Total hours worked by all employees last year: **3,774,881**

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

Company executive

President

Title

(310) 666-6139

Phone

01/19/2024

Date

OSHA's Form 300A (Rev. 01/2004)

Summary of Work-Related Injuries and Illnesses

Year 2022

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0."

Employees former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
0	0	0	2
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
0	0
(K)	(L)

Injury and Illness Types

Total number of… (M)			
(1) Injury	2	(4) Poisoning	0
(2) Skin Disorder	0	(5) Hearing Loss	0
(3) Respiratory Condition	0	(6) All Other Illnesses	0

Post this Summary page from February 1 to April 30 of the year following the year covered by the form

Establishment information

Your establishment name: **Jacobs Project Management Company**

Street: **1999 Bryan Street, Suite 1200**

City: **Dallas** State: **TX** Zip: **75201**

Industry description (e.g., Manufacture of motor truck trailers)
Engineering Services

Standard Industrial Classification (SIC), if known (e.g., SIC 3715)
8 7 1 1

North American Industrial Classification (NAICS), if known (e.g., 336212)
5 4 1 3 3 0

Employment information

Annual average number of employees: **1,492**

Total hours worked by all employees last year: **2,833,875**

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

Company executive

President
Title

(310) 666-6139
Phone

1/25/2023
Date

OSHA's Form 300A (Rev. 01/2004)

Summary of Work-Related Injuries and Illnesses

Year 2021

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0."

Employees former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
0	1	1	0
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
3	3
(K)	(L)

Injury and Illness Types

Total number of…	(M)		(M)
(1) Injury	2	(4) Poisoning	0
(2) Skin Disorder	0	(5) Hearing Loss	0
(3) Respiratory Condition	0	(6) All Other Illnesses	0

Post this Summary page from February 1 to April 30 of the year following the year covered by the form

Establishment information

Your establishment name: Jacobs Project Management Company

Street: 1999 Bryan Street, Suite 1200

City: Dallas State: TX Zip: 75201

Industry description (e.g., Manufacture of motor truck trailers)
Engineering Services

Standard Industrial Classification (SIC), if known (e.g., SIC 3715)
8 7 1 1

North American Industrial Classification (NAICS), if known (e.g., 336212)
5 4 1 3 3 0

Employment information

Annual average number of employees: 1,339

Total hours worked by all employees last year: 2,543,622

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

Company executive

Sr. Vice President & GM
Title

310-666-6139
Phone

1/21/2022
Date

OSHA's Form 300A (Rev. 01/2004)

Summary of Work-Related Injuries and Illnesses

Year 2020

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0."

Employees former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
0	1	0	2
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
2	0
(K)	(L)

Injury and Illness Types

Total number of…	(M)		(M)
(1) Injury	3	(4) Poisoning	0
(2) Skin Disorder	0	(5) Hearing Loss	0
(3) Respiratory Condition	0	(6) All Other Illnesses	0

Post this Summary page from February 1 to April 30 of the year following the year covered by the form

Establishment information

Your establishment name: Jacobs Project Management Company

Street: 1999 Bryan Strret, Suite 1200

City: Dallas State: TX Zip: 75201

Industry description (e.g., Manufacture of motor truck trailers)
Engineering Services

Standard Industrial Classification (SIC), if known (e.g., SIC 3715)
8 7 1 1

North American Industrial Classification (NAICS), if known (e.g., 336212)
5 4 1 3 3 0

Employment information

Annual average number of employees: 1,396

Total hours worked by all employees last year: 2,624,114

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

Mark P. Fagan

Mark P. Fagan — Company executive

H&S Performance Manager — Title

724-992-0382 — Phone

January 6, 2021 — Date

Sample GMP

SAMPLE GMP BID BOOK

Please find attached a Sample GMP bid book that illustrates how Jacobs assembles the GMP information for submission to the Owner. Each bid book can be modified to incorporate any Owner-specific requirements or requests. Please note the following regarding this example:

- The names of the Owner, project, and subcontracting entities have been redacted to preserve the Owner's confidentiality.
- We received a minimum of three bids for each subcontracting and equipment package and provided the Owner with the scopes of work, addendums, bid summaries, etc. to collectively make a best value selection for each package prior to submission of the GMP bid book. Only the selected subcontractor and vendor prices are carried in the bid book summary.
- The Full Risk Register has been extracted from the bid book and included in the Sample Risk Register appendix of this SOQ.
- All other project and GMP details are provided without alteration.

[redacted]

Jacobs

[redacted]	FINAL, April 30, 2025	GMP 3 Proposal Construction Work Tab 00A: Table of Contents and Abbreviations and Acronyms

GMP 3 PROPOSAL TABLE OF CONTENTS

TABLE OF CONTENT NOTES

1 Items marked "NOT USED" in this Table of Contents are not required for this proposal.

2 Tab 10.1 includes a summary of the reference Tabs 10.2, 10.3, 10.5, and 10.6.

ACRONYMS AND ABBREVIATIONS

The following abbreviations / acronyms are used in this document:

DC	Direct Cost
DM	Design Manager
EAC	Estimate at Complete
EM	Engineering Manager
EV	Expected Value
MGD	Million Gallons per Day
[redacted]	[redacted]
NPDES	National Pollutant Discharge Elimination System
NOA	Notice of Award
NTP	Notice to Proceed
PDB	Progressive Design Build
Phase 1	Engineering, Design, Preconstruction for PDB Project
Phase 2	Construction, Commissioning for PDB Project
CHP	Combined Heat and Power

GMP	Guaranteed Maximum Price Proposal
GMP 1	GMP for critical procurement
GMP 2	GMP for early / critical construction work
GMP 3	Main GMP for all facilities, commissioning, etc.
PM	Project Manager
PXP	Project Execution Plan
Project	10281100[redacted] WWTP Solids Disposal with Odor Control Project
PA	Prime Agreement
QA/QC/QM	Quality Assurance, Quality Control, Quality Management
SEC	Subcontractor Equivalent Cost
TM	Technical Memorandum
VE	Value Engineering
WBS	Work Breakdown Structure
ITC	Investment Tax Credit

Additional Abbreviations:

BLR	Boiler Building
CHU	Chemical Unloading
DGA	Digester Gallery
DIG	Digesters
FLR	Flare
GVT	Existing Gravity Thickeners

SEC	Existing Secondary Treatment Building
SDC	Engineering Services During Construction
SRC	Existing Sludge Receiving Building
SSB	Existing Sludge Storage Building
TDL	Thickening / Dewatering Building

[redacted]

GUARANTEED MAXIMUM PRICE PROSPOSAL 3: CONSTRUCTION WORK, UPDATE 1
TRANSMITTAL LETTER

Monday, April 21, 2025

[redacted]

RE: Guaranteed Maximum Price ("GMP") Proposal [redacted]

Jacobs Project Management Company, Inc. ("JPMCo", the Proposer) is pleased to submit this Guaranteed Maximum Price Proposal for the construction work on the [redacted].
This proposal consists of this Microsoft Excel (and an indexed PDF binder version) workbook and backup attachments as noted in the table of contents.

The Guaranteed Price Proposal is presented and organized according to the Work Breakdown Structure ("WBS") used in the project cost model, project schedule, pay application, table of contents for this proposal, etc.

We have updated this version of the Bid Book with comments gathered through April 28, 2025. On Tab 00-D, there is a summary of the comment responses (also included in the Bluebeam session) and a list of action items left to complete (red header).

We look foward to closing out this GMP process with you and moving on to the construction phase.

We have endeavored to maximize transparency in this presentation while not overwhelming with less important data. If there are additional needs or clarifying information / backup / detail, please let us know and we will be happy to provide what is needed.

We look forward to our upcoming negotiations and a successful future together ahead.

Sincerely,
Greg Fischer, Project Executive
Jacobs Project Management Company

Attachments:
1. PDF copy of all tabs included in this Excel Bid Book.
2. Appendix A, B, D, E, and G.

[redacted]

Jacobs

[redacted]	DRAFT, April 30, 2025	GMP 3 Proposal Construction Work Tab 00C: Contract Requirements

The purpose of this section is to provide an overview of, and response to, requirements set forth in the Prime Agreement for delivery of the Guaranteed Maximum Price Proposal. Response comments below include detail and direction on where to find specific information required by the Prime Agreement. The table below is ordered by Prime Agreement paragraph and includes contract excerpts.

PRIME AGREEMENT REQUIREMENT	JACOBS NOTES
MODIFIED PROGRESSIVE DESIGN-BUILD AGREEMENT FOR WATER AND WASTEWATER PROJECTS	
7.6 The Guaranteed Maximum Price ("GMP") Proposal	
7.6.1 The GMP Proposal shall include the following, unless the parties mutually agree otherwise:	*Included as follows.*
7.6.1.1 The Contract Price based on Design-Builder's Fee, the General Conditions, and Cost of the Work, with a GMP, which shall be the sum of:	*Included as follows.*
.1 Design-Builder's Fee as defined in Section 7.2.1;	*Please reference Tab 00-E.*
.2 The General Conditions as defined in Section 7.5; and	*Please reference Tab 00-E.*
.3 The estimated Cost of the Work as defined in Section 7.3, inclusive of any Proposal Contingency as defined in Section 7.6.3.1.	*Please reference Tab 00-E for summary. Details are provided in Appendix D and E.*
7.6.1.2 The Basis of Design Documents (including Baseline Documents), as developed by the Design-Builder and accepted by the City, shall be set forth in detail and attached to the GMP Proposal;	*Please reference Appendix A.*
7.6.1.3 A list of the assumptions and clarifications made by Design-Builder in the preparation of the GMP Proposal, which shall supplement the information contained in the drawings and specifications and is specifically included as part of the Basis of Design and City's Project Criteria;	*Please reference Tab 00-F. In Appendix A we have also included all bidding Addenda.*
7.6.1.4 The Schedule upon which the Scheduled Substantial Completion Date is based and a Project Schedule for the Work	*Please reference Appendix B.*
7.6.1.5 Allowance Items and Allowance Values.	
.1 Any and all Allowance Items, as well as their corresponding Allowance Values, are set forth in the Contract Price Amendment or the Proposal.	*Please reference Tab 09. We look forward to discussing these Allowances and values included with [redacted] to ensure they are in alignment with these paragraphs from the Prime Agreement.*
.2 Design-Builder and City have worked together to review the Allowance Items and Allowance Values based on design information then available to determine that the Allowance Values constitute reasonable estimates for the Allowance Items. Design-Builder and City will continue working closely together during the preparation of the design to develop Construction Documents consistent with the Allowance Values. Nothing herein is intended in any way to constitute a guarantee by Design-Builder that the Allowance Item in question can be performed for the Allowance Value.	
.3 No work shall be performed on any Allowance Item without Design-Builder first obtaining in writing advanced authorization to proceed from City. City agrees that if Design-Builder is not provided written authorization to proceed by the date set forth in the Project schedule, due to no fault of Design-Builder, Design-Builder may be entitled to an adjustment of the Contract Time(s) and Contract Price.	*We will work with [redacted] to develop a mutually acceptable Allowance Use Request form and process.*

.4	*The Allowance Value includes the direct cost of labor, materials, equipment, transportation, taxes, and insurance associated with the applicable Allowance Item. All other costs, including design fees, Design-Builder's overall project management and general conditions costs, overhead and Fee, are deemed to be included in the original Contract Price, and are not subject to adjustment notwithstanding the actual amount of the Allowance Item.*	*Allowances have been priced as detailed on Tab 09.*
7.6.1.6.	*A Contingency which is available for Design-Builder's exclusive use for unanticipated costs it has incurred that are not the basis for a Change Order under the Contract Documents. By way of example, and not as a limitation, such costs may include: (a) trade buy-out differentials; (b) overtime or acceleration; (c) escalation of materials; (d) correction of defective, damaged or nonconforming Work, design errors or omissions, however caused; (e) Subcontractor defaults; or (f) those events under Section 8.2.2 of the General Conditions of Contract that result in an extension of the Contract Time but do not result in an increase in the Contract Price. The Contingency is not available to City for any reason, including changes in scope or any other item which would enable Design-Builder to increase the GMP under the Contract Documents. Design-Builder shall provide City notice of all anticipated charges against the Contingency and shall provide City as part of the monthly status report required by Section 2.1.2 of the General Conditions of Contract an accounting of the Contingency, including all reasonably foreseen uses or potential uses of the Contingency in the upcoming three (3) months. Design-Builder agrees that with respect to any expenditure from the Contingency relating to a Subcontractor default or an event for which insurance or bond may provide reimbursement, Design-Builder will in good faith exercise reasonable steps to obtain performance from the Subcontractor and/or recovery from any surety or insurance company. Design-Builder agrees that if Design-Builder is subsequently reimbursed for said costs, then said recovery will be credited back to the Contingency;*	*Please reference Tab 10.1 for our build up. The Prime Agreement includes this statement:* *"The all-inclusive Contingency for the main work package (MWP) will be less than 10% of the Cost of Work plus markups for all work packages. This includes design changes and evolution, estimate uncertainty, risk events, schedule, escalation, and markups. Both parties will refine the exact Contingency percentage collaboratively during GMP development.* *There will be no Contingency associated with contaminated soil transportation and disposal costs in GMP-2 since [redacted] bears the risk of increased quantities and/or costs."* *The calculation that is in accordance with that paragraph is included on Tab 00-E.*
7.6.1.7	*If applicable, a statement of Additional Services which may be performed but which are not included in the Proposal, and which, if performed, shall be the basis for an increase in the Contract Price and/or Contract Time(s);*	*A [redacted] Risk Register has been prepared indicating which risks we have identified remain with [redacted] according to the Prime*
7.6.1.8	*A Savings provision;*	*Please reference 00-F Table E.*
7.6.1.9	*The time limit for acceptance of the GMP Proposal, which shall allow 60 days for the City's legislative approval after the City's review of the GMP Proposal as outlined in Section 7.6.2.1;*	*As discuss in on Tab 00-F, we have included costs herein with exceptions for another unprecedented escalation environment. We understand that is paragraph results in a legislative approval in June 2025 according to the current schedule.*
7.6.1.10	*The City's permit list detailing the permits and governmental approvals that the City will bear responsibility to obtain.*	*Please reference Tab 00-F Table C.*
7.6.2	*Review and Adjustment to the GMP Proposal.*	

7.6.2.1	*After submission of the GMP Proposal, Design-Builder and the City shall meet to discuss and review the GMP Proposal. If the City has any comments regarding the Proposal or finds any inconsistencies or inaccuracies in the information presented, it shall promptly give written notice to Design-Builder of such comments or findings. Design-Builder shall, upon receipt of the City's notice, make any appropriate adjustments to the GMP Proposal.*	*Meets are schedule starting March 17, 2025.*
7.6.2.2	*Acceptance of the GMP Proposal. If City accepts the GMP Proposal, as may be amended by Design-Builder, the Contract Price and its basis shall be set forth in an amendment to this Agreement, when mutually agreed between the parties ("Contract Price Amendment"). Once the parties have agreed upon the Contract Price and City has issued a Notice to Proceed with Phase 2, Design-Builder shall perform the Phase 2 Services.*	*Noted.*
7.6.2.3	*Failure to Accept the GMP Proposal. If the City rejects the GMP Proposal or fails to notify Design-Builder in writing on or before the date specified in the GMP Proposal that it accepts the GMP Proposal, the GMP Proposal shall be deemed withdrawn and of no effect. In such event, the City and Design-Builder shall meet and confer as to how the Project will proceed, with the City having the following options:*	*Noted.*
.1	*The City may suggest modifications to the GMP Proposal, whereupon, if such modifications are accepted in writing by Design-Builder, the GMP Proposal shall be deemed accepted and the parties shall proceed in accordance with Section 7.6.2.2; or*	*We look forward to reviewing the proposal with you and making modifications as needed.*
.2	*The City may terminate this Agreement for convenience in accordance with Article 9.*	*Noted.*
	If the City fails to exercise any of the above options, Design-Builder shall have the right to (a) suspend performance of Work in accordance with Section 11.3.1 of the General Conditions of Contract; or (b) give written notice to the City that it considers this Agreement completed. If City fails to exercise any of the options under Section 7.6.2.3 within fourteen (14) days of receipt of Design-Builder's notice, then this Agreement shall be deemed completed. If the City terminates the relationship with Design-Builder under Section 7.6.2.3.2, or if this Agreement is deemed completed under this paragraph, then Design-Builder shall have no further liability or obligations to the City under this Agreement.	*Noted.*

7.7 *Allowance Proposals.*

7.7.1 *Each Allowance Proposal shall include the following:*

7.7.1.1 *The cost of the components identified in the Allowance Proposal;*

7.7.1.2 *The City's Basis of Design, which shall be set forth in detail and attached to each Allowance Proposal;*

7.7.1.3 *A List of the assumptions and clarifications made by Design-Builder in the preparation of each Allowance Proposal, which is intended to supplement the information contained in the drawings and specifications and is specifically included as part of the City's Basis of Design;*

7.7.1.4 *The scheduled date for performance and completion of the activity upon which the Allowance Proposal is based;*

7.7.1.5 *To the extent applicable, a list of Allowance items, Allowance values, and a statement of their bases; a schedule of alternate prices; and a schedule of unit prices;*

7.7.1.6 *The time limit for acceptance of the Allowance Proposal, which shall allow 60 days for the City's legislative approval after the City's review of the Allowance Proposal, when the cumulative total of the lump sum amounts of every Allowance Proposal exceeds the Allowance;*

Please reference Tab 09 which has been prepared in accordance with these paragraphs.

EXHIBIT 2 Scope of Work

2.4 *Subtask 2.4. Guaranteed Maximum Price Proposal Workshop*
After delivery of the draft Guaranteed Maximum Price (GMP) Proposal, the Design-Builder shall meet with the City during workshops totaling up to 16 hours to present, review, and answer questions about the content of the GMP Proposal. The Design-Builder will conduct additional workshops and meetings as needed to obtain City agreement. All effort for coordinating working meetings, developing agendas and meeting notes, preparing working meeting materials, and conducting working meetings is included under this task.

Meetings are scheduled starting March 17.

9 *TASK 9: GUARANTEED MAXIMUM PRICE PROPOSAL*
The Design-Builder shall conduct all work necessary to develop, revise, and negotiate its proposed Guaranteed Maximum Price (GMP) Proposal in accordance with the requirements of the Contract. The Design-Builder shall utilize an "open book" approach to develop the GMP Proposal, providing the City with full access to all the details that make up the final GMP Proposal. These efforts are designed to prepare the documents and estimates as accurately as possible and to keep the City fully informed and involved with the design and cost throughout the development of the GMP Proposal. The GMP Proposal shall meet the requirements set forth in the Contract. All Phase 1 work (Tasks 1-8) shall be completed to the City's satisfaction as a precondition to Design-Builder submitting the GMP Proposal.

All work is presented in keeping with this paragraph.

In advance of the GMP Proposal, the City may request a Performance Warranty to be included in the GMP Proposal. The Design-Builder shall coordinate with the City during Phase 1 to ensure the City's request is received with sufficient notice to be included in the GMP Proposal.

[redacted] ***to discuss internally.***

The GMP Proposal shall include:

1	Revised 60 Percent Design documents addressing City comments and any other drawings or specifications necessary to define the Basis of Design.	Please reference Appendix A.
2	Identification of all permits and approvals that the Design-Builder obtained during Phase 1, and identification of all permits and approvals to be obtained by the Design-Builder during Phase 2.	Please reference Tab 00-F Table C.
3	Completed and submitted application fo[redacted] EPA Wastewater Permit to Install.	Please reference Appendix G.
4	Preliminary Training Plan.	Please reference Appendix G.
5	Revised Subcontracting and Self-Performance Plan.	Please reference Appendix G.
6	Revised Project Testing Plan, including prerequisites, procedures, roles and responsibilities, monitoring and measurement protocols, final performance criteria for all required equipment and systems testing, and final Performance Standards for Acceptance Testing as defined in the City's Project Criteria and[redacted] Specifications.	Please reference Appendix G.
7	Proposed Phase 2 Health and Safety Plan.	Please reference Appendix G.
8	Proposed Phase 2 QMP.	Please reference Appendix G.
9	Proposed Early Works Package(s).	Early Work Package 1 and 2 were previously agreed to.
10	Updated/Revised Design and Construction Phasing Plan.	Please reference Appendix G.
11	A construction sequence work plan.	Please reference Appendix G.
12	Proposed baseline Design-Build schedule including an accompanying narrative describing key assumptions in the proposed baseline Design-Builder's schedule upon which the GMP is based including dates for Substantial Completion and Final Completion.	Please reference Appendix B.
13	Descriptive information on all engineering, procurement, materials, construction labor and equipment, and other services necessary to perform the Work as required under this Contract.	This workbook, and Appendix D and E, satisfies this requirement. Please let us know if additional information is required.
14	The proposed Cost of the Work using the City-approved cost model. Supporting documentation for the proposed Cost of the Work at a minimum shall include:	Please reference Tab 00-E.
a	Subcontractor and materials vendor bids and quotations.	Please reference Appendix D and E.
b	Details supporting estimates for self-performed construction work (labor, materials, equipment, production rates).	Please reference Tab 03 and Tab 06.
c	Expense rates such as mileage charges, per diem for meals and lodging, and personnel vehicle rentals.	Please reference Tab 03.
d	Unburdened rental rates on construction equipment, trailers, storage and staging space and major tools.	Construction equipment rental rates are per Equipment Watch.
15	The proposed GMP and breakdown consisting of the proposed Cost of the Work (inclusive of any Contingency), the General Conditions amount, and the Design-Builder's Fee.	Please reference Tab 00-E.
16	All other proposed GMP pricing assumptions and clarifications on terms and conditions used not covered in the preceding items in this section.	Please reference Tab 00-F.

17	*A list of work activities, expenses and fees not included in the GMP which the City may be expected to pay for.*	*N / A*

[redacted] ***Project Costing Manual***

No additional requirements noted.

The purpose of this section is to provide a history of revisions and changes made to the proposal as it evolves through the negotiation period. Each Microsoft Excel Workbook (and PDF companion) is provided to the Client with a draft date and revision number in the header at the top of each page. These are referenced in the table. As comments are provided and changes are made, those are recorded below. The goal is that there are no surprises as this document evolves and that reviewers can see that they have be heard and revisions have been made.

Revision	Revision Date	Revision Name with Updates, Changes, and Revisions Following	
0	**3/16/2025**	**DRAFT, initial submission to [redacted], all tabs, all attachments**	
		Open Bid Book issues for discussion with March 17 Version: *1. Escalation Approach / Risk Sharing* *2. Bond / SDI comparison pricing* *3. Discussion on markups on Allowances* *4. Opportunity for early substantial to save warranty costs* *5. Partial substantial on equipment put into service early (blowers, SRC, SEC)* *6. Coating / roofing on top of DGA, plus insulation* *7. Logical inconsistency with contingency* *8. Weather days discussion covered in A's and C's*	*These comments are echoed below in updates, please refer to most recent versions.*
1	**4/11/2025**	**DRAFT, follow-up submission to [redacted] comments from BlueBeam session.**	
Tab Reference	Line Reference	Reviewer Comment	Response to Reviewer Comment
Issues for Discussion with [redacted]:			
	Bid Book Tab 00-E	Update 00-E cover.	Complete
	Bid Book Tab 00-F	[redacted] to provide final Escalation approach and associated contract language updates.	
	Bid Book Tab 00-F	Exhibit 1 - [redacted] reviewing and providing final comments. This includes incentive language and ITC requirements.	
	Bid Book Tab 00-F	[redacted] and Jacobs to close list of final contract edits - consolidated list.	
	Bid Book Tab 00-F	Staffing Plan - [redacted] is reviewing.	
	Bid Book Tab 00-F	ESDC's - [redacted] reviewing changes. Update Bid Book with final version.	
	Bid Book Tab 00-F	Schedule review / finalization of critical path. Update Appendix D with final version.	
	Bid Book Tab 00-F		
	Bid Book Tab 00-F	Review / finalization of Tab 00-E: Value Engineering (Table E).	Reviewed and updated in this version, see additional comments in subsequent revisions below.

	Bid Book Tab 03	Two comments.	Fixed up tab per comments.
	Bid Book Tab 06	Multiple comments.	Addressed all comments. Frank and Jessica to tweak excel to match GMP2.
	Bid Book Tab 09	Multiple comments on pages 19 - 22 (table of A's and C's). Many of the removed comments will be addressed in Contract edits.	Reviewed together on 4/18. Table updated and revised, all comments provided addressed.
	Bid Book Tab 010	Table A comment.	Table values updated / linked to cover page.
	Appendix A	Table B comments.	Table values updated / linked to cover page. Explanation provided for changes.
	Appendix B	Table E comments.	Table revised per 4/18 discussions and comments addressed.
	Appendix B	Tab 04 comment.	This tab is replaced with more detailed information in Table B.
	Appendix E	Tab 05 comments.	This tab is replaced with more detailed information in
	Appendix E	Tab 06 comments.	Comments addressed, can be an Allowance if that is what [redacted] wants.
	Appendix E	Expedited work comments.	Revised title, addressed comments.
	Appendix E	**DRAFT, follow-up submission to [redacted], comments from BlueBeam session.**	
	Appendix G	Process for handling shared risks. Revised TOC for this Appendix.	
	Staffing Plan	Staffing Plan - [redacted] is reviewing.	
	Subcontractor and Self-Perform Plan	Need to discuss comments with [redacted]. Update plan accordingly.	
	Prime Agreement	Escalation / tariff approach / language - agree to final for inclusion in the Prime Agreement - discuss Wednesday / Thursday	
	Prime Agreement	Exhibit 1 - [redacted] reviewing and providing final comments, complete Wednesday / Thursday?	
	Prime Agreement	List of final contract edits - consolidated list? Force Majeure closure, incentive language, etc. Wednesday / Thursday?	
Scope Baseline Documents			
Appendix A	Page 1 of 4997	Provide a list of documents included in Appendix A.	Superseded in most recent version, closed.

Appendix A	Page 15 of 4997	Add special inspections for deep foundations.	Superseded in most recent version, closed.
Appendix A	Page 42 of 4997	Ball check comment.	Superseded in most recent version, closed.
Appendix A	Page 110 of 4997	Add valve.	Superseded in most recent version, closed.
Appendix A	Page 4736 of 4997	"cc" is requested.	Superseded in most recent version, closed.
GMP Schedule			
Appendix B	Page 1 of 27	Managed with alternate document (schedule update).	Superseded in most recent version, closed.
Purchase Agreement Pricing			
Appendix D	Page 8 of 1974	Seepex decision.	Going with [redacted] was not technically acceptable. Reviewed and closed, see most recent version below.
Appendix D	Page 9 of 1974	Where are the N / A pumps?	This is an out of date form. Were subsequently bid independent from the polymer system. Reviewed and closed, see most recent version below.
Appendix D	Page 13 of 1974	Does this meet [redacted] requirements?	Noted. Jacobs requirements are at least [redacted] requirements. Reviewed and closed, see most recent version below.
Appendix D	Page 20 of 1974	Multiple comments.	These will all be vetted during the submittal phase. Reviewed and closed, see most recent version below.
Appendix D	Page 22 of 1974	Gaps are covered?	Scope gaps are covered. Reviewed and closed, see most recent version below.
Appendix D	Page 78 of 1974	Multiple comments.	These will be provided with the submittals. Reviewed and closed, see most recent version below.
Appendix D	Page 210 of 1974	Spare parts required?	Spare parts are not required unless [redacted] thinks otherwise. Reviewed and closed, see most recent version below.
Appendix D	Page 210 of 1974	Where are the digester mix pumps priced?	The other mix pumps are with the Landia package. Reviewed and closed, see most recent version below.
Appendix D	Page 329 of 1974	Are these exclusions acceptable?	Scope gaps are covered. Reviewed and closed, see most recent version below.
Appendix D	Page 413 of 1974	Is aluminum acceptable?	Selected [redacted]. Reviewed and closed, see most recent version below.
Appendix D	Page 413 of 1974	Is no purge system acceptable?	Selected [redacted]. Reviewed and closed, see most recent version below.

Appendix D	Page 413 of 1974	Does Huber need to modify their scope?	Selected Hydro. Reviewed and closed, see most recent version below.
Appendix D	Page 544 of 1974	Quote is expired.	See escalation provision. Reviewed and closed, see most recent version below.
Appendix D	Page 544 of 1974	PVDF acceptable?	Ignore, we didn't select this vendor. Reviewed and closed, see most recent version below.
Subcontractor Backup Pricing			
Appendix E	Page 5 of 354	Ensure there is no double up with contingency.	These aren't risk items or Design Evolution items (they are known).
Appendix E	Page 5 of 354	Quote validity period.	See escalation provision.
Appendix E	Page 5 of 354	Commercial and technical exceptions.	Jacobs reviewed with subcontractors.
Appendix E	Page 18 of 354	Ensure supervision aligns with tank erectors' schedule.	Confirmed.
Appendix E	Page 22 of 354	Multiple comments.	Escalation approach, we have confirmed scope coverage.
Appendix E	Page 118 of 354	Confirm pricing basis for each bid.	Jacobs reviewed with subcontractors.
Appendix E	Page 118 of 354	Commercial and technical exceptions.	Jacobs reviewed with subcontractors.
Appendix E	Page 118 of 354	Pricing valid for (30) days.	See escalation provision.
Appendix E	Page 127 of 354	Confirm pricing basis for each bid.	Jacobs reviewed with subcontractors.
Appendix E	Page 127 of 354	Commercial and technical exceptions.	Jacobs reviewed with subcontractors.
Appendix E	Page 174 of 354	Offer expired.	See escalation provision.
Appendix E	Page 183 of 354	Confirm exception.	They do not have the runway materials, only the rails.
Appendix E	Page 219 of 354	Pricing valid for (30) days.	See escalation provision.
Appendix E	Page 222 of 354	Unstable hole.	See Risk Register.
Additional Information			
Bid Book Draft Final			These comments were all reviewed on 4/18 and superseded by the following revision.
00-A	Page 2 of 88	"SDC" is missing.	"SDC" added. Additional abbreviations will be reviewed and updated.
00-A	Page 7 of 88	Will this be updated in the GMP?	Updated performance requirements will be included with the revised contract as part of the GMP.

00-A	Page 8 of 88	Not clear where this is located?	Early Work is being discussed with [redacted] as part of the schedule conversation.
00-E	Page 11 of 88	Format of table should follow approved GMP2 format.	
00-E	Page 11 of 88	Programming is a professional service and is to be included with SDCs without markup.	
00-E	Page 11 of 88	This needs to be reduced by the amount being requested for early submittals / engineering.	Included an additional line for the submittals / engineering deduct that will be paid out of GMP 2.
00-E	Page 11 of 88	Per 7.2.1.1 this is the "Design-Build Services Fee"	
00-E	Page 11 of 88	Per 7.2.1.1.2 this is the "Design Services Fee for Phase 2 Design Support During Construction"	
00-E	Page 11 of 88	Let's discuss combining some or most of the Allowances into one.	
00-E	Page 11 of 88	This cannot be included in the GMP since it may not be available.	
00-E	Page 11 of 88	Recommend DB holds ordinary escalation with Allowance for extra-ordinary escalation.	
00-E	Page 11 of 88	Why are additional compressors needed?	
00-F	Page 12 of 88	Any exceptions to City's Project Criteria explicitly noted.	We will note any exceptions to [redacted]'s Project Criteria.
00-F	Page 12 of 88		
00-F	Page 13 of 88	Multiple comments.	Numerous changes made to page 13 and highlighted in yellow in keeping with comments made by reviewers.
00-F	Page 14 of 88	Multiple comments.	Numerous changes made to page 14 and highlighted in yellow in keeping with comments made by reviewers. Discharge was previously discussed with plant operations.
00-F	Page 14 of 88	Unloading costs for GMP 1 equipment.	We have unloading and installation coverage. Storage area in the existing plant somewhere.
00-F	Page 14 of 88	TDL dumpsters	[redacted] / hauler to provide? We can add to allowance if desired.
00-F	Page 15 of 88	An office for [redacted] should be included.	Add costs?

00-F	Page 15 of 88	Review temporary utility costs and language with [redacted].	Jacobs has hookup of construction power. [redacted] has consumption costs for construction power. Jacobs has hookup costs for potable and non-potable water. [redacted] has consumption costs for potable and non-potable water.
00-F	Page 15 of 88	Multiple comments.	Numerous changes made to page 15 and highlighted in yellow in keeping with comments made by reviewers.
00-F	Page 16 of 88	Multiple comments.	Numerous changes made to page 16 and highlighted in yellow in keeping with comments made by reviewers.
00-F	Page 17 of 88	Multiple comments.	
00-F	Page 17 of 88	[redacted] apprenticeship conversation.	Review with [redacted]. Plan is to ask for a waiver from AGC. If [redacted] doesn't think this is correct approach, we can discuss.
00-F	Page 18 of 88	Scope of work clarifications on unloading equipment, delivery dates, etc.	Scope of work clarified with [redacted].
00-F	Page 18 of 88	Cost loading schedule and quantity reporting.	Is this acceptable to [redacted]? This seems to be the normal approach.
00-F	Page 18 of 88	GVT repurposing.	It was our understanding that GVT work for Centrate storage was not to be included in the GMP.
00-F	Page 18 of 88	Multiple comments.	Numerous changes made to page 18 and highlighted in yellow in keeping with comments made by reviewers.
00-F	Page 19 of 88	Quote expiration.	Subject to escalation provisions.
00-F	Page 21 of 88	Made change.	
00-F	Page 23 of 88	Table C comments.	Exhibit 1 includes a permit table. This table is to clarify what is carried in the schedule.
00-F	Page 24 of 88	Emergency comment.	
00-F	Page 25 of 88	Multiple comments.	Actual pricing was utilized.
00-F	Page 26 of 88	Provided with Blowers.	Comment updated.
03	Page 28 of 88	Review comments handled outside of Bluebeam session (SDCs).	

06	Page 32 - 34 of 88	Multiple comments.	Responses provided on Tab 06.
09	Page 35 of 88	No additional markups.	Discuss with [redacted].
09	Page 35 of 88	Third Party testing.	Thought we agreed on 5% for this work?
09	Page 36 of 88	Multiple comments.	To be discusses with [redacted].
09	Page 37 of 88	Every sub requests increase?	See Tab 10.6.
10	Page 41 of 88	Close to 90%?	GMP is based on 60%.
10	Page 45 of 88	Name of the category.	$0 - $50K is named "ultra low".
10	Page 55 of 88	Tornado chart.	Can provide tornado chart.
10	Page 55 through 85	Multiple comments.	All comments are addressed in the right-most column on the Risk Register.
Phase 2 Health and Safety			These comments will be included in GMP with documents updated with 90%.
Phase 2 Health and Safety Plan	Page 16 of 501	Will PPE be available for visitors.	Yes.
Phase 2 Health and Safety Plan	Page 39 of 501	Provide HSM name.	Will provide - see staffing discussion.
Phase 2 Health and Safety Plan	Page 39 of 501	Add other subs after GMP accept.	Will complete prior to project start.
Phase 2 QMP			These comments will be included in GMP with documents updated with 90%.
Phase 2 QMP	Page 8 of 19	Multiple comments.	This is being reviewed with the 90% design.
Phase 2 QMP	Page 10 of 19	How often are these documented and compiled?	This is being reviewed with the 90% design.
Phase 2 QMP	Page 11 of 19	Will meeting minutes be produced for each of these steps?	This is being reviewed with the 90% design.
Phase 2 QMP	Page 13 of 19	Log will be a live document.	This is being reviewed with the 90% design.
Phase 2 QMP	Page 15 of 19	Multiple comments.	This is being reviewed with the 90% design.
Phase 2 QMP	Page 15 of 19	Multiple comments.	This is being reviewed with the 90% design.
Project Phasing Plan			These comments will be included in GMP with documents updated with 90%.

Project Phasing Plan	Page 2 of 9	Contract will be modified.	This is being reviewed with the 90% design.
Project Phasing Plan	Page 3 of 9	Update last sentence.	This is being reviewed with the 90% design.
Project Phasing Plan	Page 4 of 9	Include current schedule.	This is being reviewed with the 90% design.
Project Phasing Plan	Page 9 of 9	Provide schedule narrative.	This is being reviewed with the 90% design.
Project Testing Plan (Acceptance and Startup Plans)			These comments will be included in GMP with documents updated with 90%.
Project Testing Plan	Page 7 of 25	Are these different versions?	These are the same version.
Project Testing Plan	Page 12 of 25	[redacted] to provide staff to collect and analyze samples.	This is being reviewed with the 90% design.
Project Testing Plan	Page 19 of 25	[redacted] is comfortable with obligations as stated here.	This is being reviewed with the 90% design.
Project Testing Plan	Page 36 of 100	30-day vs. 45-day test, 01 75 06.	See Exhibit 1.
Training Plan			These comments will be included in GMP with documents updated with 90%.
2	**4/21/2025**	**DRAFT, follow-up submission to [redacted], comments from BlueBeam session.**	
Tab Reference	Line Reference	Reviewer Comment	Response to Reviewer Comment
Open Issues for Resolution with [redacted]:			
	Bid Book Tab 00-E	~~Update 00-E cover.~~	Complete
	Prime Agreement	[redacted] to provide final Escalation approach and associated contract language updates.	
	Prime Agreement	Exhibit 1 - [redacted] reviewing and providing final comments. This includes incentive language and ITC requirements.	
	Prime Agreement	[redacted] and Jacobs to close list of final contract edits - consolidated list.	
	Staffing Plan	Staffing Plan - [redacted] is reviewing.	
	Bid Book Tab 03	ESDC's - [redacted] reviewing changes. Update Bid Book with final version.	
	Appendix B	Schedule review / finalization of critical path. Update Appendix D with final version.	
Bid Book Draft Final			
	Bid Book Tab 00-E	Review / finalization of Tab 00-E: Value Engineering (Table E).	Reviewed and updated in this version, see additional comments in subsequent revisions below.

	Bid Book Tab 00-D	Two comments.	Fixed up tab per comments.
	Bid Book Tab 00-E	Multiple comments.	Addressed all comments. [redacted] to tweak excel to match GMP2.
	Bid Book Tab 00-F	Multiple comments on pages 19 - 22 (table of A's and C's). Many of the removed comments will be addressed in Contract edits.	Reviewed together on 4/18. Table updated and revised, all comments provided addressed. Please provide an alternative to EquipmentWatch if desired.
	Bid Book Tab 00-F	Table A comment.	Table values updated / linked to cover page.
	Bid Book Tab 00-F	Table B comments.	Table values updated / linked to cover page. Explanation provided for changes.
	Bid Book Tab 00-F	Table E comments.	Table revised per 4/18 discussions and comments addressed.
	Bid Book Tab 04	Tab 04 comment.	This tab is replaced with more detailed information in Table B.
	Bid Book Tab 05	Tab 05 comments.	This tab is replaced with more detailed information in Table A.
	Bid Book Tab 06	Tab 06 comments.	Comments addressed, can be an Allowance if that is what [redacted] wants.
	Bid Book Appendix G	Expedited work comments.	Revised title, addressed comments.

[redacted]

Jacobs

GMP 3 Proposal
Construction Work

[redacted]

FINAL, April 30, 2025

Tab 00E.1: GMP Proposal Cost Summary, [redacted] Format

PURPOSE OF THIS TAB

This Tab organizes all GMP costs using the [redacted] standard format.

Tab	Description		Totals	Notes
7.3	COST OF WORK			
	DESIGN-BUILDER SELF-PERFORM COSTS		**$ 1,139,500**	
	Commissioning and Startup Materials and Services		$ 1,139,500	Please reference Tab 06.
	DESIGN-BUILDER PROCUREMENT	Named:	**$ 11,781,832**	
1	Progressing Cavity Pumps (2201)	[redacted]	$ 748,806	$3K in miscellaneous costs, now lower than Seepex.
2	Digester Gas Safety Equipment and Specialties	[redacted]	$ 715,307	
3	Chopper Pumps and Nozzle Mixing Systems	[redacted]	$ 685,349	Landia doesn't fit in existing space; working on this.
4	Sludge Heat Exchanger (2205)	[redacted]	$ 546,177	
5	Sludge Screens	[redacted]	$ 650,062	Hydro is now technically acceptable. See Fran's 3/13 email.
6	Polymer Feed System	[redacted]	$ 417,288	
7	Chemical Feed Pumps (Ferric)	[redacted]	$ 104,227	Changed to diaphragm pumps in lieu of hose style pumps (hose wear issue).
8	Screw Conveyor System (2211)	[redacted]	$ 540,784	
9	Cake Storage and Loadout System	[redacted]	$ 1,974,096	
10	Vertical Centrifugal Pumps (2213)	[redacted]	$ 255,740	Updated [redacted] pricing.
11	Fiberglass Reinforced Plastic Tanks (2214)	[redacted]	$ 580,544	Updated [redacted] pricing.
12	Boilers	[redacted]	$ 856,929	
13	Activated Carbon Odor Control System (2218)	[redacted]	$ 1,435,695	Updated [redacted] pricing, additional ductwork, domestic content.
14	Digester Mixing Chopper Pumps and Nozzle Mixing	[redacted]	$ 288,878	
15	Ferric Sump Pumps	[redacted]	$ 110,131	This is an opportunity on the Risk Register, could save $50K.
16	Digester Gas Holder System	[redacted]	$ 433,808	
17	Sluice Gates	[redacted]	$ 45,699	
18	Screw-Induced Flow Centrifugal Pumps	[redacted]	$ 312,198	
19	Induced Flow (Recessed Impeller) Centrifugal Pumps	[redacted]	$ 230,928	
20	Motorized Automatic Strainer (2228)	[redacted]	$ 148,500	Updated pricing.
21	Horizontal End Suction Pumps (2229)	[redacted]	$ 184,431	Updated pricing.
22	VRF HVAC Systems	[redacted]	$ 305,000	Revised quote for additional compressors and ceiling mounts, added freight.
23	Miscellaneous Equipment	Multiple	$ 164,755	Details as follows.
a	Water Heater / Heat Exchanger (WH-1)		$ 57,005	For domestic service in TDL Facility.
b	Air Separator		$ 20,000	
c	Hot Water Loop Expansion Tank		$ 30,000	
d	NPW Break Tank		$ 3,750	
e	Water Heater		$ 30,000	
f	Dumpsters for TDL Facility		$ 24,000	(6) EA at $4K / EA.
24	Sound Dampening Panels	[redacted]	$ 46,500	Assumes (2,000) SF, includes 2' x 10' panels per quote, $15K for installation.
	CONSTRUCTION SUBCONTRACTS	Named:	**$ 105,462,379**	All costs below include Payment and Performance Bonds.
1	General Subcontractor	[redacted]	$ 55,364,625	Landscaping beyond seeding moved to Allowances. See updated bid tab.
2	Digester Tanks Subcontractor	[redacted]	$ 7,872,565	See Escalation procedures.
3	Architectural Precast Subcontractor	[redacted]	$ 3,496,550	
4	Roofing Subcontractor	[redacted]	$ 613,300	
5	Overhead Door Subcontractor	[redacted]	$ 185,053	
6	Painting and Coating Subcontractor	[redacted]	$ 1,971,688	
	Additional Coatings Scope	[redacted]	$ 354,825	B&C revised coating schedule additions.
7	Bridge Crane Subcontractor	[redacted]	$ 398,998	
8	Rigid Inclusions Subcontractor	[redacted]	$ 1,313,000	
8	Deduct for Rigid Inclusions Early Work	[redacted]	$ (50,000)	This will be paid out of GMP 2.
9	Fire Protection Subcontractor	[redacted]	$ 401,331	Updated pricing (higher).
10	Plumbing / HVAC Subcontractor	[redacted]	$ 4,428,768	
11	Electrical Subcontractor	[redacted]	$ 21,700,700	
12	Instrumentation, Controls, and Programming Subcontractor	[redacted]	$ 7,188,851	
13	Truck Scale Subcontractor	TBD	$ 130,000	
14	[redacted] Office Trailer		$ 188,450	See Specification 01 50 00
a	Trailer (12 x 60, (2) offices, bathroom) Rental	(36) MO	$ 72,000	Checking on pricing.
b	Trailer Mobilization and Setup	(1) LS	$ 8,000	
c	Trailer Demobilization and Hauloff	(1) LS	$ 5,000	
d	Internet Hookup (Starlink)	(1) LS	$ 500	
e	Monthly Internet (Starlink)	(36) MO	$ 7,200	
f	Copy Machine / Printer	(1) LS	$ 15,000	
g	Calculator and Tape	(1) LS	$ 250	
h	(2) Desks and (2) Chairs	(1) LS	$ 3,000	
i	Metal File Cabinets	(1) LS	$ 750	
j	Work Table	(1) LS	$ 500	
k	Plan Rack	(1) LS	$ 250	
l	Storage Locker	(1) LS	$ 800	
m	Fire Extinguisher	(1) LS	$ 400	
n	Potable Water Cooler	(36) MO	$ 5,400	
o	Water Hookup	(1) LS	$ 15,000	
p	Sewer Hookup	(1) LS	$ 15,000	

PURPOSE OF THIS TAB

This Tab organizes all GMP costs using the [redacted] standard format.

Tab	Description			Totals	Notes
q	Power Hookup	(1) LS	$	25,000	
r	Water Consumption	(36) MO		By [redacted]	
s	Sewer Consumption	(36) MO	$	14,400	Assume pumping holding tanks.
t	Electrical Consumption	(36) MO		By [redacted]	
15	SDI and P&P Bond Adjustment, See Notes	1.25%	$	(96,325)	See Specification 01 50 00. D&M is still using P&P bonds.
7.6	PROPOSAL CONTINGENCY	9.99%	$	**11,830,000**	Please see Tab 10.1 (calculated at $12.9M).
	SUBTOTAL, GMP 3 COST OF WORK + CONTINGENCY:		$	**130,213,711**	
7.5	DESIGN-BUILDER GENERAL CONDITIONS	11.50%	$	**14,974,577**	Per the requirements of the Prime Contract Agreement, the GCs are to be a lump sum value in the amount of 11.5% of the sum of the GMP cost of work plus the contingency.
7.2	DESIGN-BUILDER FEES FOR PHASE 2	8.40%	$	**10,937,952**	
7.2	DESIGN SERVICES FEE		$	**7,071,865**	
	Phase 2 Design Support During Construction		$	6,633,540	
	Phase 2 SCADA Programming Support		$	438,325	
	Phase 1 Design Services				
7.7	ALLOWANCES AND PASS-THROUGH COSTS				
	ALLOWANCES		$	**7,797,572**	See Tab 09 for details.
	ALLOWANCE 1: Third Party Testing		$	1,260,000	
	ALLOWANCE 2: Tank Restoration, Leak Testing, Crack Injection		$	281,765	
	ALLOWANCE 3: Tariffs		$	5,000,000	
	ALLOWANCE 4: Tenant Improvements (Buildings, Landscaping, Etc.)		$	255,807	
	ALLOWANCE 5: ITC Incentive		$	1,000,000	
	PASS-THROUGH COSTS (GMP 1 and GMP 2)				
	Previously Authorized Work and Owner Direct Procurement ("ODP")		$	**25,910,662**	
	Digester Gas Blowers (Procured by [redacted])		$	2,750,000	
	GMP 1 - CHP, Centrifuges, & Gas Condition System		$	12,239,535	
	GMP 2 - Excavation & Soil Disposal		$	10,921,127	
	TOTAL GMP PROPOSAL, INCLUDING PREVIOUSLY AUTHORIZED WORK AND ODP:		$	**196,906,338**	

6	42	15	15	45

PURPOSE OF THIS TAB:

This Tab communicates assumptions, clarifications, exceptions, and discussions related to this proposal and also provides a workflow for response comments. This section of the proposal is generally incorporated into the Prime Agreement when all comments below are finalized and acceptable to all parties.

Line	Description	Response Comments and Updates	Current Status	BIC	Need By
	General				
	Please reference the Scope Baseline set of drawings included in Appendix A to this proposal. The current 90% Drawings will be the scope baseline for the GMP, all pricing has been reconciled to the 60% updated set, contingency will be debited / credited for any changes after 60% as design moves forward.				
	This proposal is valid for (120) CD with numerous exceptions given another unprecedented escalation environment. Please refer to the Escalation section for additional details. We look forward to working with [redacted] to find a proactive and fair way to manage these current realities that adds the best value for [redacted].				
	To help communicate assumptions and clarifications, (6) additional tables are provided after this tab: Table A Subcontractor Tracking: This table details and summarizes M/WBE, Apprenticeship, Domestic Content, and Escalation responses, requirements, and strategy for all subcontracts on the project. Table B Purchase Agreement Tracking: This table details and summarizes Domestic Content and Escalation responses, requirements, and strategy for all Design-Builder purchase agreements for the project. Table C Permits: This table details permits and permit fee responsibilities and accepted review durations for entities reviewing permits and providing approvals (updated). Table D Third Party Management: This table includes common Third Party issues with large construction projects and anticipated responses by the Design-Builder and [redacted]. Table E Value Engineering: This table includes VE options relied on for GMP pricing as well as VE options open for discussion and available to lower the price of the submitted proposal (updated). Table F: Process Equipment Vendor Assistance Tracking: This table details out the current specification requirements for both Jacobs and [redacted] and what was carried in the GMP. Please reference additional clarifications below and the Risk Register for				
	This proposal is based on reasonable and prompt approval of invoices and processing of payments, allowable mobilization costs for subcontractors, and partial payments for purchase agreements for submittals, payment for large and long lead material orders not necessarily stored onsite, and other current realities required to keep the schedule moving forward. Please see the Schedule section below for additional details.				
	This proposal is based upon the laws and their known impacts in effect at the time of submission. Any changes in law are not anticipated. Any changes in law may be grounds for a Contract Time or Contract Price adjustment. This is a particularly difficult situation currently.				
	The GMP assumes [redacted] will notify the adjacent stakeholders/businesses prior to NTP and project construction commencement. See Table D.				
	At the time of this proposal, there are currently no known impacts of COVID-19 that are affecting pricing or impacting the project schedule (see 1.2.14).				
	[redacted] and Jacobs have mutually agreed to move any unused Contingency from prior GMPs to subsequent GMPs. Shared savings at Project Final Completion will follow Contract Section 7.6.3.				
	Basis of proposal is provided in Appendix A - Scope Baseline documents. Bids were solicited on the RFP documents provided in that Appendix.				
	Design-Builder may procure Subcontractor Default Insurance in lieu of subcontractor payment and performance bonds provided it is cost neutral or a net savings to the project and is subject to verification with WPCLF loan requirements. Subcontractor Default Insurance premium shall be part of the Cost of Work. If SDI is selected, the Risk Register will be updated accordingly.				
	We will provide a schedule of values that will match the eBuilder submission and the Division of Financial and Environmental Assistance payment application.				
	Funding Requirements				
	The project funding requirements include Davis-Bacon wages and American Iron and Steel. The project funding requirements do not include Build America / Buy America or any other provisions, except those detailed in the following paragraph.				
	The Design-Builder does not warrant, in any way, that the plan set forth by [redacted] eventually results in receipt of the renewable energy tax credit funds nor is the Design-Builder liable in any way should [redacted] fail to receive the renewable energy tax credit.				

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	The City and Design-Builder jointly acknowledge the qualification for the energy credit under Section 48 of the Internal Revenue Code of 1986, as amended, is a critical element of this project. Design-Builder is relying solely on City and its Counsel to convey all requirements for qualification related to Design-Builder's work in writing with receipt of said requirements acknowledged by the Design-Builder in writing. Design-Builder shall coordinate its activities accordingly. The City and its Technical, Legal, and Financial Advisors have reviewed the Design-Builder documents that form the amendment and agree that all requirements have been met. Any requirements conveyed to Design-Builder after the date of Contract Amendment No. 3 or not acknowledged by the Design-Builder in writing shall be considered a Change in Law.				
	[redacted] will divert any sludge coming from other facilities to [redacted] WWTP during the construction of this work. [redacted] will incur the costs for diverting the imported sludge to other facilities. Bidder may disregard references to temporary piping and use of existing scum wet well for receiving imported sludge during construction. Prior to construction of the new Sludge Receiving Station, [redacted] will pump down the sludge receiving well as low as possible with the existing transfer pumps. Subcontractor will then use a vactor truck to remove all remaining material from the sludge receiving well. The expected amount of remaining material to be removed from the sludge receiving well is 35 tons. [redacted] will provide a location onsite for the Subcontractor to use to drain the liquid from the vactor truck; remaining solids will be removed from the site and properly disposed. Subsequent to the removal of remaining material, any water or washdown solids from pressure washing and cleaning the sludge receiving well will be directed to the head of the plant for treatment (coordinated with staff onsite)				
	Craft Labor Rates and Labor Harmony				
	This estimate is based upon Davis-Bacon and open shop rates and does not necessarily include any union rates (although many of the subcontractors are union). All raises for the project duration are included in the pricing.				
	There is no Project Labor Agreement in place for this project, as is standard in [redacted]. There will be Union and Non-Union labor working together on this project. Should strike issues arise, those would be handled in keeping with the Force Majeure provisions of the Prime Agreement.				
	Construction Equipment Rates				
	For this GMP, Construction equipment was priced using Equipment Watch rates for 2025. We would propose to price any future Contingency Use or Allowance Use Requests using that same pricing basis.				
	Fuel pricing escalation adjustments should not be a significant factor for this project; they are included in the GMP proposal.				
	Existing Conditions (Including Hazardous Materials)				
	This proposal assumes the current PCB work will be complete in June of 2025 to provide an opportunity for deep foundations to commence. Depending on the as-left condition, there may be additional impacts to GMP 3. Please see the Risk Register as we have tried to capture those concerns and monetize them for both [redacted] and Jacobs.				
	We have not included any costs for treatment of groundwater due to contamination by existing conditions or treatment plant chemicals.				
	Please reference the risk register for risk apportionment and management strategies for other differing site condition risks.				
	Minor hazardous materials have been noted in existing facilities that will become work areas (SEC, SSB, buried utilities). We have assumed no hazardous waste remediation or disposal beyond what is included in the lead / asbestos report provided with Phase 1 work. We have tried to bracket those concerns on the Risk Register.				
	Materials Furnished By Owner				
	Previous process equipment has been furnished by [redacted] in GMP 1. Work to unload and store that equipment is included. The timing for GMP 3 funding may be problematic with regards to unloading and storing (if funding is not available until August or September of 2025, and blowers or other GMP1 equipment show up sooner than that). We have included costs for loading the existing blowers on to a truck for return shipping. It would be logical to use the crating from the new blowers to ship the old blowers.				
	We have not included costs for a new forklift for the permanent facility. We have not included costs for a new boom lift to access digester valves. Dumpsters are included in Miscellaneous Equipment now (see 00-E).				
	[redacted] is furnishing polymer (Jacobs has 3 first MO covered) and ferric for the new facilities during commissioning and startup.				

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	Additional clarifications are provided in the Commissioning Section below.				
	Temporary Facilities, Temporary Utilities, and Consumption Fees During Construction				
	We have included office space in the trailers for [redacted] or consulting engineering staff per 01 50 00.				
	No additional permanent utility fiber has been provided to the site.				
	The [redacted] gas meter area is provided by [redacted], including the fence. All costs payable to [redacted] are by [redacted].				
	This proposal assumes that [redacted] will be paying for consumption / usage costs for all electricity used on the project. [redacted] and Jacobs will work together to ensure that all temporary and revised permanent electrical loads are within all appropriate limits and do not limit the operation of [redacted] facilities. Additionally, [redacted] and Jacobs will work together to plan outages and plant interruptions to avoid any unplanned outages to the operating facility.				
	This proposal assumes that [redacted] will be paying for consumption / usage costs for all potable water used on the project. Jacobs will inform [redacted] of planned water use and [redacted] will approve water usage; Jacobs and [redacted] will work together to ensure construction activities do not impact regular service to customers.				
	This proposal assumes that [redacted] will be paying for consumption / usage costs for all sanitary sewer used on the project for the temporary facilities. Jacobs will not dispose of any hazardous or problematic waste into a [redacted]-owned sanitary sewer. Given the small amount of additional flows from the construction office trailers, Jacobs assumes that sewer fees will not increase and capacities will not be impacted. If that is incorrect, Jacobs will remedy the issue.				
	This proposal assumes that [redacted] will be paying for consumption / usage costs for all sludge handling associated with the plant. Therefore, we have not included any of these costs in this GMP proposal.				
	Schedule				
	TO BE COMPLETED WITH CONTRACT AMENDMENT: Remaining to be competed on the schedule: NTP Date Allowance Approval Date Incentive Date Weather Days This proposal is based on the attached CPM schedule dated UPDATE WITH FINAL DATE. There are several key points in the schedule that are referenced in the Risk Register and later in this tab (electrical gear delivery dates, permit review time frames, etc.). The Prime Agreement includes (69) working days per year for weather impacts. We have not included these days in the schedule as the Prime Agreement intends. Jacobs has scheduled the project using reasonable durations for each activity. We have included a buffer at the end of the schedule (XX working days), for Jacobs sole use, that is meant to cover: 1. Weather Days 2. Recovery from Weather Days 3. Variances in Productivity and Scheduled Durations (between what was originally included in the schedule, and what actually happens) We are accepting risk on the actual number of weather days encountered, but feel this is a fair approach to the schedule.				
	Delivery of the project is based on an 8-hours-per-day, 5-days-per-week schedule with weekend work allowable for schedule recovery / weather makeup. MOPO / tie-in work will occur at various times of the day / night as needed. Please see the Risk Register. Jacobs will be working weekends (Saturdays, with makeup Sundays) during the 48-week period when the stainless steel tank subcontractor is onsite.				

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	[redacted] and the County will provide adequate inspectors as to not delay the work and be available during normal work hours to inspect work prior to covering up said work. Jacobs will provide the Utility (24) hours' notice (where required). If [redacted] would like to provide inspectors for the weekends when the stainless steel tank subcontractor is onsite, those costs are by [redacted].				
	Value Engineering				
	We did significant value engineering work over the last couple weeks of this proposal and have relied on some of those changes for the proposal price. Those changes are detailed in Table E with these Assumptions and Clarifications. It should be noted that where conflicts exist between the drawings in Appendix A and the description provided in Table E, the description provided in Table E controls and defines the basis of the scope of the proposal. The conflicts will be reconciled as the design is completed between 90% and the 100% Issued for Construction documents. In many cases, the 90% documents will be incorrect due to these value engineering changes.				
	We recognize and recommend additional Value Engineering post-GMP, please reference Table E.				
	Bonds and Insurance				
	Builder's Risk insurance policies generally exclude damages assessed to Utility by 3rd parties. There are supplementary policies that cover these events; we have not included costs for these policies. Reference Table D for example events and responses.				
	Taxes (N/A)				
	Permits and Permit Fees				
	Table C includes the permit plan (payments, review dates). We have included costs for the Electrical Permit and Plumbing Permit for the project, all other permitting costs are by [redacted].				
	Regarding the NOI dewatering and SWPPP permitting: No special water quality discharge requirements other than turbidity are included or expected to be required. It is assumed the groundwater quality is such that it can be discharged without treatment to remove constituents other than turbidity to acceptable levels.				
	Any / all wetland mitigation costs are not included, nor are costs related to the existing landfill.				
	Allowances				
	We have endeavored to minimize Allowances in this GMP as they are difficult to administer and present budgetary risk for [redacted]. If [redacted] desires to have additional Allowances, we will discuss during reconciliation and include those in the final version of this proposal.				
	The Design-Builder and [redacted] will work to establish an Allowance Use Request build-up sheet and discuss expectations on backup for any Allowance Use Request. The Design-Builder will keep [redacted] apprised of the schedule needs for each Allowance and any potential impacts associated with delays in processing Allowance Use Requests.				
	Escalation (N/A)				
	Design-Builder Fee (N/A)				
	DESIGN-BUILDER, GENERAL CONDITIONS (N/A)				
	DESIGN-BUILDER, ENGINEERING SERVICES DURING CONSTRUCTION ("ESDC")				
	Design-Builder's ESDC estimate is based on supporting construction per the CPM provided with this proposal. Jacobs will have, at minimum, (1) lead onsite engineer on site for the full duration. Additional discipline onsite engineer's will be on site for 6 to 12 months at a time as construction progresses. Disciplines are anticipated to include Civil/Structural, mechanical and electrical/controls engineers.				
	DESIGN-BUILDER COMMISSIONING AND STARTUP				
	~~Additional assumptions and clarifications are provided with the Project Testing Plan and Training Plan. Important ones that potentially significantly impact cost are included here:~~ [redacted] is responsible for operating the solids facilities (under Jacobs direction) beginning with the process performance testing through the completion of the Acceptance Test.				

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	Schedule and overall testing approach assumes each Operational Test is a maximum of 3 days in duration. Design-Builder will determine how facilities are broken into various Operational Tests steps which will be detailed in the final Project Testing Plan. [redacted] specs do not have a required duration. Jacobs has made an assumption of a timeframe that will demonstrate compliance with testing criteria and will develop an associated report to document the formal test. Note that the systems will be running for several weeks or months before the formal 45-day Acceptance Test in addition to the Operational Test.				
	Design-Builder will procure and pay for polymer required for commissioning and startup activities until Substantial Completion (3 MO); [redacted] will procure and pay for all other permanent chemicals required. [redacted] has an existing ferric contract. Jacobs to notify [redacted] (9) MO prior to polymer and Ferric deliveries are to commence to provide time for purchase agreements.				
	Schedule and testing approach assumes each Process Performance Test is a maximum of 3 days in duration. Design-Builder will determine how facilities are broken into various Operational Tests steps which will be detailed in the final Project Testing Plan.				
	This proposal assumes tha[redacted] will be paying for consumption / usage costs for all chemicals associated with the operating plant. Therefore, we have not included any of these costs in this GMP proposal (other than polymer). Jacobs has the responsibility to coordinate and schedule the commissioning and startup chemicals so that they are onsite at the appropriate time. Jacobs will work with [redacted] to ensure the appropriate accounts are set up and available.				
	Refer to the Project Testing Plan and Operations and Maintenance Staff Training Plan for assumptions around the commissioning, startup, and training activities in the field.				
	This proposal assumes that [redacted] will pay for the hauling and off-site disposal of solids generated during start up and commissioning. [redacted] will remove all solids in timely manner so as to not delay any commissioning activities. Therefore, we have not included any costs associated with solids disposal in this GMP proposal.				
	This proposal assumes that [redacted] will pay for all permanent power associated with startup and commissioning of new equipment and processes.				
	This proposal assumes that Process Performance Testing will be 3 days in duration for each test if the duration is not otherwise specifically called out in the equipment specifications. [redacted] specs do not have a required duration. Jacobs has made an assumption of a timeframe that will demonstrate reliability and will develop an associated report to document the formal test. Note that the systems will be running for several weeks or months before the formal 45-day Acceptance Test in addition to the Operational Test.				
	This proposal assumes that Operational Testing durations are defined in the equipment specifications. If no duration is included in the specifications, timeframes outline in the testing spreadsheet will be followed.				
	~~We assume the 30-Day Commissioning Reliability test does not include sludge/biosolids equipment/systems downstream of the digesters.~~				
	We assume the 30-Day Commissioning Reliability test can happen concurrently with establishing EQ biosolids and does not include performance standards.				
	DESIGN-BUILDER INSTRUMENTATION, CONTROLS, AND PROGRAMMING (N/A)				
	PURCHASE AGREEMENTS				
	Proposal assumes the use of vendors as detailed on Table B. Changes or replacements that impact the budget positively or negatively will be funded / refunded to the contingency.				
	Please see Table F for the vendor assistance during commissioning approach included in the GMP. This risk split on who pays for what changes to this approach is covered globally in Appendix G.				
	Please note that many vendors require payment schedules that generally require payment for the following milestones: 1. Engineering / Submittals 2. Procurement 3. Manufacturing and Delivery				
	SUBCONTRACTS - GENERAL / ALL				
	Proposal assumes the use of subcontractors as detailed on Table A. Changes or replacements that impact the budget positively or negatively will be funded / refunded to the contingency. See Risk Register and SDI statements above.				
	SUBCONTRACTS - GENERAL SUBCONTRACTOR ("[redacted]")				

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	[redacted] cannot commit to meeting the apprenticeship as written. A plan has been investigated and discussed with [redacted].				
	[redacted] assumes water for cleaning of existing sludge receiving tanks will be available at no cost.				
	[redacted]'s bid is based on the APG Neuros package being delivered in an acceptable condition by ~~April 1, 2025.~~ September 2025.				
	A tree needs to be removed and placed for the SEC work. [redacted] has included a new tree having a 2" trunk diameter.				
	[redacted] has assumed that the overhead crane will be available for our use (SEC). Jacobs has included costs to recertify the existing crane (load test).				
	[redacted] will need to work with [redacted] and Jacobs to ensure all submittals can be turned around ([redacted] and Jacobs reviews) per Specifications. Pre-approval to shorten review durations can be available for select critical submittals.				
	[redacted] exclude repairs to [redacted] other than utility cuts / connections. [redacted] will repair damage, if [redacted] would like additional replacement to keep the peace with the neighbors. [redacted] can discuss and Allowance.				
	All work in the existing GT's for repurposing as Centrate Tanks is excluded. To clarify, rehab to the interior of the existing tanks is excluded.				
	[redacted] has included costs to clean and pump out the SRC and SSB Mixed Sludge Holding Tank to an onsite discharge location. [redacted] has not included offsite trucking or disposal as the quantity is unknown - see previous notes above.				
	Our proposal is based upon the SRC being offline and available for work without temporary bypass pumping or receiving facilities.				
	[redacted] have included costs for a larger opening (additional ~1 FT wide) to accommodate basement access. This opening is on the first floor of the TDL facility - access hatch to the basement.				
	[redacted] have not included any costs for repairing concrete that [redacted] are not interacting with.				
	[redacted] did not include costs for the full rip rap slope on the [redacted]-side of the Digesters. We included costs to decrease the slope grade and seed as well as appropriate run-downs for drainage protection.				
	SUBCONTRACTS - STAINLESS STEEL DIGESTER SUBCONTRACTOR				
	We are allowed to work Saturdays, [redacted] to provide an inspector if they want. Make-up days will be on Sunday.				
	Payment terms are net 30 days.				
	25% upon placement of purchase order 10% upon mobilization and delivery of fabricated steel.				
	40% for materials in our shop 25% based on monthly field progress payments.				
	We have not included insulation below the bottom of the stainless steel tank / cladding on exposed concrete. EOR does not require.				
	SUBCONTRACTS - PRECAST SUBCONTRACTOR				
	Exclusion: precast is gray only. $189K for what is in the drawings. Additional options to be discussed with [redacted].				
	SUBCONTRACTS - BRIDGE CRANE SUBCONTRACTOR				
	Payment terms 30% of the price as down payment due upon receipt of order 20% of the price on issuance of drawings for approval 40% of the price when the crane is ready for delivery 10% of the price after commissioning and testing				
	SUBCONTRACTS - RIGID INCLUSIONS SUBCONTRACTOR				
	Assumes work can commence prior to all other contractors coming onsite. (May / June 2025)				
	SUBCONTRACTS - PAINTING SUBCONTRACTOR				
	We have only included the scope noted on the painting bid form, which is significantly different than what is shown in the 60% design. We look forward to discussing with [redacted].				
	SUBCONTRACTS - INSTRUMENTATION, CONTROLS, AND PROGRAMMING SUBCONTACTOR (NONE)				

[redacted]

ASSUMPTIONS, CLARIFICATIONS, EXCLUSIONS, CONVERSATIONS

TABLE A: SUBCONTRACTOR TRACKING AND SUMMARY (MBE +WBE PARTICIPATION, APPRENTICESHIP REQUIREMENTS, DOMESTIC CONTENT REQUIREMENTS, ESCALATION PLAN)

Subcontracts	Subcontract Amount	Total Craft MH for the Project	MBE and WBE Participation Approach	MBE Commitment Amount	WBE Commitment Amount	Approach to Meeting Apprenticeship Requirements	Apprenticeship MH Commitment	% Craft Hours Committed to Apprenticeship	Domestic Content Key Components	Domestic Content Approach	Approximate Total Material Value	Approximate Domestic Content Material Value	(Domestic Content Value) / (Total Material Value)	Quote Expiration Date	Escalation Notes	P&P Bond Cost
General Subcontractor [redacted]	$ 55,364,625	180,000	[redacted] qualification paperwork provided for MBE and WBE subcontractors.	$ 553,900	$ 1,658,564	Qualified carpenter apprentices. Additional labor can be added for increased cost.	15,000	8%	Concrete, rebar, buried pipe, metals (structural, miscellaneous), woods / plastics, doors / windows, specialties, above ground pipe.	Concrete, rebar, buried pipe, metals (structural, miscellaneous), woods / plastics, doors / windows, specialties, above ground pipe	$ 17,975,000	$ 12,975,000	72%	8/12/2025	Subject to escalation / tariff plan with Design-Builder and [redacted]. Concerns:	$ 351,664
Demolition	Existing facilities structural and mechanical demolition (electrical by Lake Erie), pavement cuts and removal, Maintenance of Plant Operations for process mechanical reconfigurations.														Ductile Iron (AIS) - 6 months	
Earthwork	SWPPP / maintenance, site clearing, surficial demolition, import fill, engineered fill, backfill, final grading, paving, curb and gutter, site restoration, grading, permanent fencing & gates.										$ 1,800,000	$ 1,800,000			PVC Pipe - concerned about tariffs	
Concrete	Structural concrete, equipment pads.										$ 3,000,000	$ 3,000,000			Steel Pipe - concerned about tariffs	
[redacted] (Covered Above)	See above.						See above.									
Rebar	included						included				$ 2,000,000	$ 2,000,000			SST Pipe - concerned about tariffs	
Place / Finish	included						included								Aluminum - can't hold	
Metals	Structural aluminum and grating, structural steel (HDG) and grating, FRP grating, aluminum / steel / stainless steel miscellaneous metals.										$ 750,000	$ 750,000			Steel - can't hold	
Rough Carpentry	Roofing lumber, operator spaces,														SST - can't hold	
Thermal / Moisture	Perimeter insulation, under deck insulation, waterproofing and cover board														FRP - can't hold	
Doors / Windows	Aluminum doors, aluminum windows										$ 50,000	$ 50,000				
Specialties	Fire extinguishers, signage, toilet accessories															
Process Piping	Ductile, PVC, steel, stainless steel, and FRP process piping.										$ 10,300,000	$ 5,300,000				
[redacted] (Covered Above)	See above.						See above.				included	included				
Yard Pipe	included						included				included	included				
Insulator	included						included									
Process Equipment Installation	Install of process equipment.															
[redacted] (Covered Above)	included						included				$ 75,000	$ 75,000				
Digester Tanks Subcontractor [redacted]	$ 7,872,565	9,750	[redacted] is a SBA small business. Unfortunately with what we do there are not a lot of MBE/WBE that can meet our needs.	None	None	We have included for the apprentice requirement to meet the IRA mandates. If the apprenticeship requirement (IRA $) is dropped we could see a Savings of about $300,000.00	1,500	15%	The majority of the MOC will be Made in the USA. Some of the smaller components such as pipe, flanges, bolts, etc. maybe of non-USA origin but will be otherwise in accordance with BAA friendly countries.	From vendor: *You must note that we have no idea what tomorrow will hold with supply chain issues, tariffs, and the ever looming increases. We will do the best we can to meet goals as best we can to meet the project requirements but if the current state of the economy changes we reserves the right to do what is best to complete the project regardless of goals or request a change order.*	$ 2,600,000	$ 2,375,000	91%	3/15/2025	Subject to escalation plan with Design-Builder and [redacted].	$ 104,432
Precast Concrete Subcontractor [redacted]	$ 3,496,550	2,500	[redacted]: *We only have a WBE that hauls in aggregate. That business is* [redacted].	None	None	[redacted] has a 5 year program and we can request a number of them from the hall to fill out the erection crew. So if it's a 6 man gang, we hire 1 apprentice.	375	15%	Most of our raw materials are domestic. This includes strand, rebar, mesh, etc. We can likely get domestic nuts washers, etc., but not lifting inserts.	The products that are not domestic are the erection and stripping anchors/inserts, as well as some erection materials, like threaded rods, nuts, washers, etc.	$ 1,021,421	$ 991,100	97%	4/14/2025	Concerned about metals.	$ 20,550
Roofing Subcontractor [redacted]	$ 613,300	1,700	Can provide through purchasing - 15% of subcontract included.	$ 52,522	None	Included costs for accredited apprenticeship program and apprentice hours.	255	15%	All permanent materials are 100% domestic content.	All roofing materials are local purchase and manufacture. **Assumed values - vendor did not provide.**	$ 200,000	$ 200,000	100%	3/19/2025		$ 5,546
Overhead Doors Subcontractor [redacted]	$ 185,053	100	None.	None	None	None - 2 man crew for install. Assume exempt.	N / A	N / A	Aluminum Fabrication	All doors are fabricated in the United States (Lewistown, PA). **Assumed values - vendor did not provide.**	$ 100,000	$ 100,000	100%	3/15/2025	*"All prices subject to change without prior notice due to unforeseen economic circumstances beyond our reasonable control."*	$ 2,514
Painting and Coating Subcontractor [redacted]	$ 2,326,513	8,640	None.	None	None	[redacted]. *maintains membership in the* [redacted] *As active participants in this union affiliation, we engage directly with* [redacted] *certified apprenticeship program, benefiting from their comprehensive industry training and professional development resources.*	1,300	15%	All permanent materials.	All coatings materials utilized in the production and installation phases of this project are exclusively sourced and manufactured domestically. **Assumed values - vendor did not provide.**	$ 500,000	$ 500,000	100%	3/20/2025	Paint is generally not volatile, but could be impacted.	$ 29,138
Bridge Cranes Subcontractor [redacted]	$ 398,998	240	[redacted] is based out of Finland and we do not meet MBE or WBE	None	None	None - 2 man crew for install. Assume exempt.	N / A	N / A	From vendor: [redacted] *is based out of Finland, and most of our components come from Europe. Crane final assembly is in the USA. On most projects we are going to have 15%-25% material value from the USA, but this will vary depending on project.*	See note at left.	$ 212,713	$ 41,088	19%	3/6/2025	Concerned about tariffs.	$ 5,897
Rigid Inclusions Subcontractor [redacted]	$ 1,263,000	2,100	[redacted]. will be our MBE partner for delivery of the grout for the project.	$ 65,000	None	[redacted] will request apprentice operators/ carpenters for our support in ground installation. The respective apprentice will go through our training program to new hires and be trained on proper support of ground improvement installation.	320	15%	[redacted]e will not have rebar on the project. Grout material will be supplied locally through a ready mix supplier	See note at left.	$ 300,000	$ 250,000	83%	3/27/2025	Rebar costs - AIS included.	$ 13,000
Fire Protection Subcontractor [redacted]	$ 401,331	1,312	We do not have MBE and WBE participation included in our proposal	None	None	Portions of this project will be performed by only one foreman during the rough in portion of the project we will have 50% foreman and 50% apprentice. Overall meeting the 15% goal.	197	15%	All sprinkler pipe will be domestic pipe	All sprinkler pipe will be domestic pipe	$ 183,700	$ 37,000	20%	3/21/2025	Subject to escalation / tariff procedure.	$ 5,664
Plumbing / HVAC Subcontractor [redacted]	$ 4,428,768	9,000	None. Talk with [redacted] regarding overall control needs.	None	None	[redacted] is a union plumbing / HVAC subcontractor, has as accredited apprenticeship program, and will utilize apprentices through that program.	1,350	15%	Vendor working - all piping will be 100% domestic. Vendor working on HVAC units.	See note at left.	$ 2,000,000	$ 1,000,000	50%	4/16/2025	Subject to escalation / tariff procedure.	$ 94,335
Electrical Subcontractor [redacted]	$ 21,700,700	47,330	CONFIRMED MBE 1.3% CONFIRMED WBE 1.0%	$ 300,000	$ 200,000	From Subcontractor [redacted] *INTENTION IS TO EMPLOY APPRENTICES TO THROUGH LOCAL UNION 212 IBEW. REQUESTS ARE FILLED BASED UPON AVAILABILITY*	7,100	15%	KEY COMPONENTS ARE LV SWITCHGEAR, MOTOR CONTROL CENTERS, PANELBOARDS,	40% OF THE TOTAL COST OF THE ITEMS LISTED	$ 4,000,000	$ 1,600,000	40%	4/16/2025	Subject to escalation / tariff procedure.	$ 320,700
Instrumentation, Controls, Programming [redacted]	$ 7,188,851	N / A	None.	None	None	We do not believe that these requirements apply to this Subcontractor (professional staff only).	None	None	Vendor working - all piping will be 100% domestic.	See note at left.	$ 3,500,000	$ 1,600,000	46%	4/16/2025	Subject to escalation / tariff procedure.	$ 120,475
Truck Scales Subcontractor TBD	$ 130,000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$ 500,000	$ 500,000	100%	TBD	TBD	$ 1,500
[redacted] Office Trailer	$ 188,450	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD			#DIV/0!	TBD	TBD	

[redacted]

ASSUMPTIONS, CLARIFICATIONS, EXCLUSIONS, CONVERSATIONS

TABLE A: SUBCONTRACTOR TRACKING AND SUMMARY (MBE +WBE PARTICIPATION, APPRENTICESHIP REQUIREMENTS, DOMESTIC CONTENT REQUIREMENTS, ESCALATION PLAN)

Subcontracts	Subcontract Amount	Total Craft MH for the Project	MBE and WBE Participation Approach	MBE Commitment Amount	WBE Commitment Amount	Approach to Meeting Apprenticeship Requirements	Apprenticeship MH Commitment	% Craft Hours Committed to Apprenticeship	Domestic Content Key Components	Domestic Content Approach	Approximate Total Material Value	Approximate Domestic Content Material Value	(Domestic Content Value) / (Total Material Value)	Quote Expiration Date	Escalation Notes	P&P Bond Cost
	$ 105,558,704	262,672		$ 971,422	$ 1,858,564		27,397	10%			$ 33,092,834	$ 22,169,188	67%			$ 1,075,415
																$ 1,319,484
																$ 244,069

SUMMARY AND ANALYSIS

MBE AND WBE		
TOTAL MBE PARTICIPATION FROM GMP 3 PURCHASING	None	
TOTAL MBE PARTICIPATION FROM GMP 3 SUBCONTRACTS	$ 971,422	**We will need to find another $800K in participation to meet the goal.**
TOTAL MBE DENOMINATOR	$ 132,200,000	**"TOTAL OF CONTRACTS" = TOTAL COST OF WORK = (GMP 1 COW + GMP 2 COW + GMP 3 COW) = (8.7M + 6.5M + 117M) = 132.2M, guessing on GMP 2 and 3 at this point.**
MBE GOAL %	1.30%	
TOTAL MBE %	**0.73%**	**Working on meeting goal.**
TOTAL WBE PARTICIPATION FROM GMP 3 PURCHASING	None	
TOTAL WBE PARTICIPATION FROM GMP 2 SUBCONTRACTS	$ 6,500,000	**Current guesstimate, depends on where this lands.**
TOTAL WBE PARTICIPATION FROM GMP 3 SUBCONTRACTS	$ 1,858,564	
TOTAL WBE DENOMINATOR	$ 132,200,000	
WBE GOAL %	1.00%	
TOTAL WBE %	**6.32%**	**Good**
APPRENTICESHIP		
TOTAL GMP 1 CRAFT HOURS	2,100	**Current guesstimate, depends on where this lands.**
TOTAL GMP 3 CRAFT HOURS	262,672	39,716
TOTAL GMP 3 APPRENTICE HOURS	29,497	
APPRENTICESHIP REQUIREMENT	15.00%	
OVERALL APPRENTICE HOUR %	**10.43%**	**Needs an addition 10K MH of apprentices.**
DOMESTIC CONTENT		
TOTAL VALUE OF MATERIALS IN GMP 1 PURCHASE AGREEMENTS AND OWNER	$ 7,700,000	**Guesstimate based on material values in purchase agreements.**
TOTAL DOMESTIC CONTENT MATERIAL VALUE IN GMP 1 PURCHASE AGREEMENTS AND ODP	$ 1,540,000	**Guesstimate (CHP = 0%, NEUROS = 40%, CENTRIFUGES = 42.2%)**
TOTAL VALUE OF MATERIALS IN GMP 3 SUBCONTRACTS	$ 33,092,834	
TOTAL DOMESTIC CONTENT MATERIAL VALUE IN GMP 3 SUBCONTRACTS	$ 22,169,188	
TOTAL VALUE OF MATERIALS IN GMP 3 PURCHASE AGREEMENTS	$ 7,885,904	**Guesstimate based on material values in purchase agreements.**
TOTAL DOMESTIC CONTENT MATERIAL VALUE IN GMP 3 PURCHASE AGREEMENTS	$ 5,522,340	**Guesstimate based on material values in purchase agreements.**
DOMESTIC CONTENT REQUIREMENT	40.00%	
DOMESTIC CONTENT % OF TOTAL	**60.05%**	**Good**

NOTES

As a condition of receiving capitalization grants from U.S. EPA for the Water Pollution Control Loan Fund (WPCLF) and the Water Supply Revolving Loan Account (WSRLA), the [redacted] EPA negotiates "fair share" Disadvantaged Business Enterprises (DBE) objectives with U.S. EPA. The current negotiated goals for construction related activities are 1.3% of all contracts to MBE's and 1.0% of all contracts to WBE's.

Truck Scales status:

[redacted] will be General Subcontractor and will not install truck scales, therefore this will be a subcontract direct to Jacobs.
We will rebid this work at 100% design to get a better response. We carried a budget of $130K for this subcontract. Jacobs or [redacted] to carry risk on final price.

[redacted]

ASSUMPTIONS, CLARIFICATIONS, EXCLUSIONS, CONVERSATIONS

TABLE B: PURCHASE AGREEMENT TRACKING AND SUMMARY (DOMESTIC CONTENT, M/WBE, ESCALATION PLAN)

Purchase Agreement	Selected Vendor	Cost Update Notes (April 2025)	Purchase Agreement Amount	Approximate Domestic Content % of Materials	Technical Review Status	Domestic Content Notes	Approximate Total Material Value	Approximate Domestic Content Material Value	Bids	Reason Behind Selection	Quote Expiration Date	Escalation Notes
Progressive Cavity Pumps	[redacted]		$ 748,806	40%	Reviewed – acceptable. Pin joint vs. gearbox.	DC could be higher if needed. Vendor stated they are at least 40% DC.	Declined to provide.	Declined to provide.	3	Second bidder, technically acceptable. [redacted] doesn't have Chesterton.	120 days	See escalation worksheet.
Digester Gas Safety Equipment	[redacted]		$ 715,307	40%	Reviewed – acceptable.	DC could be higher if needed. Vendor stated they are at least 40% DC.	Declined to provide.	Declined to provide.	3	Low bidder, technically acceptable.	60 days	See escalation worksheet.
Chopper Pumps and Mixing Nozzles SRC + TDL	[redacted]		$ 685,349	100%	Reviewed – acceptable.	For SRC, SSB, TDL. Will work on [redacted] price.	Declined to provide.	Declined to provide.	3	Best value, technically acceptable, meets Domestic Content	120 days	See escalation worksheet.
Sludge Heat Exchangers	[redacted]		$ 546,177	40%	Reviewed – acceptable.	DC could be higher if needed. Vendor stated they are at least 40% DC.	Declined to provide.	Declined to provide.	2	Low bidder, technically acceptable.	120 days	See escalation worksheet.
Sludge Screens	[redacted]		$ 650,062	42%	Reviewed – acceptable.	DC could be higher if needed. Vendor stated they are at least 80% DC.	Declined to provide.	Declined to provide.	3	Low bidder, technically acceptable.	120 days	See escalation worksheet.
Polymer System	[redacted]		$ 417,288	100%	Reviewed – acceptable.	Everything is Domestic.	Declined to provide.	Declined to provide.	2	Low bidder, technically acceptable.	120 days	See escalation worksheet.
Ferric Feed Pumps	[redacted]		$ 104,227	67%	Reviewed – acceptable.	Almost everything is Domestic.	Declined to provide.	Declined to provide.	3	Second bidder, technically acceptable.	120 days	See escalation worksheet.
Screw Conveyors	[redacted]	Was $523K, added additional conveyor length during adjudication.	$ 540,784	93%	Reviewed – acceptable.	DC could be higher if needed. Vendor stated they are at least 40% DC.	Declined to provide.	Declined to provide.	3	Package is lowest cost, technically acceptable.	120 days	See escalation worksheet.
Cake Storage and Loadout	[redacted]		$ 1,974,096	94%	Reviewed – acceptable.	DC could be higher if needed. Vendor stated they are at least 40% DC.	Declined to provide.	Declined to provide.	3	Package is lowest cost, technically acceptable.	120 days	See escalation worksheet.
Vertical Centrifugal Pumps CNPW, NPW, Digester Heating Water	[redacted]	Was $252K, minor changes during adjudication.	$ 255,740	25%	Reviewed – acceptable.	Provided vendors preferred seals (warrantied).	Declined to provide.	Declined to provide.	2	Second bidder, technically superior, adds $12K.	120 days	See escalation worksheet.
FRP Tanks (8) Tanks	[redacted]	Was $623K, heat panel doubled up prior to adjudication.	$ 580,544	100%	Reviewed – acceptable.		Declined to provide.	Declined to provide.	3	Low bidder, technically acceptable.	30 days	See escalation worksheet.
DG/NG Boilers (4) Boilers	[redacted]		$ 856,929	100%	Reviewed – acceptable.	Siemens PLCs.	Declined to provide.	Declined to provide.	3	Low bidder, technically acceptable.	120 days	See escalation worksheet.
Odor Control System	[redacted]	Added ductwork to match 90%, see VE log.	$ 1,435,695	75%	Reviewed – acceptable.	Mostly made in the US, some from Canada.	Declined to provide.	Declined to provide.	3	Low bidder, technically acceptable.	120 days	See escalation worksheet.
DS Chopper Pumps and Mixing Nozzles	[redacted]		$ 288,878	0%	Reviewed – acceptable.	For Digesters.	Declined to provide.	Declined to provide.	3	Low bidder, technically acceptable.	60 days	See escalation worksheet.
Ferric Sump Pumps	[redacted]		$ 110,131	100%	Reviewed – acceptable.	Included (6) pumps for TDL and DGA.	Declined to provide.	Declined to provide.	3	Low bidder, technically acceptable.	30 days	See escalation worksheet.
Digester Gas Holder	[redacted]		$ 433,808	75%	Reviewed – acceptable.	DC could be higher if needed. Vendor stated they are at least 40% DC.	Declined to provide.	Declined to provide.	2	Low bidder, technically acceptable. Westech didn't bid.	60 days	See escalation worksheet.
Sluice Gates	[redacted]		$ 45,699	40%	Reviewed – acceptable.	DC could be higher if needed. Vendor stated they are at least 40% DC.	Declined to provide.	Declined to provide.	3	Low bidder, technically acceptable.	45 days	See escalation worksheet.
Screw Induced Centrifugal Pumps BST Transfer, Thickening Feed	[redacted]		$ 312,198	10%	Reviewed – acceptable.	[redacted] is currently not technically acceptable.	Declined to provide.	Declined to provide.	2	Second bidder, technically acceptable.	60 days	See escalation worksheet.
Induced Flow / Recessed Impeller Centrifugal Pumps	[redacted]		$ 230,928	10%	Reviewed – acceptable.	DC could be higher if needed. Vendor stated they are at least 40% DC.	Declined to provide.	Declined to provide.	2	Low bidder, technically acceptable.	120 days	See escalation worksheet.
Automatic Strainer	[redacted]	Bid a smaller (8") unit.	$ 148,500	100%	Reviewed – acceptable.	[redacted] (low bid) doesn't meet the technical specifications, see note below.	Declined to provide.	Declined to provide.	3	Second bidder, technically acceptable.	120 days	See escalation worksheet.
Horizontal End Suction Centrifugal Pumps	[redacted]	Was $186K, minor changes during adjudication.	$ 184,431	25%	Reviewed – acceptable.	Provided vendors preferred seals (warrantied).	Declined to provide.	Declined to provide.	3	Lowest responsive bidder, technically acceptable.	120 days	See escalation worksheet.
			$ 11,265,577									

[redacted]

ASSUMPTIONS, CLARIFICATIONS, EXCLUSIONS, CONVERSATIONS

TABLE B: PURCHASE AGREEMENT TRACKING AND SUMMARY (DOMESTIC CONTENT, M/WBE, ESCALATION PLAN)

Purchase Agreement	Selected Vendor	Cost Update Notes (April 2025)	Purchase Agreement Amount	Approximate Domestic Content % of Materials	Technical Review Status	Domestic Content Notes	Approximate Total Material Value	Approximate Domestic Content Material Value	Bids	Reason Behind Selection	Quote Expiration Date	Escalation Notes

SUMMARY AND ANALYSIS

DOMESTIC CONTENT

TOTAL VALUE OF MATERIALS IN PURCHASE AGREEMENTS	See Table A for guesstimates.
TOTAL DOMESTIC CONTENT VALUE	
DOMESTIC CONTENT % OF TOTAL	

NOTES

Review notes from Mike on Hellan strainers:

As noted, the low bidder doesn't meet the current technical specifications.

They can't meet our revised strainer size requirements: our specs require 8", and they can't meet the required flowrate without using 10" (Article 2.03.A).

They can't meet our backwash requirements: their unit uses too much effluent for backwashing (Article 2.03.B).

[redacted]

ASSUMPTIONS, CLARIFICATIONS, EXCLUSIONS, CONVERSATIONS
TABLE C: PERMITS (REVIEW DATES AND DURATIONS, COSTS, RESPONSIBILITY)

Permit Description	Date Jacobs Submits / Submitted to [redacted]	Date [redacted] Submits / Submitted to Permitting Agency	Total Anticipated Review Time (for Permitting Agency, Working Days)	Expected / Completed Approval Date (from Permitting Agency)	Risk Management Notes
Levee/Dam Modification Permit	05/14/25 (Planned)	05/28/25 (Planned)	20	06/27/25 (Planned)	Likely not critical path.
Wastewater Permit-to-Install	01/16/25	04/16/25	60	06/30/25 (Planned)	Could be critical path.
Foundation Permitting Package--All Facilities	02/27/25	04/18/25	15	05/09/25 (Planned)	Could be critical path.
General Building Permit--Digesters (3)	04/09/25	05/02/25 (Planned)	15	05/23/25 (Planned)	
General Building Permit--TDL Building	04/09/25	05/02/25 (Planned)	15	05/23/25 (Planned)	
General Building Permit--Digester Gallery	04/18/25	05/09/25 (Planned)	15	05/30/25 (Planned)	
General Building Permit--Sludge Receiving	04/18/25	05/09/25 (Planned)	15	05/30/25 (Planned)	
General Building Permit--Secondary	04/18/25	05/09/25 (Planned)	15	05/30/25 (Planned)	
General Building Permit--Boiler Building	04/18/25	05/09/25 (Planned)	15	05/30/25 (Planned)	
General Building Permit--Digester Gas	04/18/25	05/09/25 (Planned)	15	05/30/25 (Planned)	
General Building Permit--CHP Facility	04/18/25	05/09/25 (Planned)	15	05/30/25 (Planned)	
General Building Permit--Gas Holding	04/18/25	05/09/25 (Planned)	15	05/30/25 (Planned)	
General Building Permit--Flare	04/18/25	05/09/25 (Planned)	15	05/30/25 (Planned)	
General Building Permit--Chemical	04/18/25	05/09/25 (Planned)	15	05/30/25 (Planned)	
General Building Permit--Sludge Storage	04/18/25	05/09/25 (Planned)	15	05/30/25 (Planned)	
General Building Permit--Odor Control	04/18/25	05/09/25 (Planned)	15	05/30/25 (Planned)	
SMU Storm to Storm Tap Permit	05/14/25 (Planned)	05/28/25 (Planned)	20	06/27/25 (Planned)	
Air Pollution PTIO - Blowers	12/09/24	02/28/25	60	05/09/25 (Planned)	
Air Pollution PTIO - Main Permit	05/14/25 (Planned)	05/28/25 (Planned)	60	08/15/25 (Planned)	
Street Opening Permit	TBD	TBD	10	TBD	Timeframe based on fire hydrant relocate.
Threatened and Endangered Species	N/A	N/A	N/A	03/24/23	
Cultural Resources Survey	N/A	N/A	N/A	05/25/23	
Section 404 Nationwide Permit	12/04/23	12/06/23	N/A	02/15/24	
FAA Air Space Restrictions	01/06/25	02/19/25	N/A	04/09/25	
Stormwater Discharges - General Permit	N/A	N/A	N/A	09/20/24	
Excavation and Fill (EWP)	08/27/24	09/13/24	N/A	11/20/24	
Floodplain Development Permit	08/29/24	09/13/24	N/A	11/20/24	
Coordinated Site Reviews	12/16/24	02/06/25	N/A	03/18/25	

The purpose of this table is to clarify which Risk Register and contingency bucket permit issues should be paid from. It is not intended to modify any terms or conditions of the Prime Agreement.

For permits that are on or close to the critical path, Jacobs can absorb the first month of delay (beyond the durations listed below). If delays exceed that duration, then the delay will be handled according to the Force Majeure clause of the Prime Agreement.

Permit Costs:

Jacobs has included costs for the Electrical Permit and the Plumbing Permit for the project.

All other permit costs are by [redacted].

[redacted]

ASSUMPTIONS, CLARIFICATIONS, EXCLUSIONS, CONVERSATIONS
TABLE D: THIRD PARTY MANAGEMENT (EVENTS, RESPONSES)

Type of Event	Response	Risk Management Notes
The purpose of this table is to clarify which Risk Register and contingency bucket neightborhood issues should be paid from. It is not intended to modify any terms or conditions of the Prime Agreement.		
Neighborhood Complaint	Neighbors, roads, trail complaints delivered directly or at community meetings.	If compensation or dispensation is granted, costs are paid from [redacted] contingency bucket (risks carried on [redacted] Risk Register).
Neighborhood Direct Contact / Confrontation / Conflict	Direct conflict, boycotts, pickets, confrontations at the jobsite or in adjacent areas.	See Contractor Neglect, Vandalization, and Third Party Legal Claim. Delays paid according to Force Majeure provisions in the Contract. If compensation or dispensation is granted, see previous row.
Neighborhood Emergency	Call 911. [redacted] Call Plant Operations and utilities if / as appropriate.	See Third Party Legal Claims and Contractor Neglect section below. Make safe. Costs to be paid from [redacted] contingency bucket (risks carried on [redacted] Risk Register).
Public ROW Complaint	Complaints regarding road cleanliness, damage to passing vehicles,	See Contractor Neglect.
Public ROW Direct Contact / Confrontation / Conflict	Call 911. [redacted] Call Plant Operations and utilities if / as appropriate.	See Neighborhood Emergency.
Public ROW Emergency	Call 911. [redacted] Call Plant Operations and utilities if / as appropriate.	See Neighborhood Emergency.
Contractor Neglect	Jacobs is responsible for the safety of the project site and the impacted adjacent public ROW (street sweeping, trenches, etc.). Complaints by neighbors, or regulatory agencies, or [redacted] will be dealt with appropriately. [redacted].	All appropriate costs by Jacobs. See Emergency rows above.
Vandalization	[redacted] is vandalized - [redacted] to follow their procedures. Jacobs is vandalized - follow procedures and inform insurance carrier.	Insurance deductibles by damaged party. [redacted] paid by [redacted], Jacobs paid from contingency bucket (Jacobs Risk Register).
Third Party Legal Claim	Notify [redacted].	See Prime Agreement. Builder's Risk does not cover Third Party impacts.

[redacted]

ASSUMPTIONS, CLARIFICATIONS, EXCLUSIONS, CONVERSATIONS

TABLE E: VALUE ENGINEERING (VE USED IN THE GMP, ADDITIONAL VE OPTIONS, APPROXIMATE COSTS)

Line	Description of Value Engineering Item	Scope Utilized in the GMP	Final VE Savings
1	The 60% design included 316 SST supports in numerous locations. [redacted] standard is HDG carbon steel in all locations, except where submerged.	HDG supports were utilized everywhere except submerged locations (that utilized 316 SST). 100% design will be updated.	Cost reduction $600K included in [redacted]'s GMP price.
2	The 60% design included 316 SST hardware (bolts, nuts) for virtually all flanged joints. [redacted] standard is A307 carbon steel for this hardware in all locations except submerged.	A307 bolts and nuts were used in all locations except submerged locations (that utilized 316 SST). 100% design will be updated.	Cost reduction $500K included in [redacted]'s GMP price.
3	The 60% design included epoxy-lined ductile iron pipe on the discharge side of sludge lines (BTS, DS, DSM, DSR). Cement-mortar lining is a less expensive, better product for the application.	Utilized CLDI for the referenced lines. See March 28 pipe schedule. 100% design will be updated.	Cost reduction $400K included in [redacted]'s GMP price.
4	The 60% design included extensive glass-lining for sludge lines (suction side). Using glass lining in fewer locations (replacing with CLDI) will reduce costs and lead times.	Utilized an optimized amount of glass-lined pipe per the March 28 pipe schedule. 100% design will be updated.	Cost reduction $800K included in [redacted]'s GMP price.
5	The 60% design included an extensive finish schedule.	Utilize the paint schedule optimized for the project and included on the painting bid form. 100% design will be updated.	Cost reduction of $1.5M included with painting subcontractors bid form.
6	The 60% design included extensive pipe insulation and jacketing throughout the new facilities.	The 60% specifications and pipe schedule were utilized in [redacted]s pricing.	Costs could be reduced from the current GMP in the $200K - $400K range, depending on how much insulation and jacketing is deleted from the project.
7	The 60% design included buried DR piping as CLDI.	The GMP utilized SDR35 PVC for this piping.	Cost reduction of $80K included in [redacted]'s GMP pricing.
8	The 60% design included Selkirk SST piping for the discharge from the blowers.	The GMP utilized standard SST piping for the EEXH piping.	Cost reduction of $50K included in [redacted]'s GMP pricing.
9	The 60% design included 316 SST piping for the NG piping.	The GMP included carbon steel NG piping with the exception of the high pressure piping in the SEC. This was priced at 316 SST.	Cost reduction of $50K included in [redacted]'s GMP pricing.
10	The 60% design included copper piping for NPW / CNPW / PW services. Opportunities to change this to PVC or other lower cost piping were explored.	Pipe was included in the GMP as copper per [redacted]'s standards.	No cost reduction.
11	The 60% design did not include finished piping plans for small diameter piping (NPW, PW) in the facilities. As such, Jacobs provided a scope of work for this piping.	The scope of work provided by Jacobs was greater (quantities) than the final 90% plan. The GMP includes the scope included in the 90% Drawings.	Piping priced per 90% Drawings, no cost changes anticipated.
12	The 60% design (and 90% design) includes interior precast concrete walls in the TDL and DGA facilities. There may be an opportunity to reduce the cost to the project by changing these interior walls to masonry.	The scope utilized in the GMP is the 60% / 90% design approach.	Costs could be reduced from the current GMP in the $50K - $100K range, depending on how much insulation and jacketing is deleted from the project.
13	The 60% design (and 90% design) includes a configuration for the odor control piping between the TDL facility and odor control biotower pad.	The scope utilized in the GMP is the 60% / 90% design approach.	Costs could be reduced from the current GMP in the $100K - $200K range by shifting the biotower location, simplifying the odor control piping, while maintaining access from the basement of the TDL.
14	The 60% design include a rip-rapped slope on the [redacted]-side of the digesters.	The GMP does not include this rip rapped slope, but rather a more mellow slope, seeding, and rip rap run downs to avoid erosion.	Cost reduction of $100K included in [redacted]'s GMP pricing.

[redacted]

ASSUMPTIONS, CLARIFICATIONS, EXCLUSIONS, CONVERSATIONS

TABLE E: VALUE ENGINEERING (VE USED IN THE GMP, ADDITIONAL VE OPTIONS, APPROXIMATE COSTS)

Line	Description of Value Engineering Item	Scope Utilized in the GMP	Final VE Savings
15	The 60% design includes SST gas piping across the top of the digesters.	The GMP includes pricing for the SST pipeline. An opportunity exists to change this to a less expensive material.	Costs could be reduced from the current GMP in the $50K range.
16	The 60% design includes insulation and sprinklers in the DGA facility.	The GMP includes the insulation and sprinklers for the DGA. If these are not required, the GMP can be reduced.	Costs could be reduced from the current GMP in the $50K - $100K range, depending on how much insulation and sprinklers are deleted from the project.
17	GMP 2 includes work to remove PCBs screen trash piles from the project site. The final quantity of as-left, usable soils, is yet to be determined.	GMP 3 includes a quantity for the anticipated, usable, dirt to be left behind at the conclusion of GMP 2. GMP 3 also includes unit prices for adjusting the costs should more or less dirt be left behind.	In general, if more dirt is left behind, less dirt needs to be imported. Costs to the project could be reduced depending on the final quantities.

[redacted]

ASSUMPTIONS, CLARIFICATIONS, EXCLUSIONS, CONVERSATIONS

TABLE F: VENDOR ASSISTANCE TRACKING

Description	Qty	Type	First Equipment Number	Spec Name	Spec Section	First P&ID or Drawing No.	MCOPIs	01 75 02 Equipment Startup and Checkout - Mechanical Functional Testing (Clean Water)	01 75 03 System Functional Testing (Clean Water)	01 75 04 Process Performance Testing (Sludge, Non-Performance Testing)	01 75 05 Operational Testing (Sldge, Equipment Performance Testing)	Acceptance Test (45-Day)	Notes
										If not otherwise stated assume 3 days of testing			
BOILERS	4	Equipment	L3-DIG-BOIL-671215	Heating Boilers	23 52 00	10281100_PIDN_0211	Yes	Onsite	Onsite	Onsite	Onsite - 8 hours each	On-Call	
BOILER PUMPS	4	Pumps	L3-DIG-P-671215	Heating Boilers	44 42 56.10	10281100_PIDN_0211	Yes	Onsite	On-Call	On-Call	On-Call - 3 hours each	On-Call	
BOILER PACKAGE SYSTEM	4	Package	L3-DIG-PK-671215	Heating Boilers	23 52 00	10281100_PIDN_0211	Yes	Onsite	Onsite	Onsite	Onsite - 8 hours each	On-Call	
THICKENING CENTRIFUGES	4	Equipment	L3-THK-CENT-621010	Thickening Centrifuges	43 22 23	10281100_PIDN_0108	Yes	Onsite	Onsite	Onsite - min 5 days each (no more than 2 simultaneously)	Onsite - 2 days per 2 centrifuges, 8 hours per day	On-Call	
THICKENING CENTRIFUGE PACKAGE SYSTEM	4	Package	L3-THK-PK-621010	Thickening Centrifuges	43 22 23	10281100_PIDN_0108	Yes	Onsite	Onsite	Onsite - min 5 days each (no more than 2 simultaneously)	Onsite - 4 days, 8 hours per day each	On-Call	
FERRIC CHLORIDE STORAGE TANKS	2	Tank	L3-THK-T-620501	Fiberglass Reinforced Plastic Tanks	43 41 45	10281100_PIDN_0311	Yes	On-Call	N/A	N/A	N/A	N/A	
THICKENING BULK POLYMER STORAGE TANK	1	Tank	L3-THK-T-740001A	Fiberglass Reinforced Plastic Tanks	43 41 45	10281100_PIDN_0301	Yes	On-Call	N/A	N/A	N/A	N/A	
DEWATERING BULK POLYMER STORAGE TANK	1	Tank	L3-THK-T-740002B	Fiberglass Reinforced Plastic Tanks	43 41 45	10281100_PIDN_0301	Yes	On-Call	N/A	N/A	N/A	N/A	
THICKENING POLYMER FEED TANK	1	Tank	L3-THK-T-740201	Fiberglass Reinforced Plastic Tanks	43 41 45	10281100_PIDN_0304	Yes	On-Call	N/A	N/A	N/A	N/A	
DEWATERING POLYMER FEED TANK	1	Tank	L3-THK-T-740202	Fiberglass Reinforced Plastic Tanks	43 41 45	10281100_PIDN_0304	Yes	On-Call	N/A	N/A	N/A	N/A	
SLUDGE RECEIVING TANK ODOR CONTROL PACKAGE SYSTEM	1	Equipment	L3-PRI-PK-680030	Activated Carbon Odor Control System	44 11 20.01	10281100_PIDN_0403	Yes	Onsite	Onsite	Onsite	Onsite - Continuous 4 hours	On-Call	
THICKENING AND DEWATERING ODOR CONTROL PACKAGE SYSTEM	1	Equipment	L3-THK-PK-680010	Activated Carbon Odor Control System	44 11 20.01	10281100_PIDN_0401	Yes	Onsite	Onsite	On-Call - 15 days, 8 hours per day each	On-Call - 6 days, 8 hours per day	On-Call	
BLENDED SLUDGE TANK ODOR CONTROL PACKAGE SYSTEM	1	Equipment	L3-THP-PK-680020	Activated Carbon Odor Control System	44 11 20.01	10281100_PIDN_0402	Yes	Onsite	Onsite	Onsite	Onsite - Continuous 4 hours	On-Call	
APGN COMPRESSOR PACKAGE	1	Equipment	L3-BLO-PKG-670530	Gas Powered Aeration Turbo Blowers	44 42 19.02	10281100_PIDN_0230	Yes	Onsite	Onsite	Onsite	Onsite - 12 hours each	On-Call	~~Provided with blowers~~ Costs in GMP 1.
COMBUSTION AIR BLOWER	4	Equipment	L3-DIG-B-671210	Gas Powered Aeration Turbo Blowers	44 42 19.02	10281100_PIDN_0211	Yes	Onsite	Onsite	Onsite	Onsite - 12 hours each	On-Call	
APGN GSA TURBINE COOLING PACKAGE	2	Equipment	L3-SEC-PKG-344010	Gas Powered Aeration Turbo Blowers	44 42 19.02	10281100_PIDN_0231	Yes	Onsite	Onsite	Onsite	Onsite - 12 hours each	On-Call	
APGN GAS TURBINE BLOWER 1 PACKAGE	2	Package	L3-SEC-PKG-344020	Gas Powered Aeration Turbo Blowers	44 42 19.02	10281100_PIDN_0231	Yes	Onsite	Onsite	Onsite	Onsite - 12 hours each	On-Call	
SLUDGE BLEND TANK 1 TRANSFER PUMPS	2	Pumps	L3-THP-P-615310	Screw- Induced Flow Centrifugal Pumps	44 42 56.01	10281100_PIDN_0102	Yes	Onsite	On-Call	On-Call	On-Call - Not stated, assume 4 hours to match screens	On-Call	
THICKENING CENTRIFUGE FEED PUMP	4	Pumps	L3-THP-P-620010	Screw- Induced Flow Centrifugal Pumps	44 42 56.01	10281100_PIDN_0106	Yes	Onsite	On-Call	On-Call - 10 days, 8 hours per day each	On-Call - 4 days, 8 hours per day each	On-Call	
DIGESTERS HEATING PUMP	6	pumps	L3-DIG-P-661210	Induced Flow (Recessed Impeller) Centrifugal Pumps	44 42 56.01	10281100_PIDN_0154	Yes	Onsite	On-Call	On-Call	On-Call 4 x 8 hour days (1 per boiler)	On-Call	
DIGESTER SLUDGE TRANSFER PUMPS	9	Pumps	L3-DIG-P-661310	Progressing Cavity Pumps	44 42 56.13	10281100_PIDN_0156	Yes	Onsite	On-Call	On-Call	On-Call - 4-hours, each pump	On-Call	
DEWATERING BULK POLYMER RECIRCULATION/ TRANSFER PUMP	1	Pumps	L3-THK-P-740010	Progressing Cavity Pumps	44 42 56.13	10281100_PIDN_0302	Yes	Onsite	On-Call	On-Call - 15 days, 8 hours per day each	On-Call - 6 days, 8 hours per day	On-Call	
THICKENING BULK POLYMER RECIRCULATION/ TRANSFER PUMP	1	Pumps	L3-THK-P-740020	Progressing Cavity Pumps	44 42 56.13	10281100_PIDN_0302	Yes	Onsite	On-Call	On-Call - 10 days, 8 hours per day each	On-Call - 4 days, 8 hours per day each	On-Call	
THICKENING POLYMER RECIRCULATION PUMP	2	Pumps	L3-THK-P-740230	Progressing Cavity Pumps	44 42 56.13	10281100_PIDN_0304	Yes	Onsite	On-Call	On-Call - 10 days, 8 hours per day each	On-Call - 4 days, 8 hours per day each	On-Call	
THICKENING CENTRIFUGE POLYMER FEED PUMP	4	Pumps	L3-THK-P-740410	Progressing Cavity Pumps	44 42 56.13	10281100_PIDN_0305	Yes	Onsite	On-Call	On-Call - 10 days, 8 hours per day each	On-Call - 4 days, 8 hours per day each	On-Call	
DEWATERING CENTRIFUGE POLYMER FEED PUMPS	3	Pumps	L3-THK-P-740610	Progressing Cavity Pumps	44 42 56.13	10281100_PIDN_0307	Yes	Onsite	On-Call	On-Call - 15 days, 8 hours per day each	On-Call - 6 days, 8 hours per day	On-Call	
DEWATERING CENTRIFUGE FEED PUMP	3	Pumps	L3-THP-P-622010	Progressing Cavity Pumps	44 42 56.13	10281100_PIDN_0170	Yes	Onsite	On-Call	On-Call - 15 days, 8 hours per day each	On-Call - 6 days, 8 hours per day	On-Call	
FERRIC CHLORIDE FEED PUMPS	5	Pumps	L3-THK-CMP-620510	Ferric Feed System	44 42 56.16	10281100_PIDN_0312	Yes	Onsite	On-Call	On-Call - 15 days, 8 hours per day each	On-Call - 6 days, 8 hours per day	On-Call	
NON-POTABLE WATER PUMPS	3	Pumps	L3-SEC-P-490210	Vertical Centrifugal Pumps	44 42 56.20	10281100_PIDN_0411	Yes	Onsite	On-Call	On-Call	On-Call - 3 hours each	On-Call	
CITY NON-POTABLE WATER PUMP	4	Pumps	L3-THK-P-490410	Vertical Centrifugal Pumps	44 42 56.20	10281100_PIDN_0420	Yes	Onsite	On-Call	On-Call	On-Call - 3 hours each	On-Call	
MOTORIZED AUTO STRAINER	2	Equipment	L3-SEC-PK-490310	Motorized Automatic Strainer	44 43 33	10281100_PIDN_0412	Yes	Onsite	On-Call	On-Call	On-Call - not listed, assume 4 hours	On-Call	
FERRIC FEED SUMP PUMP	2	Pumps	L3-THK-P-620561	Chemical Sump Pumps	44 44 13.01	10281100_PIDN_0312	Yes	Onsite	On-Call	On-Call	On-Call - not listed, assume 4 hours	On-Call	
THICKENING LIQUID POLYMER FEED SYSTEM	1	Equipment	L3-THK-PK-740210A	Polymer Feed System, Liquid	44 44 63.01	10281100_PIDN_0303	Yes	Onsite	Onsite	On-Call - 10 days, 8 hours per day each	On-Call - 4 days, 8 hours per day each	On-Call	30 minutes is listed for "preliminary test" references to other specs are generic
DEWATERING LIQUID POLYMER FEED SYSTEM	1	Equipment	L3-THK-PK-740220	Polymer Feed System, Liquid	44 44 63.01	10281100_PIDN_0303	Yes	Onsite	On-Call	On-Call - 15 days, 8 hours per day each	On-Call - 6 days, 8 hours per day	On-Call	
CAKE EMERGENCY CONVEYOR	1	Equipment	L3-THK-CON-624003	Screw Conveyor System	44 46 13.02	10281100_PIDN_0175	Yes	Onsite	On-Call	On-Call	On-Call - 4 hours	On-Call	
WASTE GAS BURNER PACKAGE	1	Package	L3-DIG-PK-670001	Digester Gas Safety Equipment and Specialties	44 46 20	10281100_PIDN_0200	Yes	Onsite	Onsite	Onsite	Onsite - not listed, assume 15 minutes	On-Call	Short duration to not waste too much extra gas

Description	Qty	Type	First Equipment Number	Spec Name	Spec Section	First P&ID or Drawing No.	MCOPIs	01 75 02 Equipment Startup and Checkout - Mechanical Functional Testing (Clean Water)	01 75 03 System Functional Testing (Clean Water)	01 75 04 Process Performance Testing (Sludge, Non-Performance Testing)	01 75 05 Operational Testing (Sldge, Equipment Performance Testing)	Acceptance Test (45-Day)	Notes
DIGEESTER HEAT EXCHANGERS	6	Equipment	L3-DIG-HEX-661230	Sludge Heat Exchanger	44 46 21	10281100_PIDN_0154	Yes	On-Call	On-Call	On-Call	On-Call - 30 minutes	On-Call	
DIGESTER GAS HOLDER PACKAGE SYSTEM	1	Package	L3-DIG-PK-670050	Digester Gas Holder System	44 46 25	10281100_PIDN_0200	Yes	Onsite	On-Call	On-Call	On-Call - Not listed, assume 30 minutes	On-Call	
GAS TREATMENT HEATING PUMP	1	Pumps	L3-DIG-P-670340	Digester Gas Treatment System	44 46 30	10281100_PIDN_0205	Yes	Onsite	Onsite	Onsite	Onsite - Not listed, assume 4 hours	On-Call	Lists Initial performance test for "manufacturer recommended period of
MOISTURE REMOVAL SKID PACKAGE SYSTEM	2	Package	L3-DIG-PK-670200	Digester Gas Treatment System	44 46 30	10281100_PIDN_0203	Yes	Onsite	Onsite	Onsite	Onsite - Not listed, assume 4 hours	On-Call	Lists Initial performance test for "manufacturer recommended period of
GAS TREATMENT REHEATER CONDENSATE TANK	1	Tank	L3-DIG-T-670570	Digester Gas Treatment System	44 46 30	10281100_PIDN_0205	Yes	On-Call	N/A	N/A	N/A	N/A	
GAS CONDITIONING REHEATING SYSTEMS	1	Equipment	L3-DIG-PK-670300A	Digester Gas Treatment System	44 46 30	10281100_PIDN_0205	Yes	Onsite	Onsite	Onsite	Onsite - Not listed, assume 4 hours	On-Call	Lists Initial performance test for "manufacturer recommended period of
SILOXANE REMOVAL SKID PACKAGE SYSTEM	1	Equipment	L3-DIG-PK-670400	Digester Gas Treatment System	44 46 30	10281100_PIDN_0204	Yes	Onsite	Onsite	Onsite	Onsite - Not listed, assume 4 hours	On-Call	Lists Initial performance test for "manufacturer recommended period of
WASTE GAS BURNER CONDENSATE TANK	1	Tank	L3-DIG-T-670005	Miscellaneous Mechanical Equipment	44 46 35	10281100_PIDN_0200	Yes	On-Call	N/A	N/A	N/A	N/A	
DIGESTER GAS HOLDERCONDENSATE TANK	1	Tank	L3-DIG-T-670011	Miscellaneous Mechanical Equipment	44 46 35	10281100_PIDN_0200	Yes	On-Call	N/A	N/A	N/A	N/A	
CONDENSATE TANK	2	Tank	L3-DIG-T-670550	Miscellaneous Mechanical Equipment	44 46 35	10281100_PIDN_0230	Yes	On-Call	N/A	N/A	N/A	N/A	
CITY NON-POTABLE WATER STORAGE	1	Tank	L3-THK-T-490001	Miscellaneous Mechanical Equipment	44 46 35	10281100_PIDN_0420	Yes	On-Call	N/A	N/A	N/A	N/A	
DIGESTION GAS HEADER CONDENSATE TANK	1	Tank	L3-DIG-T-670150	Miscellaneous Mechanical Equipment	44 46 35	10281100_PIDN_0201	Yes	On-Call	N/A	N/A	N/A	N/A	
CHP UNIT HEAT RECOVERY PUMP	2	Pumps	L3-DIG-P-670610	Cogeneration Engine Systems	44 46 40	10281100_PIDN_0222	Yes	Onsite	On-Call	On-Call	On-Call - 12 hours x 2	On-Call	
COMBINED HEAT AND POWER UNIT PACKAGE SYSTEM	2	Package	L3-DIG-PK-670510	Cogeneration Engine Systems	44 46 40	10281100_PIDN_0221	Yes	Onsite	Onsite	Onsite	Onsite - 12 hours x 2	On-Call	
SLUDGE SCREEN PACKAGE SYSTEM	3	Package	L3-THK-PK-615410	Sludge Screens	46 21 10	10281100_PIDN_0104	Yes	Onsite	Onsite	Onsite	Onsite - Not listed, assume 4 hours	On-Call	
THICKENING, DEWATERING, AND LOADOUT BUILDING CHOPPER SUMP PUMP	2	Pumps	L3-THK-P-614051	Chopper Pumps and Nozzle Mixing Systems	46 21 41	10281100_PIDN_0503	Yes	Onsite	On-Call	On-Call - 15 days, 8 hours per day each	On-Call - 4 days, 8 hours per day each	On-Call	
SLUDGE RECEIVING MIX PUMP	2	Pumps	L3-SRC-P-615010	Chopper Pumps and Nozzle Mixing Systems	46 21 41	10281100_PIDN_0100	Yes	Onsite	On-Call	On-Call	On-Call - 4 hours	On-Call	
SCREENED SLUDGE MIX PUMP	2	Pumps	L3-THK-P-615510	Chopper Pumps and Nozzle Mixing Systems	46 21 41	10281100_PIDN_0105	Yes	Onsite	On-Call	On-Call	On-Call - 4 hours	On-Call	
SLUDGE BLEND TANK MIX PUMP	2	Pumps	L3-THP-P-615210	Chopper Pumps and Nozzle Mixing Systems	46 21 41	10281100_PIDN_0101	Yes	Onsite	On-Call	On-Call	On-Call - 4 hours	On-Call	
DIGESTER MIXING PUMP	9	Pumps	L3-DIG-P-661110	Digester Mixing Chopper Pumps and Nozzle Mixing Pumps	46 21 43	10281100_PIDN_0152	Yes	Onsite	On-Call	On-Call	On-Call - Not listed, assume 4 hours	On-Call	
DEWATERING CENTRIFUGES	3	Equipment	L3-THK-CENT-623010	Dewatering Centrifuges	46 76 33	10281100_PIDN_0172	Yes	Onsite	Onsite	Onsite - min 5 days each, 8 hours per day (no more than 1	Onsite - min 2 days, 8 hours per day per centrifuge, no more than	On-Call	
DEWATERING CENTRIFUGE PACKAGE SYSTEM	3	Package	L3-THK-PK-623010	Dewatering Centrifuges	46 76 33	10281100_PIDN_0172	Yes	Onsite	Onsite	Onsite - min 5 days each (no more than 1 simultaneously)	Onsite - min 2 days, 8 hours per day per centrifuge, no more than	On-Call	
DIGESTERS HEATING WATER PUMP	6	Pumps	L3-DIG-P-661230			10281100_PIDN_0155	Yes	Onsite	On-Call	On-Call	On-Call	On-Call	
MAIN HEATING WATER PUMP	3	Pumps	L3-DIG-P-671010			10281100_PIDN_0206	Yes	Onsite	On-Call	On-Call	On-Call	On-Call	
GAS TURBINE HEAT RECOVERY PUMP	1	Pumps	L3-DIG-P-671150			10281100_PIDN_0208	Yes	Onsite	On-Call	On-Call	On-Call	On-Call	
DIGESTER GALLEY SUMP PUMP	4	Pumps	L3-THK-P-670061			10281100_PIDN_0504	Yes	Onsite	On-Call	On-Call	On-Call	On-Call	
CAKE HOPPERS	2	Equipment	L3-THK-PK-624020		44 46 23	10281100_PIDN_0176	Yes	On-Call	On-Call	On-Call	On-Call	On-Call	

[redacted]

3/3/2025

Services During Construction, Level-of-Effort Budget Estimate

Billing Rate Category	Senior Technical Consultant	Senior Project Manager 2, Senior Engineer	Senior Project Manager 1, Engineer 5	Project Manager, Engineer 4	Engineer 3, Technician 5	Engineer 2, Technician 4	Engineer 1, Technician 3	Support 4, Technician 2	Support 3, Technician 1	Support 2	Support 1	Labor Hours	Labor Budget
Billing Rate ($/hr) per contract billing rates	$295.00	$280.00	$260.00	$215.00	$195.00	$175.00	$155.00	$135.00	$115.00	$100.00	$85.00		
Jacobs Labor													
Task 4100: Project Management													
Subtask 4105: General Project Management			960									960	$249,600
Subtask 4110: Project Meetings			1000				1200					2200	$446,000
Task 4200: Construction Administration													
Subtask 4205: Requests for Information	180	240	800	360	240	240	3030	100	200	100	140	5630	$1,022,550
Subtask 4210: Construction Change Management	40	80	60	120	120			40	40	40	40	580	$116,400
Subtask 4215: Submittal Review	240	600	1200	800	800	1800	5600	480	800	440	120	12880	$2,272,800
Subtask 4220: Site Visits	40	200	1000	260	180	80	1200	60	60	60	24	3164	$641,840
Subtask 4225: Operations Manual System (OMS) Development	80	200	260	300	720	400	400	400	800	400	200	4160	$687,100
Subtask 4230: Online Training Services									40			40	$4,600
Subtask 4235: Commissioning Related Services	120	330		330	750	750			80		40	2400	$488,850
Subtask 4240: Substantial Completion, Final Completion, and Correction Period Support			80	100	100		120					400	$80,400
Subtask 4245: Record Drawings and Master P&ID Drawings			80				400	1000	400	400		2280	$303,800
Subtask 4270: Concrete Testing													
Subtask 4295: Third Party Special Inspections and Material Testing													
Task 4300: Plant (Local) SCADA Configuration and Startup Services													
Subtask 4385: [redacted] Training (Process)	80	160	240	240	240		200		60	60	60	1340	$278,200
Task 4500: Additional Services													
Subtask 4505: Concrete Repair Coordination Meeting & Observation				160							8	168	$35,080
Subtask 4515: Witness Testing													
Subtask 4520: Outage Form Support													
Subtask 4525: Arc Flash Study Review				2								2	$430
Subtask 4550: Permit Plan					80						20	100	$17,300
Subtotal, Jacobs Labor	780	1810	5680	2672	3230	3270	12150	2080	2480	1500	652	36304	$6,644,950

Staff	Joseph Walker	Russell Tuck	Matthew	Leonard	Kathy								
Billing Rate Category	Project Manager	Sr. Project	Project Engineer	Sr. Systems	Admin							**Labor Hours**	**Labor Budget**
Billing Rate ($/hr) per contract billing rates	$241.28	$184.42	$165.92	$213.67	$83.52								
Subconsultants													
ASE Labor													
Task 4100: Project Management													
Subtask 4105: General Project Management	288				72							360	$75,502
Subtask 4110: Project Meetings	81	97	217									395	$73,437
Task 4200: Construction Administration													
Subtask 4205: Requests for Information	60	76	164									300	$55,704
Subtask 4210: Construction Change Management	50	30	120									200	$37,507
Subtask 4215: Submittal Review	408	328	1224	80								2040	$379,112
Subtask 4220: Site Visits	174	248	690	40								1152	$210,750
Subtask 4225: Operations Manual System (OMS) Development	90	120	390									600	$108,554
Subtask 4230: Online Training Services													
Subtask 4235: Commissioning Related Services	288	248	864	40								1440	$267,126
Subtask 4240: Substantial Completion, Final Completion, and Correction Period Support	90	70	270	20								450	$83,696
Subtask 4245: Record Drawings and Master P&ID Drawings	48	32	120									200	$37,393
Subtask 4270: Concrete Testing													
Subtask 4295: Third Party Special Inspections and Material Testing													
Task 4500: Additional Services													
Subtask 4505: Concrete Repair Coordination Meeting & Observation													
Subtask 4515: Witness Testing													
Subtask 4520: Outage Form Support													
Subtask 4525: Arc Flash Study Review	6	4	14									24	$4,508

[redacted]													3/3/2025
Services During Construction, Level-of-Effort Budget Estimate													
Subtask 4550: Permit Plan													
Subtotal ASE Labor	1583	1253	4073	180	72							7161	$1,333,291
360Water (Task 4230)													$443,000
Subtotal Subconsultants													$1,776,291

[redacted]

Services During Construction, Level-of-Effort Budget Estimate

3/3/2025

Jacobs Expenses													
Miscellaneous Expenses													$20,000
Travel													
Design Manager (on-site 2 weeks per month through SC)													
Intercity Travel (Columbus to Cincinnati), $0.7/mi										No. of Trips:	78		$10,920
Lodging ($156/day)										Nights per Trip:	4		$48,672
M&IE Expenses ($86/day)										Days per Trip:	5		$33,540
Miscellaneous Expenses (Lodging taxes, etc.), $100 per trip													$7,800
Discipline Design Engineers (on-site 2 trips per month through AT)													
Intercity Travel, assume average flight cost $600										No. of Trips:	96		$57,600
Local Transportation Expenses ($100/day)										Nights per Trip:	3		$38,400
Lodging ($156/day)										Days per Trip:	4		$44,928
M&IE Expenses ($86/day)													$33,024
Miscellaneous Expenses (Lodging taxes, etc.), $250 per trip													$24,000
Temporary Living Expenses for On-site Design Engineers (2)													
Relocate to and from Cincinnati													$30,000
Monthly Rental, 1 BR extended stay, $1850/mo										No. of Months:	40		$148,000
Monthly Utilities & Incidentals, $400/mo													$32,000
Local Transportation Expenses ($1000/mo)													$80,000
Trips Home (2 times per month)													$96,000
ASE Expenses													
Miscellaneous Expenses													$13,290
Subtotal Expenses													$718,174

Summary			
Jacobs Labor Cost	$ 6,644,950		
Expenses (Jacobs, ASE)	$ 718,174		
Subconsultants - Direct Cost	$ 1,776,291		
Jacobs Mark-up on Subconsultants	$ 88,815	5%	mark-up
TOTAL ESTIMATED COST	**$ 9,228,229**		

Assumptions:

- Subtask 4110: Project Meetings - 250 project meetings
- Subtask 4205: Requests for Information - 1,300 RFIs
- Subtask 4210: Construction Change Management - 175 Change Management forms and documents
- Subtask 4215: Submittal Review - 2,000 Submittals
- Subtask 4385: [redacted] Training (Process) - 9 Main Process Areas

[redacted]

Jacobs

[redacted]	FINAL, April 30, 2025	GMP 3 Proposal Construction Work Tab 06: Commissioning and Startup Pricing

PURPOSE OF THIS TAB

This tab summarizes the commissioning direct costs for this project.

WBS	DESCRIPTION	UNIT	QTY	UC	TOTAL	NOTES
Materials and Subcontractors					**$ 1,119,500**	
	Third-Party Lab Costs	LS	1.00	$ 167,200	$ 167,200	23 weeks includes - 2 weeks of process startup for heating and filling digesters with seed sludge, 9 weeks for filling digester 1, 6 weeks each for digester 2 and digester 3. Full costing table available in Appendix F.
	Onsite Laboratory Costs	LS	1.00	$ 43,800	$ 43,800	Includes microwave/IR Solids Analyzer, pH meter/probe, Spectrophotometer, vacuum pump, and analyzer consumables. 20% factor includes glassware, wipes, etc. Assumes we have full use of new lab space, (19) weeks.
	Sludge Hauling (Seeding)	LS	1.00	$ 165,000	$ 165,000	Could be less with larger haulers. 600 KGAL, $0.25 / GAL, $150K - 180K for sludge trucking, used mid point.
	Temporary Components (Seeding)	LS	1.00	$ 5,000	$ 5,000	Pumps, fittings, hoses, etc. on loading and dumping ends
	Nitrogen Gas (Digester Purge)	LS	1.00	$ 285,000	$ 285,000	530,000 FT3, $0.49 / FT3. Cost came from similar project in December of 2024 (Nate Ebbs).
	Temporary Components (Digester Purge)	LS	1.00	$ 3,000	$ 3,000	
	Temporary Compressor	LS	1.00	$ 4,000	$ 4,000	
	Thickening and Dewatering Polymer	MO	3.00	$ 118,667	$ 356,000	$2.50 / LB, using 48,000 LB for thickening and 81,000 LB for dewatering.
	Thickening Bypass Pumping	LS	1.00	$ 5,000	$ 5,000	See following page for sketch of approach. Bypassing will be required during initial testing (pumping in a loop).
	Spare Parts / Maintenance	LS	1.00	$ 75,000	$ 75,000	Additional spares consumed during commissioning such that [redacted] has a full shelf of spares when project is complete.
	Air Permit Exhaust Testing	LS	1.00	$ -	$ -	Excluded from price as this is not anticipated; do we need to carry something in an Allowance?
	Additional Process Equipment, Valve, and Appurtenance Tagging	LS	1.00	$ 10,000	$ 10,000	Additional miscellaneous tags not included elsewhere to meet overall project standard / needs / requirements.

PURPOSE OF THIS TAB

This tab summarizes the commissioning direct costs for this project.

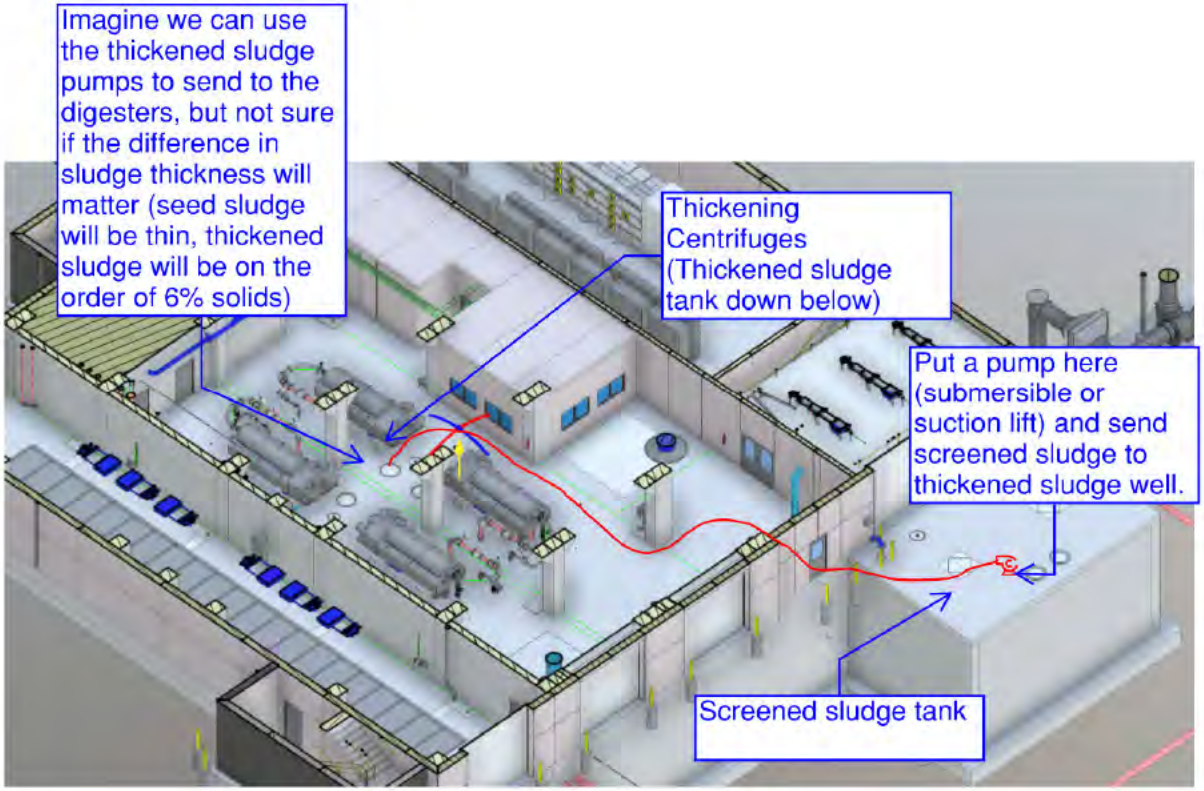
MIC Testing for SST Digesters		LS	1.00	$	500	$ 500

Calculate Polymer Cost for Startup/Commissioning

Parameter	Thickening Polymer	Dewatering Polymer	Units	Notes
Average Day Polymer Usage	177	505	lb/day	From Basis of design Memo (11/1/24) Section 6, Appendix A
Start Date	12/2/2027	3/24/2028	--	Based on Startup and Testing (Process Performance Testing Begin date)
End Date	8/31/2028	8/31/2028	--	Based on CIP Schedule; ed of project schedule
Total Days	273	160	days	
Total Polymer Usage	48321	80800	lbs	
Polymer Unit Cost	$ 2.50	$ 2.50	$/lb emulsion	From Digester Alts Analysis TM
Polymer Cost Subtotal	$ 120,803	$ 202,000		
Uncertainty Factor	10%	10%		
Total Polymer Cost	$ 132,883	$ 222,200		
Total Polymer Cost (Rounded)	$ 133,000	$ 223,000		
Total Polymer Cost (Rounded)	**$ 356,000**			

PURPOSE OF THIS TAB

This tab summarizes the commissioning direct costs for this project.



[redacted]

Jacobs

GMP 3 Proposal
Construction Work

[redacted]

FINAL, April 30, 2025

Tab 09: Allowance and Alternate Pricing

PURPOSE OF THIS TAB

This tab summarizes possible / proposed Allowances and Alternates for this work proposal. Some items discussed below do not have dollar amounts that are reflected on the front page. Please see each line for details.

Line	Description	UNIT	QTY	UC	TOTAL
ALLOWANCE 1: Third Party Testing		**LS**	**1**	**$ 1,260,000**	**$ 1,260,000**
	Purpose of Allowance				
	This is included as an Allowance per [redacted]s request. See attached build-up worksheet using Terracon rates (Appendix E).				
	Allowance Overview				
7.7.1.1	The cost of the components identified in the Allowance Proposal; *Labor and laboratory services.*				
7.7.1.2	The City's Basis of Design, which shall be set forth in detail and attached to each Allowance Proposal; *The 60% GMP set.*				
7.7.1.3	A List of the assumptions and clarifications made by Design-Builder in the preparation of each Allowance Proposal, which is intended to supplement the information contained in the drawings and specifications and is specifically included as part of the City's Basis of Design; *See build up for CMT quantities and costs. CWI cost is from [redacted] for this project.*				
7.7.1.4	The scheduled date for performance and completion of the activity upon which the Allowance Proposal is based; *Provided throughout the project.*				
7.7.1.5	To the extent applicable, a list of Allowance items, Allowance values, and a statement of their bases; a schedule of alternate prices; and a schedule of unit prices; *As noted below and provided in Appendix E.*				
7.7.1.6	The time limit for acceptance of the Allowance Proposal, which shall allow 60 days for the City's legislative approval after the City's review of the Allowance Proposal, when the cumulative total of the lump sum amounts of every Allowance Proposal exceeds the Allowance; *Noted.*				
	Cost of Work Assumptions	**LS**	**1**	**$ 1,200,000**	**$ 1,200,000**
	Third Party Testing (Construction Materials Testing, estimate buildup included in Appendix E)	LS	1	$ 900,000	$ 900,000
	Third Party Testing (Certified Welding Inspection, SST Tanks)	LS	1	$ 300,000	$ 300,000
	General Conditions, Bonds, Insurance, Taxes, and DB Fee	**LS**	**1**	**$ 60,000**	**$ 60,000**
	Design-Builder General Conditions on previous	PCT		$ 1,200,000	$ -
	Design-Builder Fee on previous	PCT	5.00%	$ 1,200,000	$ 60,000
ALLOWANCE 2: Tank Restoration, Leak Testing, Crack Injection		**LS**	**1**	**$ 281,765**	**$ 281,765**
	Purpose of Allowance				
	The quantities for concrete repair in the existing tanks cannot be known until right before work commences. We have obtained budget pricing from several tank restoration subcontractors. Please reference Appendix E.				

PURPOSE OF THIS TAB

This tab summarizes possible / proposed Allowances and Alternates for this work proposal. Some items discussed below do not have dollar amounts that are reflected on the front page. Please see each line for details.

Allowance Overview

7.7.1.1	The cost of the components identified in the Allowance Proposal; ***Budget quotes from tank restoration contractors.***
7.7.1.2	The City's Basis of Design, which shall be set forth in detail and attached to each Allowance Proposal; ***Typical repairs of this type.***
7.7.1.3	A List of the assumptions and clarifications made by Design-Builder in the preparation of each Allowance Proposal, which is intended to supplement the information contained in the drawings and specifications and is specifically included as part of the City's Basis of Design; ***We have communicated all information available to multiple tank repair subcontractors and provided them the approximate quantities listed below.***
7.7.1.4	The scheduled date for performance and completion of the activity upon which the Allowance Proposal is based; ***This work would be done towards the end of the project and will not be critical path.***
7.7.1.5	To the extent applicable, a list of Allowance items, Allowance values, and a statement of their bases; a schedule of alternate prices; and a schedule of unit prices; ***Vertical and horizontal concrete repairs, quantities for both tanks as detailed below.***
7.7.1.6	The time limit for acceptance of the Allowance Proposal, which shall allow 60 days for the City's legislative approval after the City's review of the Allowance Proposal, when the cumulative total of the lump sum amounts of every Allowance Proposal exceeds the Allowance; ***Noted.***

Cost of Work Assumptions	**LS**	**1**	**$**	**235,000**	**$**	**235,000**
Sludge Holding Tank Concrete Repairs, Vertical	VSF	1,000	$	135	$	135,000
Sludge Holding Tank Concrete Repairs, Horizontal	HSF	500	$	150	$	75,000
NOTE: Unit rates used above are not locked in. We can rebid at the time of the Work.						
Water Tightness Testing for Existing Tanks, Including Potential Crack Injection	LS	1	$	25,000	$	25,000
General Conditions, Bonds, Insurance, Taxes, and DB Fee	**LS**	**1**	**$**	**46,765**	**$**	**46,765**
Design-Builder General Conditions on previous	PCT	11.50%	$	235,000	$	27,025
Design-Builder Fee on previous	PCT	8.40%	$	235,000	$	19,740
ALLOWANCE 3: Tariffs	**LS**	**1**	**$**	**5,000,000**	**$**	**5,000,000**

Purpose of Allowance

This Allowance is to allow for a mechanism to pay for tariffs / escalation. The mechanism still needs to be negotiated with [redacted]. If not spent on tariffs / escalation, this Allowance could be used to fund improvements / enhancements or 90% client comments / requested additions.

Allowance Overview

PURPOSE OF THIS TAB

This tab summarizes possible / proposed Allowances and Alternates for this work proposal. Some items discussed below do not have dollar amounts that are reflected on the front page. Please see each line for details.

7.7.1.1	The cost of the components identified in the Allowance Proposal; *Escalation / Tariffs*					
7.7.1.2	The City's Basis of Design, which shall be set forth in detail and attached to each Allowance Proposal; *Escalation / Tariffs*					
7.7.1.3	A List of the assumptions and clarifications made by Design-Builder in the preparation of each Allowance Proposal, which is intended to supplement the information contained in the drawings and specifications and is specifically included as part of the City's Basis of Design; *See Tab 10.6.*					
7.7.1.4	The scheduled date for performance and completion of the activity upon which the Allowance Proposal is based; *Escalation / Tariffs*					
7.7.1.5	To the extent applicable, a list of Allowance items, Allowance values, and a statement of their bases; a schedule of alternate prices; and a schedule of unit prices; *Escalation / Tariffs*					
7.7.1.6	The time limit for acceptance of the Allowance Proposal, which shall allow 60 days for the City's legislative approval after the City's review of the Allowance Proposal, when the cumulative total of the lump sum amounts of every Allowance Proposal exceeds the Allowance; *Noted.*					
Cost of Work Assumptions		**LS**	**1**	**$ -**	**$**	**-**
	GMP 2 Credit from Allowances **The intention is that left over Allowance dollars from GMP2 will fill the Allowance 3 bucket.**	LS	1	$ -	$	-
	Escalation / Tariffs	LS	1	$ -	$	-
	Improvements / Enhancements (Precast, Digester Steel)	LS	1	See previous.		
	Client 90% Comments	LS	1	See previous.		
General Conditions, Bonds, Insurance, Taxes, and DB Fee		**LS**	**1**	**$ -**	**$**	**-**
	Design-Builder General Conditions on previous	PCT	11.50%	$ -	$	-
	Design-Builder Fee on previous	PCT	8.40%	$ -	$	-
ALLOWANCE 4: Tenant Improvements (Buildings, Landscaping, Etc.)		**LS**	**1**	**$ 255,807**	**$**	**255,807**
Purpose of Allowance						
	This Allowance is to provide [redacted] flexibility in the final fit out of the buildings, provide a mechanism for any additional spare parts beyond what is included in the GMP, provide flexibility in the final landscaping design should it be necessary to make the neighbors happy. The quantities provided below are from the Appendix A (or reasonably inferred).					
Allowance Overview						
7.7.1.1	The cost of the components identified in the Allowance Proposal; *Example quotes are provided for items below in Appendix D.*					

PURPOSE OF THIS TAB

This tab summarizes possible / proposed Allowances and Alternates for this work proposal. Some items discussed below do not have dollar amounts that are reflected on the front page. Please see each line for details.

7.7.1.2	The City's Basis of Design, which shall be set forth in detail and attached to each Allowance Proposal; ***The 60% design used in the GMP, modified per the reasonable anticipated work noted below.***
7.7.1.3	A List of the assumptions and clarifications made by Design-Builder in the preparation of each Allowance Proposal, which is intended to supplement the information contained in the drawings and specifications and is specifically included as part of the City's Basis of Design; ***Reasonably anticipated work is listed below.***
7.7.1.4	The scheduled date for performance and completion of the activity upon which the Allowance Proposal is based; ***This work is not critical path. [redacted] selections can be made during construction so that materials are onsite and ready for installation when needed.***
7.7.1.5	To the extent applicable, a list of Allowance items, Allowance values, and a statement of their bases; a schedule of alternate prices; and a schedule of unit prices; ***Unit prices are listed below, where applicable, for typical types of options for a project of similar nature.***
7.7.1.6	The time limit for acceptance of the Allowance Proposal, which shall allow 60 days for the City's legislative approval after the City's review of the Allowance Proposal, when the cumulative total of the lump sum amounts of every Allowance Proposal exceeds the Allowance; ***Noted.***

Cost of Work Assumptions	**LS**	**1**	**$**	**213,350**	**$**	**213,350**
Building and Office Equipment and Furnishings						
Printer, Upright Multifunction	EA	1	$	14,000	$	14,000
Fridge, 17 cuft	EA	1	$	3,500	$	3,500
Fridge, Laboratory	EA	1	$	6,000	$	6,000
Drinking Fountains	EA	2	$	2,875	$	5,750
White Boards	EA	2	$	500	$	1,000
First Aid Cabinets	EA	2	$	750	$	1,500
Microwaves, Laboratory	EA	2	$	6,000	$	12,000
Laboratory Sink and Faucet	EA	1	$	3,500	$	3,500
Utility Sinks and Faucets	EA	1	$	2,000	$	2,000
Additional Bathroom Accessories (beyond GMP inclusions)	EA	1	$	5,000	$	5,000
Furniture, Operator Spaces	EA	1	$	10,000	$	10,000
Furniture, Control Room	EA	1	$	7,000	$	7,000
Laboratory Equipment, Miscellaneous	EA	1	$	10,000	$	10,000
Casework and Lab Space Counters	EA	1	$	30,000	$	30,000
Casework and Kitchen Counters	EA	1	$	15,000	$	15,000
Lockers	EA	12	$	850	$	10,200
Benches	EA	2	$	950	$	1,900
Landscaping All seeding / grass included in the GMP. Trees and Shrubs	LS	1	$	25,000	$	25,000
Spare Parts Additional spare parts beyond what is already included in recommend list from vendors	LS	1	$	50,000	$	50,000
General Conditions, Bonds, Insurance, Taxes, and DB Fee	**LS**	**1**	**$**	**42,457**	**$**	**42,457**

PURPOSE OF THIS TAB

This tab summarizes possible / proposed Allowances and Alternates for this work proposal. Some items discussed below do not have dollar amounts that are reflected on the front page. Please see each line for details.

	Design-Builder General Conditions on previous	PCT	11.50%	$	213,350	$	24,535
	Design-Builder Fee on previous	PCT	8.40%	$	213,350	$	17,921
ALLOWANCE 5: ITC Incentive		**LS**	**1**	**$**	**1,000,000**	**$**	**1,000,000**
Purpose of Allowance							
	The Prime Agreement allows for a $1M incentive to finish the project on time to meet the tax credit requirements.						
Allowance Overview							
7.7.1.1	The cost of the components identified in the Allowance Proposal; ***$1M incentive based on dates included with the final GMP schedule.***						
7.7.1.2	The City's Basis of Design, which shall be set forth in detail and attached to each Allowance Proposal; ***$1M incentive based on dates included with the final GMP schedule.***						
7.7.1.3	A List of the assumptions and clarifications made by Design-Builder in the preparation of each Allowance Proposal, which is intended to supplement the information contained in the drawings and specifications and is specifically included as part of the City's Basis of Design; ***$1M incentive based on dates included with the final GMP schedule.***						
7.7.1.4	The scheduled date for performance and completion of the activity upon which the Allowance Proposal is based; ***$1M incentive based on dates included with the final GMP schedule.***						
7.7.1.5	To the extent applicable, a list of Allowance items, Allowance values, and a statement of their bases; a schedule of alternate prices; and a schedule of unit prices; ***$1M incentive based on dates included with the final GMP schedule.***						
7.7.1.6	The time limit for acceptance of the Allowance Proposal, which shall allow 60 days for the City's legislative approval after the City's review of the Allowance Proposal, when the cumulative total of the lump sum amounts of every Allowance Proposal exceeds the Allowance; ***Noted.***						
Cost of Work Assumptions		**LS**	**1**	**$**	**1,000,000**	**$**	**1,000,000**
	Design-Builder Timely Completion Incentive	LS	1	$	1,000,000	$	1,000,000
General Conditions, Bonds, Insurance, Taxes, and DB Fee		**LS**	**1**	**$**	**-**	**$**	**-**
	Design-Builder General Conditions on previous						
	Design-Builder Fee on previous						
SUBTOTAL, ALL ALLOWANCES		**LS**	**1**	**$**	**7,797,572**	**$**	**7,797,572**

5	10	10	10	10	10	10	10	10	10

PURPOSE OF THIS TAB

This tab summarizes the methods for building up the contingency request.

1.0 EXECUTIVE SUMMARY

The Contingency Recommendation for the project was built up using several methodologies (detailed in sections below). The following table summarizes the results of the contingency evaluation processes and presents our recommendation for what the project should carry for contingency.

Component of Contingency Recommendation	Typical Range, Low	Typical Range, High	Included in this Proposal	Corresponding Value	Notes
Weather Days, Extended Overhead					See Risk Register.
Design Evolution and Design Changes	2.50% (Of Cost of Work)	6.00% (Of Cost of Work)	**4.30%** (Of Cost of Work)	**$ 5,120,768**	See Tab 10.3 for Risk Outputs.
Risk Events and Impacts	1.00% (Of Cost of Work)	5.00% (Of Cost of Work)	**3.96%** (Of Cost of Work)	**$ 7,775,956**	See Tab 10.3 for Risk Outputs.
Schedule	(Of Cost of Work)	(Of Cost of Work)	(Of Cost of Work)		Included in Risk Events and Impacts for this package.
Escalation	(Of Cost of Work)	(Of Cost of Work)	(Of Cost of Work)		N / A for this proposal, see Assumptions and Clarifications.
			SUBTOTAL:	**$ 12,896,724**	
Assumed DB GCs (11.5%) on Above		PCT	11.50%	$ 1,483,123	Covered on Tab 00-E.
Assumed DB Fee (8.4%) on Above		PCT	8.40%	$ 1,083,325	Covered on Tab 00-E.
TOTAL FOR TAB 00E					Covered on Tab 00-E.

2.0 CONSTRUCTION SCOPE GAP

2.1 METHODOLOGY

Design Evolution is defined as the percent of the scope of work that is added between the GMP and the 100% design. This scope addition is a typical part of the design-build process and is controlled using effective Scope Management.

Design Change is defined as the percent of the scope of work that is added between 100% design and the completion of the project. This scope addition is a typical part of the delivery of all construction work, regardless of delivery method.

Expected Design Evolution varies depending on the scope element. For example, certain elements of the design are subject to more change between the GMP (at 60% design in this case) and the 100% design. Electrical design will evolve significantly in this time period whereas site civil will not. This approach allows a very granular application of Design Evolution to each particular project.

Expected Design Changes also varies depending on the scope element. Historical data demonstrates that certain components of the design are more susceptible to design errors and omissions. Building trade work (masonry, windows) generally experiences a far lower susceptibility to Design Changes than electrical work.

The following sections detail the scope of work for the project and apply Design Evolution and Design Change percentages on a granular level.

2.2 DESIGN-BUILDER CONSTRUCTION SERVICES

2.3 DESIGN-BUILDER PURCHASING

$ 11,781,832 | 2.32% | 3.00% | $ 273,217 | $ 353,455

DESCRIPTION	UNIT	QTY	UC	TOTAL	Predicted DE	Predicted DC	DE Δ Cost	DC Δ Cost	NOTES
Progressing Cavity Pumps (2201)	LS	1	$ 748,806	$ 748,806	2.00%	3.00%	$ 14,976	$ 22,464	Moyno
Digester Gas Safety Equipment and Specialties	LS	1	$ 715,307	$ 715,307	2.00%	3.00%	$ 14,306	$ 21,459	Varec
Chopper Pumps and Nozzle Mixing Systems	LS	1	$ 685,349	$ 685,349	2.00%	3.00%	$ 13,707	$ 20,560	Vaughan
Sludge Heat Exchanger (2205)	LS	1	$ 546,177	$ 546,177	2.00%	3.00%	$ 10,924	$ 16,385	Alfa Laval
Sludge Screens	LS	1	$ 650,062	$ 650,062	2.00%	3.00%	$ 13,001	$ 19,502	Hydro
Polymer Feed System	LS	1	$ 417,288	$ 417,288	2.00%	3.00%	$ 8,346	$ 12,519	Velodyne
Chemical Feed Pumps (Ferric)	LS	1	$ 104,227	$ 104,227	2.00%	3.00%	$ 2,085	$ 3,127	Blue & White
Screw Conveyor System (2211)	LS	1	$ 540,784	$ 540,784	2.00%	3.00%	$ 10,816	$ 16,224	JMS
Cake Storage and Loadout System	LS	1	$ 1,974,096	$ 1,974,096	2.00%	3.00%	$ 39,482	$ 59,223	JMS
Vertical Centrifugal Pumps (2213)	LS	1	$ 255,740	$ 255,740	2.00%	3.00%	$ 5,115	$ 7,672	Grundfos
Fiberglass Reinforced Plastic Tanks (2214)	LS	1	$ 580,544	$ 580,544	2.00%	3.00%	$ 11,611	$ 17,416	Belding
Boilers	LS	1	$ 856,929	$ 856,929	2.00%	3.00%	$ 17,139	$ 25,708	Hurst
Activated Carbon Odor Control System (2218)	LS	1	$ 1,435,695	$ 1,435,695	2.00%	3.00%	$ 28,714	$ 43,071	Eco Verde
Digester Mixing Chopper Pumps and Nozzle Mixing	LS	1	$ 288,878	$ 288,878	2.00%	3.00%	$ 5,778	$ 8,666	Landia
Ferric Sump Pumps	LS	1	$ 110,131	$ 110,131	2.00%	3.00%	$ 2,203	$ 3,304	Vanton
Digester Gas Holder System	LS	1	$ 433,808	$ 433,808	2.00%	3.00%	$ 8,676	$ 13,014	Ovivo
Sluice Gates	LS	1	$ 45,699	$ 45,699	2.00%	3.00%	$ 914	$ 1,371	RW Gate
Screw-Induced Flow Centrifugal Pumps	LS	1	$ 312,198	$ 312,198	2.00%	3.00%	$ 6,244	$ 9,366	Hayward Gordon
Induced Flow (Recessed Impeller) Centrifugal Pumps	LS	1	$ 230,928	$ 230,928	2.00%	3.00%	$ 4,619	$ 6,928	Trillium
Motorized Automatic Strainer (2228)	LS	1	$ 148,500	$ 148,500	2.00%	3.00%	$ 2,970	$ 4,455	SP Kinney
Horizontal End Suction Pumps (2229)	LS	1	$ 184,431	$ 184,431	2.00%	3.00%	$ 3,689	$ 5,533	Grundfos
VRF HVAC Systems	LS	1	$ 305,000	$ 305,000	10.00%	3.00%	$ 30,500	$ 9,150	Mitsubishi
Miscellaneous Equipment	LS	1	$ 164,755	$ 164,755	10.00%	3.00%	$ 16,476	$ 4,943	Multiple
Sound Dampening Panels	LS	1	$ 46,500	$ 46,500	2.00%	3.00%	$ 930	$ 1,395	Eckel

2.4 CONSTRUCTION SUBCONTRACTS

$ 105,015,429 | 2.01% | 2.27% | $ 2,114,287 | $ 2,379,810

DESCRIPTION	UNIT	QTY	UC	TOTAL	Predicted DE	Predicted DC	DE Δ Cost	DC Δ Cost	NOTES
General Subcontractor	LS	1	$ 55,364,625	$ 55,364,625	1.50%	2.00%	$ 830,469	$ 1,107,293	Needs to be tightly controlled.
Digester Tanks Subcontractor	LS	1	$ 7,872,565	$ 7,872,565	2.00%	3.00%	$ 157,451	$ 236,177	
Architectural Precast Subcontractor	LS	1	$ 3,496,550	$ 3,496,550	2.00%	3.00%	$ 69,931	$ 104,897	
Roofing Subcontractor	LS	1	$ 613,300	$ 613,300	2.00%	3.00%	$ 12,266	$ 18,399	
Overhead Door Subcontractor	LS	1	$ 185,053	$ 185,053	2.00%	3.00%	$ 3,701	$ 5,552	
Painting and Coating Subcontractor	LS	1	$ 1,971,688	$ 1,971,688	2.00%	3.00%	$ 39,434	$ 59,151	
Bridge Crane Subcontractor	LS	1	$ 398,998	$ 398,998	2.00%	3.00%	$ 7,980	$ 11,970	
Rigid Inclusions Subcontractor	LS	1	$ 1,313,000	$ 1,313,000	2.00%	3.00%	$ 26,260	$ 39,390	

Deduct for Rigid Inclusions Early Work	LS	1	$ (50,000)	$ (50,000)	2.00%	3.00%	$ (1,000)	$ (1,500)	
Fire Protection Subcontractor	LS	1	$ 401,331	$ 401,331	10.00%	3.00%	$ 40,133	$ 12,040	Historically the worst.
Plumbing / HVAC Subcontractor	LS	1	$ 4,428,768	$ 4,428,768	3.00%	3.00%	$ 132,863	$ 132,863	Historically higher.
Electrical Subcontractor	LS	1	$ 21,700,700	$ 21,700,700	3.00%	2.00%	$ 651,021	$ 434,014	Historically higher.
Instrumentation, Controls, and Programming Subcontractor	LS	1	$ 7,188,851	$ 7,188,851	2.00%	3.00%	$ 143,777	$ 215,666	
Truck Scale Subcontractor	LS	1	$ 130,000	$ 130,000	0.00%	3.00%	$ -	$ 3,900	

5.0 SCHEDULE

No additional monte carlo silumation was completed on the schedule.

[redacted]

Jacobs

[redacted]	FINAL, April 30, 2025	GMP 3 Proposal Construction Work Tab 10.2 Risk Model Inputs

PURPOSE OF THIS TAB

This tab summarizes the risk inputs that Deltek Acumen uses to run the risk simulations. The schedule of values is a summary of the estimate in a format the software uses to map the risks that allows for the outputs shown on Tab 10.3.

Line	Description		
	Schedule of Values for Cost of Work Included in Acumen Simulation	**$ 118,383,711**	
	DESIGN-BUILDER GENERAL CONDITIONS		
	DESIGN-BUILDER SDC's		
	PROCUREMENT	$ 11,781,832	
	CONSTRUCTION SUBCONTRACTS	$ 105,462,379	
	DESIGN-BUILDER START-UP & COMMISSIONING	$ 1,139,500	
	DESIGN-BUILDER INSTRUMENTATION, CONTROLS, & PROGRAMMING		

Risk Summary: Design-Builder

Enabled	ID	Type	Description	Probability	Cost	Score
Jacobs	0-1000-TP-1	Threat	Third Party, Neighborly Peace Keeping	20	$ 150,000	
Jacobs	0-1000-TP-3	Threat	Third Party, Permitting Delays	10	$ 78,835	
Jacobs	0-1000-DS-1	Threat	DSC, Hazardous Materials in Existing Facilities	10	$ 25,000	
Jacobs	0-1000-DS-3	Threat	DSC, Unknown Utilities	20	$ 100,000	
Jacobs	0-1000-DS-7	Threat	DSC, Hazardous Materials	10	$ 50,000	
Jacobs	0-1000-DS-9	Threat	DSC, Damage to Existing Utilities	20	$ 50,000	
Jacobs	0-1000-DS-12	Threat	DSC, High Groundwater	20	$ 80,000	
Jacobs	0-1000-FM-3	Threat	Force Majeure, Event Impacts Project	20	$ 827,891	
Jacobs	0-1000-FM-4	Threat	Force Majeure, Weather Impacts Beyond Prime Agreement	10	$ 827,891	
Jacobs	0-1000-OR-1	Threat	Organizational, Staffing	5	$ 827,891	
Jacobs	0-1000-OR-2	Threat	Organizational, Prompt Payment	20	$ 1,655,781	
Jacobs	0-1000-PO-2	Threat	MOPO, SEC Turbine Blower Swap Out	5	$ 10,000	
Jacobs	0-1000-PO-3	Threat	MOPO, SRC Sludge Diversion	10	$ 25,000	

PURPOSE OF THIS TAB

This tab summarizes the risk inputs that Deltek Acumen uses to run the risk simulations. The schedule of values is a summary of the estimate in a format the software uses to map the risks that allows for the outputs shown on Tab 10.3.

Jacobs	0-1000-PO-4	Threat	MOPO, SHF and Tunnel Work	10	$	50,000
Jacobs	0-1000-PO-5	Threat	MOPO, MCC 7 Shutdown	20	$	50,000
Jacobs	0-1000-PO-6	Threat	MOPO, MCC 7 Existing Buckets	5	$	100,000
Jacobs	0-1000-PO-7	Threat	MOPO, MV Crossings, Existing Outages	10	$	50,000
Jacobs	0-1000-PO-8	Threat	MOPO, Sludge Hauling Temporary Provisions	10	$	25,000
Jacobs	0-1000-PO-9	Threat	MOPO, MCC 1B Shutdown	20	$	50,000
Jacobs	0-1000-PO-10	Threat	MOPO, PPL Cutover	10	$	25,000
Jacobs	0-1000-PO-11	Threat	MOPO, NPW Replacement	5	$	5,000
Jacobs	0-1000-PO-12	Threat	MOPO, SCADA Ring	5	$	5,000
Jacobs	0-1000-PO-16	Threat	Plant Operations, Operability of Existing Valves and Gates	20	$	75,000
Jacobs	0-1000-PO-16	Threat	Plant Operations, Odors at Fenceline	5	$	1,684,898
Jacobs	0-1000-DG-11	Threat	Design, Performance Test Restart	30	$	340,407
Jacobs	0-1000-SD-1	Opportunity	SDC, Opportunity that LOE is Lower	20	$	250,000
Jacobs	0-1000-SD-2	Threat	SDC, Risk that LOE is Short	20	$	250,000
Jacobs	0-1000-SD-3	Threat	SDC, Staff Availability and Turnover	20	$	250,000
Jacobs	0-1000-SD-4	Threat	SDC, [redacted] Dual Review	10	$	250,000
Jacobs	0-2000-PA-1	Threat	Vendors, General, GMP Review Time	20	$	285,000
Jacobs	0-2000-PA-2	Threat	Vendors, General, Additional Vendor Training Time	20	$	100,000
Jacobs	0-2000-PA-3	Threat	Vendors, General, Performance Requirement Gaps	10	$	285,000

PURPOSE OF THIS TAB

This tab summarizes the risk inputs that Deltek Acumen uses to run the risk simulations. The schedule of values is a summary of the estimate in a format the software uses to map the risks that allows for the outputs shown on Tab 10.3.

Jacobs	0-2201-PA-2	Threat	Vendors, Procav Pumps, Domestic Content	10	$	100,000
Jacobs	0-2105-PA-1	Threat	Vendors, CNPW Tank, Tank Replacement	10	$	15,000
Jacobs	0-2201-PA-1	Threat	Vendors, Procav Pumps, 90% Design	30	$	102,000
Jacobs	0-2203-PA-1	Threat	Vendors, Gas Safety, Additional Pieces, 90% Design	20	$	107,250
Jacobs	0-2204-PA-1	Threat	Vendors, Chopper Pumps, Reliability	20	$	68,500
Jacobs	0-2204-PA-2	Threat	Vendors, Chopper Pumps, Sludge Viscosity, 90% Design	20	$	102,750
Jacobs	0-2206-PA-1	Threat	Vendors, Sludge Screens, Commissioning Performance	10	$	97,500
Jacobs	0-2209-PA-1	Threat	Vendors, Polymer System Unit Responsibility	10	$	61,950
Jacobs	0-2211-PA-1	Threat	Vendors, Screw Conveyor and Cake Storage, 90% Design	10	$	249,000
Jacobs	0-2213-PA-1	Threat	Vendors, VC Pumps, Motor Changes, 90% Design	20	$	50,400
Jacobs	0-2214-PA-1	Threat	Vendors, FRP Tanks Size Increase, 90% Design	20	$	62,300
Jacobs	0-2214-PA-2	Threat	Vendors, FRP Tanks Outlet Size and Count	10	$	31,150
Jacobs	0-2215-PA-1	Threat	Vendors, DG / NG Builders PLC	10	$	50,000
Jacobs	0-2215-PA-2	Threat	Vendors, DG / NG Extended Warranty	20	$	50,000
Jacobs	0-2218-PA-1	Threat	Vendors, Odor Control, Overall Cost	10	$	500,000
Jacobs	0-2221-PA-1	Opportunity	Vendors, Sump Pumps, Opportunity for Lower Cost, 90% Design	20	$	50,000
Jacobs	0-2228-PA-1	Threat	Vendors, Strainer, Vendor Performance	20	$	50,000
Jacobs	0-2229-PA-1	Threat	Vendors, HESC Pumps, Motor Changes, 90% Design	20	$	37,200
Jacobs	5-4000-SC-1	Threat	SC General, Jacobs and Subcontractor Safety Programs	10	$	25,000

PURPOSE OF THIS TAB

This tab summarizes the risk inputs that Deltek Acumen uses to run the risk simulations. The schedule of values is a summary of the estimate in a format the software uses to map the risks that allows for the outputs shown on Tab 10.3.

Jacobs	5-4000-SC-2	Threat	SC General, No SDI	20	$	2,655,781
Jacobs	5-4000-SC-3	Threat	SC General, Vandalism Responses	20	$	340,000
Jacobs	5-4000-SC-4	Threat	SC General, MBE / WBE Replacement+	20	$	382,398
Jacobs	5-4000-SC-5	Threat	SC General, Key Subcontractor Replacement	10	$	250,000
Jacobs	5-4101-SC-2	Threat	SC GS, Site Maintenance	20	$	30,000
Jacobs	5-4101-SC-3	Threat	SC GS, Snow Removal	20	$	15,000
Jacobs	5-4101-SC-4	Threat	SC GS, Critical Path	10	$	2,483,672
Jacobs	5-4101-SC-5	Threat	SC GS, Yard Pipe Offsite, Additional Scope	40	$	30,000
Jacobs	5-4101-SC-6	Threat	SC GS, Yard Pipe Offsite, Productivity	20	$	50,000
Jacobs	5-4101-SC-7	Threat	SC GS, Condensate Manholes	10	$	40,000
Jacobs	5-4101-SC-8	Threat	SC GS, Tie In Location	20	$	50,000
Jacobs	5-4101-SC-9	Opportunity	SC GS, Opportunity, Tie In Location	20	$	30,000
Jacobs	5-4101-SC-10	Threat	SC GS, Carroll Inside Drop	20	$	30,000
Jacobs	5-4101-SC-11	Threat	SC GS, Excavation Slope Covers	20	$	40,000
Jacobs	5-4101-SC-13	Threat	SC GS, Building Department Re-Inspections	10	$	25,000
Jacobs	5-4101-SC-14	Threat	SC GS, Temporary Heat	20	$	100,000
Jacobs	5-4101-SC-15	Threat	SC GS, Pipe Installation Productivity	20	$	180,000
Jacobs	5-4101-SC-16	Threat	SC GS, Concrete Productivity	20	$	25,000
Jacobs	5-4101-SC-17	Threat	SC GS, Concrete Thermal Protection	20	$	25,000

PURPOSE OF THIS TAB

This tab summarizes the risk inputs that Deltek Acumen uses to run the risk simulations. The schedule of values is a summary of the estimate in a format the software uses to map the risks that allows for the outputs shown on Tab 10.3.

Jacobs	5-4101-SC-18	Opportunity	SC GS, Opportunity to Remove Water Cure	10	$	25,000
Jacobs	5-4101-SC-19	Threat	SC GS, Digester Seal Detail	40	$	75,000
Jacobs	5-4101-SC-20	Threat	SC GS, Additional Crack Injection	20	$	300,000
Jacobs	5-4301-SC-21	Threat	SC GS, Repair Existing Infrastructure	10	$	25,000
Jacobs	5-4102-SC-1	Threat	SC Digesters, T's and C's	20	$	450,000
Jacobs	5-4102-SC-2	Threat	SC Digesters, Productivity	5	$	52,411
Jacobs	5-4102-SC-3	Threat	SC Digesters, Work Area Restrictions	30	$	100,000
Jacobs	5-4102-SC-4	Threat	SC Digesters, Apprenticeship Support	10	$	25,000
Jacobs	5-4102-SC-5	Threat	SC Digesters, MIC Testing	20	$	150,000
Jacobs	5-4103-SC-1	Threat	SC Precast, Domestic Preference	10	$	10,000
Jacobs	5-4103-SC-2	Threat	SC Precast, Apprenticeship	20	$	30,000
Jacobs	5-4103-SC-3	Threat	SC Precast, T's and C's	20	$	95,000
Jacobs	5-4103-SC-4	Threat	SC Precast, Embeds	30	$	150,000
Jacobs	5-4104-SC-1	Threat	SC Roofing, T's and C's	20	$	38,000
Jacobs	5-4104-SC-2	Threat	SC Roofing, Apprenticeship	20	$	30,000
Jacobs	5-4104-SC-3	Threat	SC Roofing, Core Business	10	$	100,000
Jacobs	5-4107-SC-1	Threat	SC OHD, Domestic Preference	20	$	30,000
Jacobs	5-4107-SC-2	Threat	SC OHD, Final Coating Requirement	10	$	25,000
Jacobs	5-4107-SC-3	Threat	SC OHD, Door Space / Deflection	10	$	50,000

PURPOSE OF THIS TAB

This tab summarizes the risk inputs that Deltek Acumen uses to run the risk simulations. The schedule of values is a summary of the estimate in a format the software uses to map the risks that allows for the outputs shown on Tab 10.3.

Jacobs	5-4108-SC-1	Threat	SC Painting and Coating, T's and C's	20	$	100,000
Jacobs	5-4108-SC-2	Threat	SC Painting and Coating, 90% Design	20	$	250,000
Jacobs	5-4108-SC-3	Threat	SC Painting and Coating, Work Area Exclusions	10	$	15,000
Jacobs	5-4112-SC-1	Threat	SC Bridge Crane, T's and C's	20	$	9,600
Jacobs	5-4112-SC-2	Threat	SC Bridge Crane, Payment Terms	20	$	30,000
Jacobs	5-4112-SC-3	Threat	SC Bridge Crane, Existing Certification	20	$	10,000
Jacobs	5-4202-SC-1	Threat	SC Foundations, T's and C's	20	$	65,650
Jacobs	5-4202-SC-2	Threat	SC Foundations, Additional Mobilizations	10	$	25,000
Jacobs	5-4202-SC-3	Threat	SC Foundations, Open Hole Collapse	20	$	250,000
Jacobs	5-4202-SC-4	Threat	SC Foundations, Critical Path	10	$	52,411
Jacobs	5-4202-SC-5	Threat	SC Foundations, Settlement	20	$	656,500
Jacobs	5-4202-SC-6	Threat	SC Foundations, Additional Spoils Management	20	$	25,000
Jacobs	5-4202-SC-7	Threat	SC Foundations, Additional Hazardous Materials	10	$	827,891
Jacobs	5-4202-SC-1	Threat	SC Fire, T's and C's	20	$	7,660
Jacobs	5-4202-SC-2	Threat	SC Fire, Fire Pump	5	$	1,200,000
Jacobs	5-4202-SC-3	Threat	SC Fire, Final Design Coordination	20	$	19,150
Jacobs	5-4202-SC-4	Threat	SC Fire, Building Department Comments	10	$	38,300
Jacobs	5-4203-SC-1	Threat	SC HVAC, Critical Path Schedule	10	$	52,411
Jacobs	5-4203-SC-2	Threat	SC HVAC, HVAC Equipment Replacements	20	$	15,000

PURPOSE OF THIS TAB

This tab summarizes the risk inputs that Deltek Acumen uses to run the risk simulations. The schedule of values is a summary of the estimate in a format the software uses to map the risks that allows for the outputs shown on Tab 10.3.

Jacobs	5-4203-SC-3	Opportunity	SC HVAC, Opportunity for Less Controls	20	$	100,000
Jacobs	5-4203-SC-4	Threat	SC Electrical, Changes Beyond DE / DC	10	$	352,000
Jacobs	5-4101-SC-5	Threat	SC HVAC, Gas Line Routing	30	$	25,000
Jacobs	5-4301-SC-1	Threat	SC Electrical, Critical Path Schedule	20	$	1,655,781
Jacobs	5-4301-SC-2	Threat	SC Electrical, MV EDB Routing	10	$	25,000
Jacobs	5-4301-SC-3	Threat	SC Electrical, Valve Actuators	10	$	250,000
Jacobs	5-4301-SC-4	Threat	SC Electrical, MCC Delivery	20	$	1,705,781
Jacobs	5-4301-SC-5	Threat	SC Electrical, MV Delivery	20	$	2,508,672
Jacobs	5-4301-SC-6	Threat	SC Electrical, Electrical Live Date	20	$	500,000
Jacobs	5-4301-SC-7	Threat	SC Electrical, Changes Beyond DE / DC	10	$	1,760,000
Jacobs	5-4401-SC-2	Threat	SC I&C, Overall Programming Pricing	10	$	1,000,000
Jacobs	5-4401-SC-3	Threat	SC I&C, Vendor and Existing Panel Coordination	10	$	250,000
Jacobs	0-1000-CS-2	Threat	CSU, Thickening Facility Performance	10	$	113,469
Jacobs	0-1000-CS-5	Threat	CSU, Complex Sludge Digestion Operations	10	$	113,469
Jacobs	0-1000-CS-9	Threat	CSU, Successful Commissioning	20	$	113,469
Jacobs	0-1000-CS-10	Threat	CSU, Process Startup	30	$	52,411
Jacobs	0-1000-CS-11	Threat	CSU, Process Performance Testing	10	$	113,469
Jacobs	0-1000-CS-12	Threat	CSU, Night Staffing	20	$	1,300,000
Jacobs	0-1000-CS-13	Threat	CSU, 30-Day RT	20	$	113,469

PURPOSE OF THIS TAB

This tab summarizes the risk inputs that Deltek Acumen uses to run the risk simulations. The schedule of values is a summary of the estimate in a format the software uses to map the risks that allows for the outputs shown on Tab 10.3.

Jacobs	0-1000-CS-14	Threat	CSU 45-Day AT	20	$	113,469
Jacobs	0-1000-CS-15	Threat	CSU, Contaminated Centrifuges	10	$	52,411
Jacobs	0-1000-CS-16	Threat	CSU, [redacted] Requirements	10	$	75,000
Jacobs	0-1000-CS-17	Threat	CSU, Additional Polymer	20	$	113,469
Jacobs	0-1000-CS-18	Threat	CSU, Additional CSU Staffing	20	$	54,000
Jacobs	0-1000-CS-19	Threat	CSU, Seed Sludge Hauling Location	20	$	100,000
Jacobs	0-1000-BT-1	Threat	Bonds and Insurance, Volatility in Market Pricing	30	$	225,000
Jacobs	0-1000-ES-4	Threat	Escalation, Ability to Demonstrate Impact	30	$	400,000

Risk Summary: [redacted]

Enabled	ID	Type	Description	Probability	Cost	Score
[redacted]	0-1000-TP-4	Threat	Third Party, Permitting Delays	5	$ 157,670	
[redacted]	0-1000-DS-2	Threat	DSC, Hazardous Materials in Existing Facilities	10	$ 325,000	
[redacted]	0-1000-DS-4	Threat	DSC, Unknown Utilities	20	$ 100,000	
[redacted]	0-1000-DS-5	Threat	DSC, Leaking Existing Structures	10	$ 200,000	
[redacted]	0-1000-DS-8	Threat	DSC, Geotechnical Impacts	10	$ 50,000	
[redacted]	0-1000-FM-1	Threat	Force Majeure, Event Impacts Project	10	$ 1,632,500	
[redacted]	0-1000-FM-2	Threat	Force Majeure, Weather Impacts Beyond Prime Agreement	5	$ 224,063	
[redacted]	0-1000-CI-1	Threat	Change In Law, Impacts to Project	5	$ 250,000	
[redacted]	0-1000-PO-14	Threat	Plant Operations, Availability of [redacted] Operations Staff	5	$ 384,000	
[redacted]	0-1000-PO-15	Threat	Plant Operations, Odors at Fenceline	5	$ 1,684,898	

PURPOSE OF THIS TAB

This tab summarizes the risk inputs that Deltek Acumen uses to run the risk simulations. The schedule of values is a summary of the estimate in a format the software uses to map the risks that allows for the outputs shown on Tab 10.3.

[redacted]	0-1000-DG-14	Threat	Design, Biosolids Management	20	$	211,000
[redacted]	0-1000-SS-1	Threat	Allowances, Final Values	10	$	734,614
[redacted]	0-1000-SS-5	Threat	Schedule, EPA Penalty for Delays	5	$	-
[redacted]	5-4301-SC-22	Threat	SC GS, Apprenticeship Requirements	5	$	700,000

[redacted]

Jacobs

	GMP 3 Proposal Construction Work
[redacted] FINAL, April 30, 2025	Tab 10.3: Risk Model Outputs

PURPOSE OF THIS TAB

This tab summarizes the risk outputs from Deltek Acumen based on the inputs from Tab 10.2. For the overall work package and for each major portion of the schedule of values, a histogram of the results of the risk simulation is provided. The P75 confidence interval is used in each one.

1.0 Risk Consideration, GMP 3 Cost of Work [redacted]

[redacted] GMP 3

Risk Analysis

Risk Consideration - [redacted]

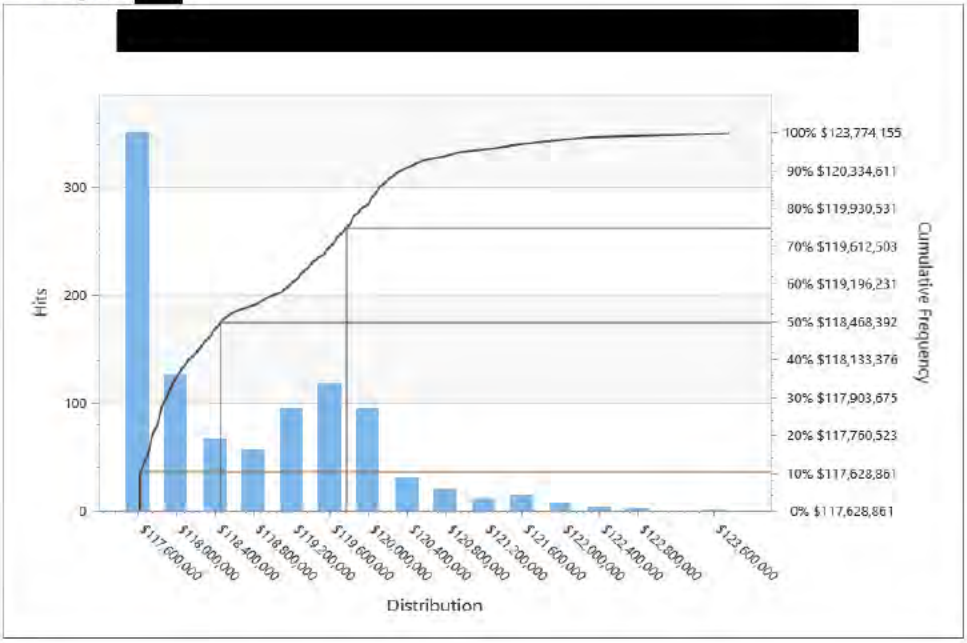
4.30.25

Description	Value	Delta $	% Change
Estimate Costs	$ 117,628,861	$ -	0.00%
P-50	$ 118,468,392	$ 839,531	0.71%
P-60	$ 119,196,231	$ 1,567,370	1.33%
P-70	$ 119,612,503	$ 1,983,642	1.69%
P-75	$ 119,779,566	$ 2,150,705	1.83%
P-80	$ 119,930,531	$ 2,301,670	1.96%
P-90	$ 120,334,611	$ 2,705,750	2.30%

Suggest Contingency	P-75
Risk Consideration	$ 2,150,705

P-75 Distribution shows there is a 75 % chance of completing the project under: $119,779,566

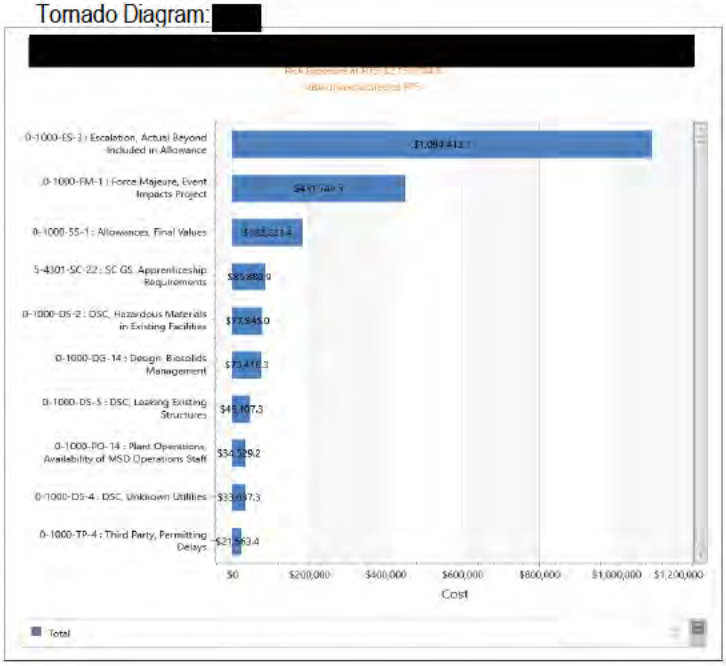
Histogram: [redacted]



PURPOSE OF THIS TAB

This tab summarizes the risk outputs from Deltek Acumen based on the inputs from Tab 10.2. For the overall work package and for each major portion of the schedule of values, a histogram of the results of the risk simulation is provided. The P75 confidence interval is used in each one.

Tornado Diagram: [redacted]



PURPOSE OF THIS TAB

This tab summarizes the risk outputs from Deltek Acumen based on the inputs from Tab 10.2. For the overall work package and for each major portion of the schedule of values, a histogram of the results of the risk simulation is provided. The P75 confidence interval is used in each one.

2.0 Risk Consideration, GMP 3 Cost of Work, Design-Builder

[redacted] GMP 3

Risk Analysis

Risk Consideration - Jacobs

4.30.25

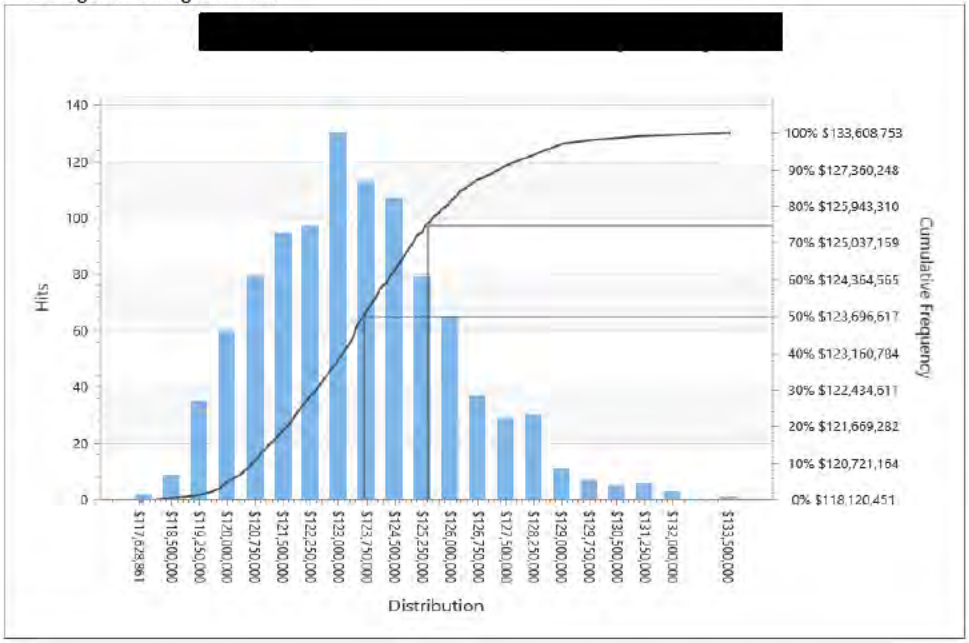
Description	Value	Delta $	% Change
Estimate Costs	$ 117,628,861	$ -	0.00%
P-50	$ 123,696,617	$ 6,067,756	5.16%
P-60	$ 124,364,565	$ 6,735,704	5.73%
P-70	$ 125,037,159	$ 7,408,298	6.30%
P-75	$ 125,404,817	$ 7,775,956	6.61%
P-80	$ 125,943,310	$ 8,314,449	7.07%
P-90	$ 127,189,412	$ 9,560,551	8.13%

Suggest Contingency	P-75
Risk Consideration	$ 7,775,956

P-75 Distribution shows there is a 75 % chance of completing the project under: $125,404,817

Histogram: Design-Builder

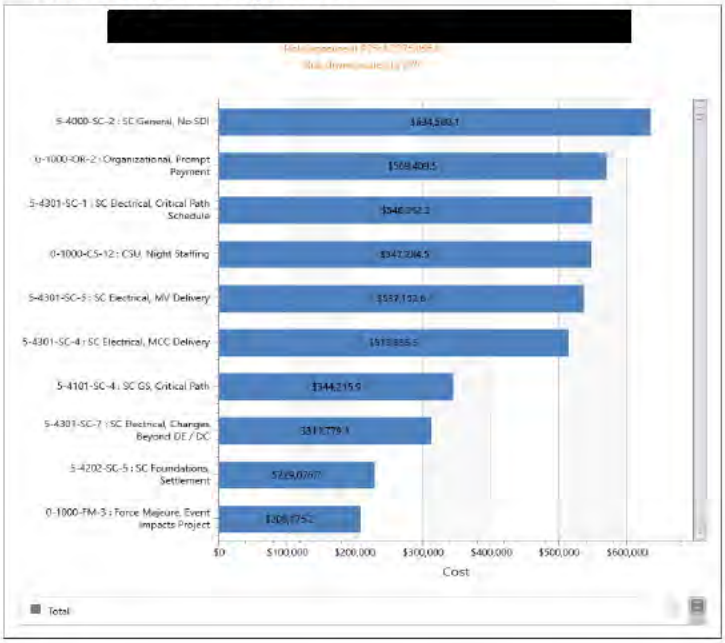
[redacted]



PURPOSE OF THIS TAB

This tab summarizes the risk outputs from Deltek Acumen based on the inputs from Tab 10.2. For the overall work package and for each major portion of the schedule of values, a histogram of the results of the risk simulation is provided. The P75 confidence interval is used in each one.

Tornado Diagram: Design-Builder



[redacted]

Jacobs

[redacted]	DRAFT, April 30, 2025	GMP 3 Proposal Construction Work Tab 10.6: Escalation Buildup

PURPOSE OF THIS TAB

This tab summarizes our recommendation for escalation contingency to be carried by the project. In general, we are only concerned with materials (construction materials or permanent materials). Costs for labor and construction equipment escalation are generally more stable and included in the Cost of Work.

This column will contain the references used to establish the baseline pricing for any future escalation claims. See Prime Agreement.

Line	Schedule of Materials, This GMP				Direct Cost	Escalation Risk (See Note 1)	Approach Utilized (See Note 2		Current Index	Predicted Index	Calculated Escalation Percentage	Recommended Escalation Cost	Backup / Pricing Basis Information
	Description	UNIT	QTY	UC	$ 49,110,421		Apprch	Key Date					
1	Truck Scale (Moved to Subcontractors)												
2	Progressing Cavity Pumps	LS	1	$ 677,450	$ 677,450	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 20,324	
3	Digester Gas Safety Equipment and Specialties	LS	1	$ 715,307	$ 715,307	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 21,459	
4	Chopper Pumps and Nozzle Mixing Systems	LS	1	$ 685,349	$ 685,349	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 20,560	
5	Sludge Heat Exchanger	LS	1	$ 546,177	$ 546,177	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 16,385	
6	Sludge Screens	LS	1	$ 650,062	$ 650,062	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 19,502	
7	Polymer Feed System	LS	1	$ 417,288	$ 417,288	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 12,519	
8	Chemical Feed Pumps (Ferric)	LS	1	$ 104,227	$ 104,227	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 3,127	
9	Screw Conveyor System	LS	1	$ 523,099	$ 523,099	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 15,693	
10	Cake Storage and Loadout System	LS	1	$ 1,974,096	$ 1,974,096	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 59,223	
11	Vertical Centrifugal Pumps	LS	1	$ 252,324	$ 252,324	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 7,570	
12	Fiberglass Reinforced Plastic Tanks	LS	1	$ 623,050	$ 623,050	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 18,692	
13	Boilers	LS	1	$ 856,929	$ 856,929	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 25,708	
14	Activated Carbon Odor Control System	LS	1	$ 1,191,769	$ 1,191,769	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 35,753	
15	Digester Mixing Chopper Pumps and Nozzle Mixing	LS	1	$ 288,878	$ 288,878	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 8,666	
16	Ferric Sump Pumps	LS	1	$ 110,131	$ 110,131	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 3,304	
17	Digester Gas Holder System	LS	1	$ 433,808	$ 433,808	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 13,014	
18	Sluice Gates	LS	1	$ 45,699	$ 45,699	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 1,371	
19	Screw-Induced Flow Centrifugal Pumps	LS	1	$ 312,198	$ 312,198	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 9,366	
20	Induced Flow (Recessed Impeller) Centrifugal Pumps	LS	1	$ 230,928.00	$ 230,928	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 6,928	
21	Motorized Automatic Strainer	LS	1	$ 181,834.00	$ 181,834	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 5,455	
22	Horizontal End Suction Pumps	LS	1	$ 186,127	$ 186,127	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 5,584	
23	VRF HVAC Systems	LS	1	$ 218,914	$ 218,914	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 6,567	
24	Water Heater / Heat Exchanger (WH-1) and Miscellaneous	LS	1	$ 110,755	$ 110,755	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 3,323	
25	Sound Dampening Panels	LS	1	$ 46,500	$ 46,500	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 1,395	
26	**General Subcontractor**												
27	02 - Demolition												
28	03 - Cast In Place Concrete	LS	1	$ 3,000,000	$ 3,000,000	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 90,000	
29	03 - Rebar	LS	1	$ 2,000,000	$ 2,000,000	LOW	EJ	9/1/2025	100.00	105.00	5.00%	$ 100,000	
30	05 - Metals	LS	1	$ 750,000	$ 750,000	LOW	EJ	9/1/2025	100.00	105.00	5.00%	$ 37,500	
31	06 - Woods / Plastics	LS	1	$ 2,500,000	$ 2,500,000	LOW	EJ	9/1/2025	100.00	103.00	3.00%	$ 75,000	
32	07 - Thermal / Moisture By Others												
33	08 - Doors / Windows	LS	1	$ 50,000	$ 50,000	LOW	EJ	9/1/2025	100.00	110.00	10.00%	$ 5,000	
34	09 - Finishes By Others												
35	10 - Specialties and Signage												

PURPOSE OF THIS TAB

This tab summarizes our recommendation for escalation contingency to be carried by the project. In general, we are only concerned with materials (construction materials or permanent materials). Costs for labor and construction equipment escalation are generally more stable and included in the Cost of Work.

This column will contain the references used to establish the baseline pricing for any future escalation claims. See Prime Agreement.

36	11 - Office Equipment	By Others												
37	12 - Furnishings	By Others												
38	31 - Earthwork		LS	1	$ 1,800,000	$ 1,800,000	LOW	EJ	9/1/2025	100.00	105.00	5.00%	$	90,000
39	32 - Surface Improvements		LS	1										
40	33 - Yard Pipe		LS	1	included below.									
41	40-46 - Process Piping, Process Equipment Installation		LS	1	$ 10,300,000	$ 10,300,000	HIGH	EJ	9/1/2025	100.00	104.00	4.00%	$	412,000
42	**Digester Tanks Subcontractor**													
43	Stainless Steel Plate	AMM MB-STS-0037	TON	1,200	$ 2,000	$ 2,400,000	HIGH	OI	3/16/2025	100.00	115.00	15.00%	$	360,000
44	**Precast Concrete Subcontractor**													
45	Concrete		LS	1	$ 500,000	$ 500,000	HIGH	EJ	9/1/2025	100.00	103.00	3.00%	$	15,000
46	Rebar / Tendons / Embeds		LS	1	$ 600,000	$ 600,000	HIGH	EJ	9/1/2025	100.00	105.00	5.00%	$	30,000
47	**Roofing Subcontractor**													
47	Roofing Membrane		LS	1	$ 200,000	$ 200,000	HIGH	EJ	9/1/2025	100.00	105.00	5.00%	$	10,000
48	Roofing Metals		LS	1	$ 50,000	$ 50,000	HIGH	EJ	9/1/2025	100.00	105.00	5.00%	$	2,500
48	**Overhead Door Subcontractor**													
49	Aluminum		LS	1	$ 250,000	$ 250,000	HIGH	EJ	9/1/2025	100.00	105.00	5.00%	$	12,500
50	**Painting and Coating Subcontractor**													
51	Paint		LS	1	$ 400,000	$ 400,000	HIGH	EJ	9/1/2025	100.00	105.00	5.00%	$	20,000
51	**Bridge Cranes Subcontractor**													
52	Steel		LS	1	$ 100,000	$ 100,000	HIGH	EJ	9/1/2025	100.00	105.00	5.00%	$	5,000
53	**Rigid Inclusions Subcontractor**													
54	Concrete		LS	1	$ 300,000	$ 300,000	HIGH	EJ	9/1/2025	100.00	105.00	5.00%	$	15,000
55	**Tank Restoration Subcontractor (See Allowances)**													
56	**Fire Protection Subcontractor**													
57	Steel Pipe and Hangers		LS	1	$ 200,000	$ 200,000	HIGH	EJ	9/1/2025	100.00	105.00	5.00%	$	10,000
58	**Plumbing / HVAC Subcontractor**													
59	Plumbing Materials		LS	1	$ 250,000	$ 250,000	HIGH	EJ	9/1/2025	100.00	105.00	5.00%	$	12,500
60	HVAC Ductwork, Hangers, Supports		LS	1	$ 200,000	$ 200,000	HIGH	EJ	9/1/2025	100.00	105.00	5.00%	$	10,000
61	HVAC Equipment		LS	1	$ 500,000	$ 500,000	HIGH	EJ	9/1/2025	100.00	105.00	5.00%	$	25,000

[redacted]

Jacobs

GMP 3 Proposal
Construction Work

[redacted] | DRAFT, April 30, 2025 | Tab 10.6: Escalation Buildup

PURPOSE OF THIS TAB

This tab summarizes our recommendation for escalation contingency to be carried by the project. In general, we are only concerned with materials (construction materials or permanent materials). Costs for labor and construction equipment escalation are generally more stable and included in the Cost of Work.

This column will contain the references used to establish the baseline pricing for any future escalation claims. See Prime Agreement.

62	**Electrical Subcontractor**												
63	Aluminum	LS	1	$ 133,000	$ 133,000	HIGH	EJ	9/1/2025	100.00	110.00	10.00%	$	13,300
64	Copper	LS	1	$ 1,080,000	$ 1,080,000	HIGH	EJ	9/1/2025	100.00	105.00	5.00%	$	54,000
65	Steel	LS	1	$ 237,000	$ 237,000	HIGH	EJ	9/1/2025	100.00	105.00	5.00%	$	11,850
66	PVC												
67	Electrical Equipment	LS	1	$ 6,145,700	$ 6,145,700	HIGH	EJ	9/1/2025	100.00	105.00	5.00%	$	307,285
68	**Instrumentation, Controls, and Programming Subcontractor**												
69	Instruments and Panels	LS	1	$ 3,731,822	$ 3,731,822	Included							

Yes, we have escalation included to cover Panel Delivery through the end of 2026, and Instrumentation through 2025 into roughly Q2 of 2026. The Instrument Reps are easier to work with as far as holding their pricing if we have targeted delivery dates and submit Purchase Order Contingent Upon Approval. Whereas Rockwell and Sheetmetal no longer will hold pricing if we place early PO's with them, therefore we have covered the Panels out through 2026.

70	**Truck Scale Subcontractor**												
71	Metals	LS	1	$ 50,000	$ 50,000	LOW	EJ	9/1/2025	100.00	105.00	15.00%	$	7,500
											SUBTOTAL, RECOMMENDED ESCALATION BUDGET:	**$**	**2,072,422**

	SUBTOTAL FROM ABOVE:		**$ 2,072,422**
	Applicable DB Fee:	**PCT**	**$ -**
	Applicable Bonds and Insurance:	**PCT**	**$ -**
TOTALS FOR TAB 00E (INCLUDES DB FEE, BONDS, INSURANCE)			**$ 2,072,422**

NOTES:

1 The values provided in this column are a qualitative estimate of whether we should be concerned about price escalation on this row. Risk could be higher or lower because of the current market conditions, or risk could be higher or lower given our procurement time horizon. In general, rows marked "LOW" are materials where price is generally stable and we are buying them in the very near term, whereas rows marked "HIGH" are very unstable or we are not buying them until a more distance point in the future. These qualitative values are provided based on our current knowledge of the market and schedule and are subject to change in this unpredictable world.

2 Jacobs uses several approached for calculating the recommended escalation cost. The abbreviations used above are as follows:
EJ - Estimator Judgement. This has become more common in recent years as professional indices have become less stable and useful, especially in the longer term. Jacobs will use several of the indices below and, in concert with vendors and subcontractors and the Owner, determine a value that is acceptable for risk transfer.
FRED - St. Louis Federal Reserve - A government organization that keeps track of indices that are generally aggregate more than IHS.
IHS - IHS (Market) - A private organization that keeps track of very granular indices.
AMM - American Materials Market
OI - Other Indices. These might include Engineering News Record, RS Means, etc. In general, we don't use these indices unless there is a specific reason.
VNDR - Vendor. Some vendors provide indices that are binding or non-binding.
Key Date - This is the date that the pricing is expected to be fixed. In recent times, this has become the ship date.

Sample Risk Register

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

LAST UPDATED: 05/01/2025

(R) Category	(R) WBS1 (TT)	(R) WBS2 (S/V)	(R) WBS3 (F/A)	(R) Risk ID	(R) Project Contingency Impact	Risk	Cause of Risk	Consequences	(R) Percentage of Occurrence	(R) Monetary Impact	Risk Response Plan	Risk Holder	Latest Update
GMP RISK REGISTER (MONTE CARLO SIMULATION)						This works hand-in-hand with the Assumptions and Clarifications log.							
						Assumption / Status Quo	Risk to that Status Quo	Impact of that Risk					Risk Name for Acumen
Third Party	0	1000	TP	0-1000-TP-0		**Third Party**							
Third Party	0	1000	TP	0-1000-TP-1	Yes	The GMP includes Table D in the Assumptions and Clarifications. The purpose of this table is to plan out whether Jacobs or [redacted] is responding to particular events. No costs are included in the Cost of Work for these events (risk here only).	If an Third Party event occurs, whether anticipated on Table D or not, that results in additional expenditures to keep the peace, the project budget will be negatively impacted.	Remaining risk for Jacobs here is a Builder's Risk deductible for $150K.	20	$150,000	Mitigated with table in A's and C's. This is the mitigated risk that remains.	Jacobs	Third Party, Neighborly Peace Keeping
Third Party	0	1000	TP	0-1000-TP-2	No	The GMP includes Table D in the Assumptions and Clarifications. The purpose of this table is to plan out whether Jacobs or [redacted] is responding to particular events.	If an Third Party event occurs, whether anticipated on Table D or not, that results in additional expenditures to keep the peace, the project budget will be negatively impacted.	Assume an impact of $100K as either a direct payment or insurance deductible.	10	$100,000	Mitigated with table in A's and C's. This is the mitigated risk that remains.	[redacted]	Third Party, Neighborly Peace Keeping
Third Party	0	1000	TP	0-1000-TP-3	Yes	The GMP includes Table C in the Assumptions and Clarifications. The purpose of this table is to plan out what has been included in the GMP and what risk remains for permitting durations.	If Jacobs does not complete permit requests adequately and does not deliver according to the schedule included in Table C and the schedule is delayed, then the project budget will be negatively impacted. Jacobs also absorbs the first month of delay.	Assume an impact of (1) MO to the critical path.	10	$78,835	Mitigated with table in A's and C's. This is the mitigated risk that remains.	Jacobs	Third Party, Permitting Delays
Third Party	0	1000	TP	0-1000-TP-4	Yes	Delays in obtaining permits that are on the critical path as identified in Table C of the GMP.	If Jacobs completes permit requests adequately and delivers according to the schedule included in Table C but the permitting agency is slow to respond such that the overall schedule is impacted, then the project budget will be negatively impacted.	Assume an impact of (2) MO to the critical path at the beginning of the project.	5	$157,670	Mitigated with table in A's and C's. This is the mitigated risk that remains.	[redacted]	Third Party, Permitting Delays
Third Party	0	1000	TP	01000TP	No	Stormwater Discharges from Small and Large Construction Activities and delays construction start.	CLOSED				To be mitigated with table in A's and C's.	Jacobs	Covered with 3 and 4 above.
Third Party	0	1000	TP	01000TP	No	Wastewater Permit to Install (PTI) approval delays construction start.	CLOSED				To be mitigated with table in A's and C's.	Jacobs	Covered with 3 and 4 above.
Third Party	0	1000	TP	01000TP	No	Permit to Install and Operate for Air Pollution Sources approval delays start up.	CLOSED				To be mitigated with table in A's and C's.	Jacobs	Covered with 3 and 4 above.
Third Party	0	1000	TP	01000TP	No	Construction Modification Permit for Levees approval delays construction start.	CLOSED				To be mitigated with table in A's and C's.	Jacobs	Covered with 3 and 4 above.
Third Party	0	1000	TP	01000TP	No	General Building Permit approval delays construction.	CLOSED				To be mitigated with table in A's and C's.	Jacobs	Covered with 3 and 4 above.

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

LAST UPDATED: 05/01/2025

(R) Category	(R) WBS1 (TT)	(R) WBS2 (S/V)	(R) WBS3 (F/A)	(R) Risk ID	(R) Project Contingency Impact	Risk	Cause of Risk	Consequences	(R) Percentage of Occurrence	(R) Monetary Impact	Risk Response Plan	Risk Holder	Latest Update
Third Party	0	1000	TP	01000TP	No	Floodplain Development Permit approval delays construction.	CLOSED				To be mitigated with table in A's and C's.	Jacobs	Covered with 3 and 4 above.
Third Party	0	1000	TP	01000TP	No	SMU Storm to Storm Tap Permit approval delays construction.	CLOSED				To be mitigated with table in A's and C's.	Jacobs	Covered with 3 and 4 above.
Third Party	0	1000	TP	01000TP	No	Street Opening Permit approval delays construction.	CLOSED				To be mitigated with table in A's and C's.	Jacobs	Covered with 3 and 4 above.
Delays	0	1000	DY	0-1000-DY-0		**Delays (See Force Majeure)**		Delays in this Contract are handled in the Force Majeure clause.					
DSC	0	1000	DS	0-1000-DS-0		**Differing Site Conditions**							
DSC	0	1000	DS	0-1000-DS-1	Yes	The project includes work within existing facilities (SEC, SSB) that may include hazardous materials that are currently unknown but could have been discovered during Phase 1 (due diligence).	If additional hazardous materials are discovered in existing buildings, then the project budget and schedule will be negatively impacted.	Assume a cleanup impact of $25K for additional hazardous materials (asbestos, lead).	10	$25,000		Jacobs	DSC, Hazardous Materials in Existing Facilities
DSC	0	1000	DS	0-1000-DS-2	Yes	If additional hazardous materials are discovered when working in existing buildings or if alignment of sewer line to [redacted] runs into contaminated waste, the budget will be negatively impacted.	The project includes work within existing facilities (SEC, SSB) that may include hazardous materials that are currently unknown and could not have been discovered during Phase 1. There is a sewer line that will be laid past the facility footprint to connect to a manhole on [redacted]	Assume a cleanup impact of $75K for additional hazardous materials (asbestos, lead). Assume $250K in contaminated waste and cleanup.	10	$325,000		[redacted]	DSC, Hazardous Materials in Existing Facilities
DSC	0	1000	DS	0-1000-DS-3	Yes	The project includes work within the existing facility (new buried piping). Unknown utilities may be discovered that fall within the standard of care for Phase 1 investigations (due diligence).	If additional utilities and utility conflicts are discovered that were within the standard of care, the project schedule and budget will be negatively impacted.	Assume an impact of $100K for additional utility conflicts or removal and replacement or realignment (5 locations, $20K / location).	20	$100,000		Jacobs	DSC, Unknown Utilities
DSC	0	1000	DS	0-1000-DS-4	Yes	If additional utilities and utility conflicts are discovered during construction that are not within the standard of care, the project schedule and budget will be negatively impacted.	The project includes work within the existing facility (new buried piping). Unknown utilities may be discovered that fall outside the standard of care for Phase 1 investigations (due diligence).	Assume an impact of $100K for additional utility conflicts or removal and replacement or realignment (5 locations, $20K / location).	20	$100,000		[redacted]	DSC, Unknown Utilities

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

LAST UPDATED: 05/01/2025

(R) Category	(R) WBS1 (TT)	(R) WBS2 (S/V)	(R) WBS3 (F/A)	(R) Risk ID	(R) Project Contingency Impact	Risk	Cause of Risk	Consequences	(R) Percentage of Occurrence	(R) Monetary Impact	Risk Response Plan	Risk Holder	Latest Update
DSC	0	1000	DS	0-1000-DS-5	Yes	While excavating in the vicinity of existing water-bearing structures and utilities, if these structures are found to be leaking and impacting new work , the leaks will need to be remediated.	This project includes excavation work in proximity to existing water-bearing structures and utilities.	Assume an existing structure needs to be excavated and leaking cracks injected and sealed.	10	$200,000		[redacted]	DSC, Leaking Existing Structures
DSC	0	1000	DS	0-1000-DS-6	No	The project includes work within the existing facility.	If hazardous materials (contaminated soils, groundwater, foreign objects) are discovered in the existing site they will impact the project schedule and	Assume that $50K in impacts.	30	$50,000		[redacted]	DSC, Hazardous Materials
DSC	0	1000	DS	0-1000-DS-7	Yes	The project includes excavation and backfill work outside the areas currently being excavated.	If additional geotechnical issues (unsuitable soils, groundwater conditions) are discovered that are within the standard of care, the project budget and schedule will be negatively impacted.	Assume (2) issues that are worth $25K to remedy. This could include cleanup costs, rerouting costs, or additional offhaul costs for debris.	10	$50,000		Jacobs	DSC, Hazardous Materials
DSC	0	1000	DS	0-1000-DS-8	Yes	If additional geotechnical issues (unsuitable soils, groundwater conditions) are discovered that are not within the standard of care, the project budget and schedule will be negatively impacted.	The project includes some excavation and backfill work outside the areas currently being excavated.	Assume (2) issues that are worth $25K to remedy. This could include cleanup costs, rerouting costs, and additional costs for hauling debris.	10	$50,000		[redacted]	DSC, Geotechnical Impacts
DSC	0	1000	DS	0-1000-DS-9	Yes	The project includes work within the existing facility (new buried piping). Unknown utilities may be discovered that fall within the standard of care for Phase 1 investigations (due diligence).	If these utilities are discovered with the tooth of an excavator, they are likely to be damaged and need repair, including repairs to new Work.	Assume an impact of $50K for additional utility conflicts or removal and replacement or realignment.	20	$50,000		Jacobs	DSC, Damage to Existing Utilities
DSC	0	1000	DS	0-1000-DS-10	No	The project includes work within the existing facility (new buried piping). Unknown utilities may be discovered that fall outside the standard of care for	If these utilities are discovered with the tooth of an excavator, they are likely to be damaged and need repair, including repairs to new Work.	Assume an impact of $50K for additional utility conflicts or removal and replacement or realignment.	20	$50,000		[redacted]	DSC, Damage to Existing Utilities
DSC	0	1000	DS	0-1000-DS-11	No	[redacted] unexpectedly rises above normal levels, impacting the ground water table in the LMWWTP.	If the [redacted] rises to the point where there is loss of access to the treatment plant / construction site	Assume the 5 YR flood elevation impacted the lowest excavation for (5) MO at $25K / MO for additional dewatering. More than this would be covered by	5	$125,000	loss of access to treatment plant	[redacted]	DSC, Flooding
DSC	0	1000	DS	0-1000-DS-12	Yes	Some of the excavations will be deep enough to encounter high groundwater should the [redacted] come up high enough (not flooding entrances to construction site or plant, but high enough to swamp nuisance dewatering approach).	If this occurs, additional dewatering provisions will be needed to overcome groundwater levels until the river subsides.	Assume an impact of $80K for sumps and pumping for 1 - 2 MO.	20	$80,000		Jacobs	DSC, High Groundwater
Force Majeure	0	1000	FM	0-1000-FM-0		**Force Majeure**	See definitions included at the end of this risk register.						
Force Majeure	0	1000	FM	0-1000-FM-1	Yes	If a Force Majeure event occurs (war, fires, earthquakes, epidemics, pandemics), the project budget and schedule will be negatively impacted.	The Prime Agreement includes a Force Majeure provision which allows a time extension but not price adjustment.	Assume a Force Majeure events impacts the project schedule critical path by (2) MO.	10	$1,632,500		[redacted]	Force Majeure, Event Impacts Project

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

LAST UPDATED: 05/01/2025

(R) Category	(R) WBS1 (TT)	(R) WBS2 (S/V)	(R) WBS3 (F/A)	(R) Risk ID	(R) Project Contingency Impact	Risk	Cause of Risk	Consequences	(R) Percentage of Occurrence	(R) Monetary Impact	Risk Response Plan	Risk Holder	Latest Update
Force Majeure	0	1000	FM	0-1000-FM-2	Yes	If actual weather impacts are greater than those included in the Prime Agreement, the project budget and schedule will be negatively impacted.	The Prime Agreement includes weather days to include in the GMP.	Assume an additional (5) weather days over the course of the construction schedule.	5	$224,063		[redacted]	Force Majeure, Weather Impacts Beyond Prime Agreement
Force Majeure	0	1000	FM	0-1000-FM-3	Yes	The Prime Agreement includes a Force Majeure provision.	If Force Majeure events occur that do not meet the bar in the Prime Agreement, the project budget and schedule will be negatively impacted.	Assume a Force Majeure events impacts the project schedule critical path by (1) MO. Everyone will feel better about this one after we figure the escalation approach and maybe things settle down a bit.	20	$827,891		Jacobs	Force Majeure, Event Impacts Project
Force Majeure	0	1000	FM	0-1000-FM-4	Yes	The Prime Agreement includes weather days to include in the GMP. The most intensive period of construction the site will be operating 6 - 7 days / week.	The GMP schedule includes reasonable days (Jacobs assessment of reasonable weather days). Recovery days will be limited given the 6 - day construction schedule. How do we handle the weather days that exceed what is included in the GMP but do not exceed the duration in the schedule?	Conundrum here on how to allocate the risk of additional weather days without extending the schedule. Assume a (1) MO delay to the critical path work in Year 2.	10	$827,891		Jacobs	Force Majeure, Weather Impacts Beyond Prime Agreement
Organizational	0	1000	OR	0-1000-OR-0		**Organizational**							
Organizational	0	1000	OR	0-1000-OR-1	Yes	The construction and commissioning of the [redacted] project will require a large and experienced Jacobs staff.	If construction and commissioning staff are unable to meet the needs of the project (staff availability, experience, hiring), the project budget will be negatively impacted.	Assume an impact to the project critical path of (1) MO.	5	$827,891		Jacobs	Organizational, Staffing
Organizational	0	1000	OR	0-1000-OR-2	Yes	The construction project may be GMP with large monthly billings (~5,000 pages). Multiple large GMP monthly billings may be on MSD's plate each month.	If billings fall behind because of their size and complexity, then the project budget will be negatively impacted.	Assume billings fall behind and delay the project critical path of (2) MO.	20	$1,655,781	Mitigation - avoid the open book billings and change to lump sum billings - SOV	Jacobs	Organizational, Prompt Payment
Organizational	0	1000	OR	0-1000-OR-3	No	The construction and commissioning of the [redacted] project will require a large and experienced [redacted] staff.	If construction and commissioning staff are unable to meet the needs of the project (staff availability, experience, hiring), the project budget will be negatively impacted.	Assume an impact to the project critical path of (1) MO.	5	$827,891		[redacted]	Organizational, Staffing
Change in Law	0	1000	CI	0-1000-CI-0		**Change in Law**							

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

LAST UPDATED: 05/01/2025

(R) Category	(R) WBS1 (TT)	(R) WBS2 (S/V)	(R) WBS3 (F/A)	(R) Risk ID	(R) Project Contingency Impact	Risk	Cause of Risk	Consequences	(R) Percentage of Occurrence	(R) Monetary Impact	Risk Response Plan	Risk Holder	Latest Update
Change in Law	0	1000	CI	0-1000-CI-4	No	The GMP is based on the laws in place as of March 2025.	If future law changes directly or indirectly impact the project, the project budget and schedule will be negatively impacted. The difficulty is that laws are changing rapidly currently, and capturing all impacts is very difficult.	Assume law changes impact project costs by $1M. Does not meet threshold of the Prime Agreement (timing of request and GMP). Steel and stainless steel, ductile, aluminum, etc. Everyone will feel better about this one when escalation approach is known and things settle down a little bit.	20	$1,000,000	Closed, no risk.	Jacobs	Change In Law, Impacts to Project
Change in Law	0	1000	CI	0-1000-CI-1	Yes	If future law changes directly or indirectly impact the project, the project budget will be negatively impacted.	The GMP is based on the laws in place as of March 2025 and as of April, laws are changing rapidly.	Assume law changes impact project costs by $250k.	5	$250,000		[redacted]	Change In Law, Impacts to Project
Financing / Payment	0	1000	FP	0-1000-FP-0		**Financing / Payment**							
Financing / Payment	0	1000	FP	0-1000-FP-1	No	The project schedule is based, in part, on the availability and timing of project funding.	If the funding sources, availability, or requirements change, the project schedule and budget will be negatively impacted.	Assume an impact to escalation on the project of $500K. Costs rise that we could otherwise not have paid.	10	$500,000	Closed, no risk.	[redacted]	Change In Financing, Impacts to Project
Plant Operations	0	1000	PO	0-1000-PO-0		**Plant Operations**		Got to this point on 03/25.					
Plant Operations	0	1000	PO	0-1000-PO-1	No	Risks that impact [redacted] operations costs	[redacted] has the discharge permit.	N / A - these would be operational costs? Do we want to add a risk here?	5	$150,000	Think about this one. Closed.	[redacted]	MOPO, [redacted] Operations Impacts
Plant Operations	0	1000	PO	0-1000-PO-2	Yes	The project will include a MOPO at the SEC facility to replacement the turbine blowers. The activity was priced to swap out a single blower at a time, rewire, startup, and test prior to swapping out the second blower (Neuros blowers one at a time, run it, check out, put in service and run for a period of time).	If actual conditions encountered during Work (additional up time needed for aeration basins / capacity), then the project budget and schedule could be negatively impacted.	Assume an additional night shift of work for [redacted] to remedy for each Blower. Very low risk that any temporary works would be required. $10K for an additional night shift premium.	5	$10,000		Jacobs	MOPO, SEC Turbine Blower Swap Out
Plant Operations	0	1000	PO	0-1000-PO-3	Yes	At the SRC, the current plan is to divert the existing sludge while the upgrades are progressing.	If this does not work completely for [redacted], some sludge may need to continue to come to [redacted].	Assume impacts of $25K for assistance in setting up manhole for receiving or other miscellaneous impacts.	10	$25,000		Jacobs	MOPO, SRC Sludge Diversion

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

LAST UPDATED: 05/01/2025

(R) Category	(R) WBS1 (TT)	(R) WBS2 (S/V)	(R) WBS3 (F/A)	(R) Risk ID	(R) Project Contingency Impact	Risk	Cause of Risk	Consequences	(R) Percentage of Occurrence	(R) Monetary Impact	Risk Response Plan	Risk Holder	Latest Update
Plant Operations	0	1000	PO	0-1000-PO-4	Yes	At the SSB, there is work in the SHF and DAF tunnel. Most of this work is isolated with valves, but there is a bypass operation for the BSD line in the tunnel.	If additional bypassing operations or longer operations are required, the project budget will be negatively impacted.	Assume an additional $50K in more bypassing or extended bypassing.	10	$50,000		Jacobs	MOPO, SHF and Tunnel Work
Plant Operations	0	1000	PO	0-1000-PO-5	Yes	The project requires replacement of components in MCC-7, which powers existing [redacted] treatment components. It is unlikely that this can be accomplished in straight forward work shifts. No temporary power for impacted treatment components was included in the GMP.	If additional labor or bypass power is required, the project budget will be negatively impacted.	Assume an additional $25K in labor or shifts and or $50K in bypass power operations.	20	$50,000		Jacobs	MOPO, MCC 7 Shutdown
Plant Operations	0	1000	PO	0-1000-PO-6	Yes	The project assumes using MCC bucket adapters to install new components.	If the proposed adapter bucket components do not work, MCC-7 may need to be partially or completely replaced.	Assume a partial replacement for $100K.	5	$100,000		Jacobs	MOPO, MCC 7 Existing Buckets
Plant Operations	0	1000	PO	0-1000-PO-7	Yes	The project requires MV crossings near the [redacted] i lift station.	The crossings were bid without interference. If EDB offsets or reroutes are required, the project budget will be negatively impacted.	Assume additional routing and electrical ductbank costs are $50K.	10	$50,000		Jacobs	MOPO, MV Crossings, Existing Outages
Plant Operations	0	1000	PO	0-1000-PO-8	Yes	The project will impact the main plant entrance with trench crossings. We have included costs for 1/2 roadway closings and temporary roads to ensure [redacted] uninterrupted access for sludge and chemical deliveries / offhaul.	If additional provisions are needed to ensure [redacted] access when actual conditions are known, the project budget will be negatively impacted.	Assume an additional $25K in road plating, bypass lanes, barricades, or other provisions beyond the current plan.	10	$25,000		Jacobs	MOPO, Sludge Hauling Temporary Provisions
Plant Operations	0	1000	PO	0-1000-PO-9	Yes	Sludge Handling ("SSB") 1B MCC shutdown needs to be completed to replace an entire vertical section. We have assumed that this work can be completed without electrical or liquid bypass operations. Similarly, SEC MCC J needs to be shutdown to replace an MCC section (only feeds the existing WAS pumps).	If additional labor or bypass power is required, the project budget will be negatively impacted.	Assume an additional $25K in labor or shifts and or $50K in bypass power operations.	20	$50,000		Jacobs	MOPO, MCC 1B Shutdown

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

LAST UPDATED: 05/01/2025

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Plant Operations	0	1000	PO	0-1000-PO-10	Yes	There is a PP-L (Power Panel "L", or MCC PP-L) cutover / re-feed needed to complete the Solids and Odor Control Project that must be coordinated with the EPS project.	If our project gets to this cutover first, additional costs maybe incurred.	Assume an additional $25K in costs.	10	$25,000		Jacobs	MOPO, PPL Cutover
Plant Operations	0	1000	PO	0-1000-PO-11	Yes	The project requires individual swap outs for each NPW pump in the SEC.	If additional steps or costs are incurred, the project budget could be negatively impacted.	Assume impacts for $5K for additional fiber lengths or connections.	5	$5,000		Jacobs	MOPO, NPW Replacement
Plant Operations	0	1000	PO	0-1000-PO-12	Yes	The project requires a SCADA ring reroute when connecting in the fiber. This will be coordinated with [redacted].	If additional steps or costs are incurred, the project budget could be negatively impacted.	Assume impacts for $5K for additional fiber lengths or connections.	5	$5,000		Jacobs	MOPO, SCADA Ring
Plant Operations	0	1000	PO	0-1000-PO-13	No	The performance standard for dewatering (TS >= 25%) cannot be met after exhausting all avenues (working with vendors, process optimization etc.).	PS will be less than 36% of the total sludge or none at all if BAF gets implemented under the EPS project.	[redacted] has to incur additional T&D costs because of wetter biosolids.	10	$0		[redacted]	Plant Operations, Performance Standard (BAF)
Plant Operations	0	1000	PO	0-1000-PO-14	Yes	[redacted] doesn't have enough operators to support startup and commissioning and/or extended SUC than currently planned.	Complexity of SUC; limited [redacted] operators available to support SUC.	[redacted] needs additional operators on contract during SUC. Assume 6 contracted operators for 2 months.	5	$384,000		[redacted]	Plant Operations, Availability of [redacted] Operations Staff
Plant Operations	0	1000	PO	0-1000-PO-16	Yes	Several MOPOs require existing gates and valves to be functional to complete in a timely and cost efficient manner.	If existing gates and valves do not function as needed, additional bypass pumping may be required.	Assume $75K in bypass pumping.	20	$75,000		Jacobs	Plant Operations, Operability of Existing Valves and Gates
Design	0	1000	DG	0-1000-DG-0		**Design**	Exhibit I of the Prime Agreement is not yet finalized.	This section is presented as currently known at the time of the GMP.					
Design	0	1000	DG	0-1000-DG-1	No	STAD Sludge Thickening Percent Solids	Was previously addressed in GMP 1. Since GMP 1, 45-day sustained production test has been added.	Assume and impact of (14) day delay with staff, polymer costs, and vendor travel.	10	$52,411		Jacobs	Design, Sludge Thickening Percent Solids

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

LAST UPDATED: 05/01/2025

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Design	0	1000	DG	0-1000-DG-2	No	STAD Sludge Thickening Percent Recovery	Was previously addressed in GMP 1. Since GMP 1, 45-day sustained production test has been added.	Assume and impact of (14) day delay with staff, polymer costs, and vendor travel.	10	$52,411		Jacobs	Design, Sludge Thickening Percent Recovery
Design	0	1000	DG	0-1000-DG-3	No	Sludge Thickening Polymer Dose This contract includes a performance requirement for the polymer dose.	If Jacobs is unable to meet the performance requirement due to vendor performance or actual sludge conditions, then the project budget and schedule will be negatively impacted.	Assume an impact of $250K to replace or supplement equipment and piping, or time to achieve performance requirement.	10	$250,000		Jacobs	Design, Sludge Thickening Polymer Dose PR
Design	0	1000	DG	0-1000-DG-4	No	STAD Process Temperature This contract includes a performance requirement for Process Temperature.	If Jacobs is unable to meet the performance requirement due to vendor performance (heat exchangers, pumping, etc.) or actual sludge conditions, then the project budget and schedule will be negatively impacted.	Assume an impact of (3) MO of additional time to meet the performance requirement.	20	$340,407		Jacobs	Design, Process Temperature PR
Design	0	1000	DG	0-1000-DG-5	No	STAD Volatile Solids Reduction (VSR) – Vector Attraction Reduction This contract includes a performance requirement.	If Jacobs is unable to meet the performance requirement due to vendor performance (heat exchangers, pumping, etc.) or actual sludge conditions, then the project budget and schedule will be negatively impacted.	Assume an impact of (3) MO of additional time to meet the performance requirement and get rid of the flies.	20	$340,407		Jacobs	Design, VSR PR
Design	0	1000	DG	0-1000-DG-6	No	Sludge Dewatering Percent Solids	Was previously addressed in GMP 1. Since GMP 1, 45-day sustained production test has been added.	Assume and impact of (14) day delay with staff, polymer costs, and vendor travel.	10	$52,411		Jacobs	Design, Sludge Dewatering Percent Solids
Design	0	1000	DG	0-1000-DG-7	No	Sludge Dewatering Percent Recovery	Was previously addressed in GMP 1. Since GMP 1, 45-day sustained production test has been added.	Assume and impact of (14) day delay with staff, polymer costs, and vendor travel.	10	$52,411		Jacobs	Design, Sludge Dewatering Percent Recovery
Design	0	1000	DG	0-1000-DG-8	No	Sludge Dewatering Polymer Dose This contract includes a performance requirement for the polymer dose.	If Jacobs is unable to meet the performance requirement due to vendor performance or actual sludge conditions, then the project budget and schedule will be negatively impacted. Polymer selection and testing will occur in first (3) MO of commissioning.	Assume an impact of $250K to replace or supplement equipment and piping, or time to achieve performance requirement.	5	$250,000		Jacobs	Design, Sludge Dewatering Polymer Dose PR
Design	0	1000	DG	0-1000-DG-9	No	Biosolids Product – Ohio EPA EQ ("Class A") This contract includes a performance requirement for achieving Class A.	If Jacobs is unable to meet the performance requirement due to vendor performance or actual sludge conditions, then the project budget and schedule will be negatively impacted.	Assume an impact of (3) MO of additional time to meet the performance requirement.	10	$340,407		Jacobs	Design, Class A Biosolids
Design	0	1000	DG	0-1000-DG-10	No	Hydrogen Sulfide Concentration	Was previously addressed in GMP 1. Since GMP 1, 45-day sustained production test has been added.	Assume and impact of (14) day delay with staff, polymer costs, and vendor travel.	10	$52,411		Jacobs	Design, Hydrogen Sulfide Concentration

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

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Design	0	1000	DG	0-1000-DG-11	Yes	The performance requirement table includes (10) performance guarantees.	The risk is that the (45)-day test needs to be repeated / restarted because these performance guarantees are not met. Causes of failures during the (45)-day window include vendor failure, cascading failure, etc.	(2) MO	30	$340,407		Jacobs	Design, Performance Test Restart
			DG		No	Total Siloxane Concentration	DELETED	Closed					
			DG		No	Discharge Temperature	DELETED	Closed					
Design	0	1000	DG	0-1000-DG-13	No	The growth factor is larger than the incremental 1% currently assumed.	During the cost savings analysis efforts, the 20% growth factor was removed due to capital cost savings needed to keep the project moving forward.	There is insufficient capacity in the solids process to address solids flows and loads. Does this belong on the Risk Register?	5	$2,500,000	Closed, no risk.		Design, Growth Factor
Design	0	1000	DG	0-1000-DG-14	No	The project produces Class A EQ biosolids certified by the Ohio EPA but not by neighboring states of KY and IN.	Desire for disposal/application in KY and/or IN requiring additional testing to meet their requirements.	Additional testing is required to demonstrate Class A biosolids for neighboring states.	20	$211,000		[redacted]	Design, Biosolids Management
Design	0	1000	DG	0-1000-DG-15	No	The performance standard for dewatering (TS >= 25%) cannot be met after exhausting all avenues (working with vendors, process optimization etc.).	PS will be less than 36% of the total sludge or none at all if BAF gets implemented under the EPS project.	[redacted] has to incur additional T&D costs because of wetter biosolids.	10	$0		[redacted]	Design, Performance Standard (BAF)
Project Scope, Schedule, Budget (Definition,	0	1000	SS	0-1000-SS-0		**GMP Scope, Schedule, Budget (Risks to GMP Definition / Estimate)**							
Project Scope, Schedule, Budget (Definition, Estimate Risk)	0	1000	SS	0-1000-SS-1	Yes	If we run out of Allowances budgeted in the GMP.	The Prime Agreement states that underruns / overruns on the Allowances are owned by [redacted].	Assume allowances overrun by 5%.	10	$734,614	Careful selection of values.	[redacted]	Allowances, Final Values
Project Scope, Schedule, Budget (Definition, Estimate Risk)	0	1000	SS	0-1000-SS-2	No	The GMP will include Allowances. The Prime Agreement states that underruns / overruns on the Allowances are owned by [redacted].	If the actual cost of an Allowance is less than the budget, the project budget will be positively impacted.	Assume allowances underrun by 5%.	10	$200,000	Careful selection of values.	[redacted]	Allowances, Opportunity for Improved Final Values
Project Scope, Schedule, Budget (Definition, Estimate Risk)	0	1000	SS	0-1000-SS-3	No	At the time of the GMP, we had not located additional storage for construction. Given constraints on most work areas on the existing site, construction laydown and storage will be tight.	If close and economical storage cannot be located, additional costs for rental or double handling may be incurred.	Assume an impact of $3K / MO during the critical (24) MO of construction.	10	$72,000	Best value selection of proposers.	Jacobs	GMP Definition, Close and Economical Storage

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[redacted]

UPDATED BY: Jacobs

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Project Scope, Schedule, Budget (Definition, Estimate Risk)	0	1000	SS	0-1000-SS-4	No	Opportunity for Continuing Construction	If we can find a way to maintain construction after completion of hazardous soils by using GP2, the construction schedule may improve.	Could be an opportunity to decrease gap in construction between GMP2 and GMP3.	30	$50,000	Current schedule and plan in discussion.	[redacted]	Schedule, Opportunity to Reduce Duration
Project Scope, Schedule, Budget (Definition, Estimate Risk)	0	1000	SS	0-1000-SS-5	Yes	Penalties for delays beyond 6 months that will start impacting other CD projects	Schedule is significantly delayed to an extent that it starts impacting CD projects depending on completion of this project.	EPA imposes penalties for not meeting critical CD milestones.	5	$0	Current schedule and plan in discussion.	[redacted]	Schedule, EPA Penalty for Delays
Engineering SDCs	3	1000	SD	3-1000-SD-0		**Engineering Services During Construction**							
Engineering SDCs	0	1000	SD	0-1000-SD-1	Yes	The pricing for the SDCs with the GMP is based on certain assumptions regarding the number of RFIs, submittals, DCNs, etc.	If the actual level of effort of the SDCs is less than estimated, the project budget will be positively impacted.	This percentage an impact is set by how aggressive the pricing is. Assume that this portion of the SDCs improves by 5% = $250K	20	$250,000	Change these depending on final SDC value.	Jacobs	SDC, Opportunity that LOE is Lower
Engineering SDCs	0	1000	SD	0-1000-SD-2	Yes	The pricing for the SDCs with the GMP is based on certain assumptions regarding the number of RFIs, submittals, DCNs, etc.	If the actual level of effort of the SDCs is more than estimated, the project budget will be negatively impacted.	This percentage an impact is set by how aggressive the pricing is. Assume that this portion of the SDCs improves by 5% = $250K	20	$250,000	Change these depending on final SDC value.	Jacobs	SDC, Risk that LOE is Short
Engineering SDCs	0	1000	SD	0-1000-SD-3	Yes	The SDCs are highly dependent on skilled, integrated staff.	If staff availability is less than planned, or if staff turnover is high, the overall efficiency of RFI, Submittal, and DCN processing will decrease.	Assume an impact to this portion of the SDCs of 5% = $250K.	20	$250,000		Jacobs	SDC, Staff Availability and Turnover
Engineering SDCs	0	1000	SD	0-1000-SD-4	Yes	[redacted] and Jacobs will be completing dual reviews of submittals, RFI's, etc.	If the SDC workload is increased beyond expectations as a result of [redacted] involvement in the review process for RFIs, Submittals, and DCNs, the SDC budget will be negatively impacted.	Assume an impact to this portion of the SDCs of 5% = $250K.	10	$250,000		Jacobs	SDC, [redacted] Dual Review
Construction / Commissioning / Closeout / Warranty	4	2000	PA	4-2000-PA-0		**Construction / Commissioning / Closeout / Warranty - Vendors**							
Construction / [illegible]	4	2000	PA			**General (Common Risks Best Priced in Aggregate)**							
					No	T's and C's - cost to go to the next vendor	See details below.				Will depend on the particulars of the selected vendors.		
					No	Delays in Delivery / Completeness of Delivery Vendors currently have fewer delays across the board	See details below.				Will depend on the particulars of the selected vendors. Mitigation approach is to carefully scope and reconcile bids.		

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

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Construction / Commissioning / Closeout / Warranty - Vendors	0	2000	PA	0-2000-PA-1	Yes	The preparation and review time for the GMP was very short.	If issues arise where process equipment was not properly vetted given the short window, the project budget will be negatively impacted.	Process equipment packages are worth $11M and there are (24). Assume impacts to (2 - 3) packages that increase costs of those packages by 30% (cost to next proposer) beyond Design Evolution.	20	$285,000	Will depend on the particulars of the selected vendors. Mitigation approach is to carefully scope and reconcile bids.	Jacobs	Vendors, General, GMP Review Time
Construction / Commissioning / Closeout / Warranty - Vendors	0	2000	PA	0-2000-PA-2	Yes	The A's and C's detail out what is included in the GMP for process equipment startup time (Table F).	If additional services are required to comply with [redacted] requirements, then the project budget will be negatively impacted.	The overall impact of Table F is approximately $100K.	20	$100,000	Will depend on the particulars of the selected vendors. Mitigation approach is to carefully scope and reconcile bids.	Jacobs	Vendors, General, Additional Vendor Training Time
Construction / Commissioning / Closeout / Warranty - Vendors	0	2000	PA	0-2000-PA-3	Yes	The performance requirements for the project are not complete. The impacts of those performance requirements are sometimes not fully understood until commissioning the equipment.	If performance requirement gaps are discovered after signing the GMP or during commissioning, the project budget will be negatively impacted.	Process equipment packages are worth $11M and there are (24). Assume impacts to (2) packages that increase costs of those packages by 30% (cost to next proposer) beyond Design Evolution.	10	$285,000	Will depend on the particulars of the selected vendors. Mitigation approach is to carefully scope and reconcile bids.	Jacobs	Vendors, General, Performance Requirement Gaps
Construction / Commissioning / Closeout / Warranty - Vendors	0	2201	PA	0-2201-PA-2	Yes	We are relying on the domestic content statements from the vendors for the ITC.	If the actual, verified Domestic Content of the suppliers equipment is less than stated at proposal time, we will need to increase Domestic Content.	Process equipment packages are worth $11M and there are (24). Assume impacts to (2 - 3) packages that increase costs of those packages by 30% (cost to next proposer) to achieve Domestic Content requirement.	10	$100,000		Jacobs	Vendors, Procav Pumps, Domestic Content
	4	2101	PA			**Truck Scale (Moved to Subcontractors)**							
	4	2105	PA			**CNPW Tank**							
Construction / Commissioning / Closeout / Warranty - Vendors	0	2105	PA	0-2105-PA-1	Yes	The equalization tanks are inexpensive polyethylene tanks which sometime have manufacturing defects and sometimes don't hold up to installation stresses.	If the poly tank needs to be removed and replaced due to leaking, the project budget will be negatively impacted.	Assume removal and replacement of poly tank. Tank replacement cost is $5K / EA plus labor to remove and replace.	10	$15,000		Jacobs	Vendors, CNPW Tank, Tank Replacement
	4	2016	PA			**Condensate Tank (Covered by Plumber)**							
	4	2201	PA			**Progressive Cavity Pumps**							
Construction / Commissioning / Closeout / Warranty - Vendors	0	2201	PA	0-2201-PA-1	Yes	The 60% quantity and size of pumps has changed in 90% design, not yet complete at the time of this draft GMP.	The changes in the quantity and sizing is beyond the 2% design evolution. Depending on the outcome of the changes, these pumps could become more expensive. This is the risk that we cannot move the design back to the 60% basis.	Assume an increase of 15% to existing purchase agreement.	30	$102,000		Jacobs	Vendors, Procav Pumps, 90% Design
	4	2203	PA			**Digester Gas Safety Equipment**							

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[redacted]

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Construction / Commissioning / Closeout / Warranty - Vendors	0	2203	PA	0-2203-PA-1	Yes	The 60% quantity and size of openings has changed in 90% design, not yet complete at the time of this draft GMP.	The changes in the quantity and sizing is beyond the 2% design evolution. Depending on the outcome of the changes, these additional 316 SST could become more expensive. This is the risk that we cannot move the design back to the 60% basis.	Assume an increase of 15% to existing purchase agreement.	20	$107,250		Jacobs	Vendors, Gas Safety, Additional Pieces, 90% Design
	4	2204	PA			**Chopper Pumps / Mixing Nozzles (SRC, TDL)**							
Construction / Commissioning / Closeout / Warranty - Vendors	0	2204	PA	0-2204-PA-1	Yes	Previous experience with Vaughan	Vaughan is not always reliable / dependable on purchase agreements, submittals, or pricing hold.	Assume this could cost the project an additional 10% on this purchase agreement.	20	$68,500		Jacobs	Vendors, Chopper Pumps, Reliability
Construction / Commissioning / Closeout / Warranty - Vendors	0	2204	PA	0-2204-PA-2	Yes	The 90% design may change motor horsepower and due to sludge viscosity and flow rate.	The changes in the quantity and sizing is beyond the 2% design evolution. Depending on the outcome of the changes, these pumps could become more expensive. This is the risk that we cannot move the design back to the 60% basis.	Assume an increase of 15% to existing purchase agreement.	20	$102,750		Jacobs	Vendors, Chopper Pumps, Sludge Viscosity, 90% Design
	4	2205	PA	Good		**Sludge Heat Exchangers**							
	4	2206	PA			**Sludge Screens**							
Construction / Commissioning / Closeout / Warranty - Vendors	0	2206	PA	0-2206-PA-1	Yes	Previous experience with Hydro indicated that, should there be a performance issue discovered during submittals or commissioning, they will be difficult to deal with.	If issues arise, there is an increased chance of having to pay to remedy.	Assume an increase of 15% to existing purchase agreement.	10	$97,500		Jacobs	Vendors, Sludge Screens, Commissioning Performance
	4	2209	PA			**Polymer Systems**							
Construction / Commissioning / Closeout / Warranty - Vendors	0	2209	PA	0-2209-PA-1	Yes	Jacobs has unit responsibility for the polymer batching, storage, and feed (less expensive than giving vendor unit responsibility by A LOT). Polymer types will be tested and selected during commissioning.	If this unit responsibility results in additional vendor costs for different components, the project budget will be negatively impacted.	Assume and impact to the this package of 15%.	10	$61,950		Jacobs	Vendors, Polymer System Unit Responsibility
	4	2210	PA	Good		**Ferric Feed Pumps**							
	4	2211	PA			**Screw Conveyor System**							
Construction / Commissioning / Closeout / Warranty - Vendors	0	2211	PA	0-2211-PA-1	Yes	The 90% design will change the conveyor and cake storage arrangement.	The changes in the quantity and sizing is beyond the 2% design evolution. Depending on the outcome of the changes, these pumps could become more expensive. This is the risk that we cannot move the design back to the 60% basis.	Assume an impact of 10% to the combined value of these purchase agreements.	10	$249,000		Jacobs	Vendors, Screw Conveyor and Cake Storage, 90% Design

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

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	4	2212	PA			**Cake Storage / Conveyors / Loadout System**							
					No	See Screw Conveyors							
	4	2213	PA	44 56 20		**Vertical Centrifugal Pumps**							
Construction / Commissioning / Closeout / Warranty - Vendors	0	2213	PA	0-2213-PA-1	Yes	In the 90% design the motor horsepower increasing due to location change for HVAC heat exchangers.	The changes in the quantity and sizing is beyond the 2% design evolution. Depending on the outcome of the changes, these pumps could become more expensive. This is the risk that we cannot move the design back to the 60% basis.	Assume an increase of 20% in the purchase agreement.	20	$50,400		Jacobs	Vendors, VC Pumps, Motor Changes, 90% Design
	4	2214	PA			**FRP Tanks**							
Construction / Commissioning / Closeout / Warranty - Vendors	0	2214	PA	0-2214-PA-1	Yes	The 90% design will increase the size of the tanks.	The changes in the quantity and sizing is beyond the 2% design evolution. Depending on the outcome of the changes, these pumps could become more expensive. This is the risk that we cannot move the design back to the 60% basis.	Assume an impact of 10% to the purchase agreement beyond design evolution.	20	$62,300		Jacobs	Vendors, FRP Tanks Size Increase, 90% Design
Construction / Commissioning / Closeout / Warranty - Vendors	0	2214	PA	0-2214-PA-2	Yes	Tank nozzles / outlets / accessories, quantiles / sizes were interpreted from the 60% design.	If the nozzle quantity and sizing changes dramatically, this will exceed the design evolution.	Assume an impact of 5% to the purchase agreement beyond design evolution.	10	$31,150		Jacobs	Vendors, FRP Tanks Outlet Size and Count
	4	2215	PA			**DG / NG Boilers**							
Construction / Commissioning / Closeout / Warranty - Vendors	0	2215	PA	0-2215-PA-1	Yes	Siemens PLC acceptability / suitability.	If the Siemens PLC issue results in additional project costs, the budget will be negatively impacted.	Assume an impact of parts of pieces of $50K.	10	$50,000		Jacobs	Vendors, DG / NG Builders PLC
Construction / Commissioning / Closeout / Warranty - Vendors	0	2215	PA	0-2215-PA-2	Yes	The boiler manufacturer did not provide extended warranty costs, so they were assumed.	If actual costs exceed assumption, the project budget will be negatively impacted.	Assume and additional $50K to get the necessary warranty coverage.	20	$50,000		Jacobs	Vendors, DG / NG Extended Warranty
					No	No Low E burner	CLOSED					Jacobs	
	4	2218	PA			**Odor Control System**							

PROJECT-LEVEL RISK REGISTER

[redacted]

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LAST UPDATED: 05/01/2025

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Construction / Commissioning / Closeout / Warranty - Vendors	0	2218	PA	0-2218-PA-1	Yes	The selected Odor Control system was half the cost of other systems. The vendor is relatively unknown. Due diligence indicated that we should move forward with them.	The next vendor is significantly more expensive. Impact would be to work with another vendor to get them closer to our budget should this vendor not be able to provide what we need.	Assume we could get the next vendor within $500K of this vendor.	10	$500,000		Jacobs	Vendors, Odor Control, Overall Cost
Construction / Commissioning / Closeout / Warranty - Vendors	0	2218	PA	0-2218-PA-2	No	For the GMP, we relied on a simplified ductwork arrangement to lower [redacted]s support costs.	Changes at 90% should make the ductwork less expensive, but could increase civil costs for [redacted].	Assume a $50K increase in the wash for [redacted] ductwork costs (net) and civil work. We will work to make this $0.	20	$50,000		Jacobs	Vendors, Odor Control, 90% Changes
	4	2219	PA	Good		**DS Chopper Pumps / Mixing Nozzles (DGA)**							
	4	2221	PA			**Ferric Sump Pumps**							
Construction / Commissioning / Closeout / Warranty - Vendors	0	2221	PA	0-2221-PA-1	Yes	Changes 60% to 90% - opportunity for these to get cheaper.	If we can change (4) of these pumps to less expensive models, the project budget will be positively impacted.	Assume these pumps could get less expensive by $50K.	20	$50,000		Jacobs	Vendors, Sump Pumps, Opportunity for Lower Cost, 90% Design
	4	2223	PA	Good		**Digester Gas Holder System**							
	4	2224	PA	Good		**Sluice Gates**							
	4	2225	PA	Good		**Screw Induced Centrifugal Pumps**							
	4	2227	PA	Good		**Induced Flow / Recessed Impeller Centrifugal Pumps**							
	4	2228	PA			**Automatic Strainer**							
Construction / Commissioning / Closeout / Warranty - Vendors	0	2228	PA	0-2228-PA-1	Yes	SP Kinney hasn't passed Ariba and we've had significant issues with them in the past, next guy is +$50K, timing of submittals, delivery, responsiveness.	If we can't get SP Kinney to a place of comfort, we may have to buy from the next vendor.	Next vendor is +$50K.	20	$50,000		Jacobs	Vendors, Strainer, Vendor Performance
	4	2229	PA	44 56 10		**Horizontal End Suction Centrifugal Pumps**							
Construction / Commissioning / Closeout / Warranty - Vendors	0	2229	PA	0-2229-PA-1	Yes	In the 90% design the motor horsepower increasing due to location change for HVAC heat exchangers.	The changes in the quantity and sizing is beyond the 2% design evolution. Depending on the outcome of the changes, these pumps could become more expensive. This is the risk that we cannot move the design back to the 60% basis.	Assume an increase of 20% in the purchase agreement.	20	$37,200		Jacobs	Vendors, HESC Pumps, Motor Changes, 90% Design
	4	2230	PA	Good		**VRF Equipment**							
	4	2231	PA	Good		**Hot Water Heater (TDL)**							
	4	2232	PA	Good		**Sound Dampening Panels**							
	4	2233	PA	Good		**Laboratory Equipment**							

PROJECT-LEVEL RISK REGISTER

[redacted]

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	4	2234	PA	Good		**Casework**							
	4	2235	PA	Good		**Lockers**							
	4	2236	PA	Good		**Furniture / Office Equipment**							
	4	2237	PA	Good		**Appliances**							
	4	2238	PA	Good		**A-Frame Crane**							
Construction / Commissioning / Closeout /	5	4000	SC	5-4000-SC-0		**Construction / Commissioning / Closeout / Warranty - Subcontractors**							
	5	4000	SC			**General (Common Risks Best Priced in Aggregate)**							
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4000	SC	5-4000-SC-1	Yes	Worker safety is the primary concern of Jacobs and all members of the construction team.	If there is a serious safety issue, significant additional costs may be incurred to go above and beyond the standard of care and best management practices.	Assume a serious safety issue that results in an additional $25K in training and provisions.	10	$25,000	Will depend on the particulars of the selected vendors. Mitigation approach is to carefully scope and reconcile bids.	Jacobs	SC General, Jacobs and Subcontractor Safety Programs
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4000	SC	5-4000-SC-2	Yes	Subcontractor Failure The project currently does not include SDI coverage, relying on subcontractor payment and performance bonds.	Without SDI coverage, replacing failing subcontractors is much more onerous and disruptive tasks. If a subcontractor fails that is working on the critical path, it usually does not make sense to wait for the bonding company to act (schedule delays are the largest impact).	Assume a critical path subcontractor fails and needs to be replaced. Minimum delay to the project is (2) MO beyond the corresponding impact if SDI was in place. In addition, direct, unrecoverable losses could be but substantial and would vary depending on circumstances - use $1M for this analysis. This risk can be closed if we use SDI.	20	$2,655,781	Mitigation strategy - prequalification for SDI, choose SDI over bonds	Jacobs	SC General, No SDI
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4000	SC	5-4000-SC-3	Yes	Vandalism If vandalism or unauthorized entry to the project occurs, Jacobs will need to respond to ensure there is no liability issue.	Assume added cameras, fencing, security guards, etc.	Enhanced security could add off hours security, the most expensive of the options. Assume (18) MO (78 WK) for a fulltime guard for nights and weekends at $40 / HR.	20	$340,000		Jacobs	SC General, Vandalism Responses
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4000	SC	5-4000-SC-4	Yes	The project includes significant W / MBE work.	If W / MBE capacity is low, performance is problematic, they may need to be replaced. As we need the participation, the likely replacements will be W / MBE.	Assume a schedule impact to the project critical path of (2) WKS to replace.	20	$382,398		Jacobs	SC General, MBE / WBE Replacement+

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Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4000	SC	5-4000-SC-5	Yes	Subcontractors are not scheduled to start for several months to a year from the GMP date.	If a subcontractor cancels their subcontract or fails to mobilize, the project budget could be negatively impacted.	Assume the next subcontractor costs and additional $250K.	10	$250,000		Jacobs	SC General, Key Subcontractor Replacement
Construction / Commissioning / Closeout /	5	4000	SC	54000SC	No	Prime Agreement T's and C's that cannot be passed on to Subcontractors.	Included in appropriate subcontractors.		20	$500,000	Will depend on the particulars of the selected vendors. Risk	Jacobs	SC General, T's and C's
Construction / Commissioning / Closeout /	5	4000	SC	54000SC	No	Project Sequence Changes / Variance	Included in appropriate subcontractors.		10	$2,500,000	Will depend on the particulars of the selected vendors. Risk	Jacobs	SC General, Project Sequence
Construction / Commissioning / Closeout /	5	4000	SC	54000SC	No	Trade stacking risks	Included in appropriate subcontractors.		30	$250,000	Will depend on the particulars of the selected vendors. Risk	Jacobs	SC General, Trade Stacking
	5	4101	SC			**General Subcontractor**							
Construction / Commissioning / Closeout / Warranty -	5	4101	SC	5-4101-SC-1	No	There is a sewer line that will be laid through the PCB area and to Carroll.	If this alignment includes observed contaminated waste, the budget will be negatively impacted.	Assume $250K in contaminated waste and cleanup.	5	$250,000		[redacted]	SC GS, Carroll Hazmat Schedule Impact
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-2	Yes	The GMP is based on an assumption around the amount of site maintenance required.	If additional site maintenance is required, the project budget will be negatively impacted.	Assume an additional (6) MO of higher intensity site maintenance at $5K / MO.	20	$30,000		Jacobs	SC GS, Site Maintenance
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-3	Yes	The GMP is based on an assumption around the amount of winter protection required.	If additional winter protection is required, the project budget will be negatively impacted.	Assume an additional (3) MO of higher intensity site maintenance at $5K / MO.	20	$15,000		Jacobs	SC GS, Snow Removal
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-4	Yes	The General Subcontractor is on the critical path in almost all areas and phases of the schedule during construction (table area EDB, TDL levels).	If the General Subcontractor is delayed on the critical path due to trade difficulties, staffing difficulties, M / WBE issues, or estimate errors, the project critical path will be impacted.	Assume an impact to the critical path of (3) MO.	10	$2,483,672		Jacobs	SC GS, Critical Path

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Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-5	Yes	Yard piping routes though the existing plant. [redacted] has included some additional fittings for offsets and trouble spots. One of the pipelines (NG) needs to maintain a drainage slope [redacted] has included means and methods to pothole and verify known utilities to ensure proper drainage prior to installation.	If additional fittings are required beyond wha[redacted] has carried,	Assume (6) additional trouble spots where additional fittings and insulation are needed at $5K / location.	40	$30,000		Jacobs	SC GS, Yard Pipe Offsite, Additional Scope
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-6	Yes	Yard piping routes through the existing plant. [redacted] has included standard installation time for this work.	If significant additional time is required for [redacted] to transit this area, they may need to ask for relief.	Assume an additional (10) working days to transit this area at $5K / DAY for that crew.	20	$50,000		Jacobs	SC GS, Yard Pipe Offsite, Productivity
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-7	Yes	The design does not plan on any condensate manholes between the new tabletop and the SEC.	If additional condensate manholes, electrical heat trace, circuits, are required, the project budget will be negatively impacted.	Assume (1) additional condensate manhole and electrical work at $40K.	10	$40,000		Jacobs	SC GS, Condensate Manholes
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-8	Yes	The planned [redacted] storm water tie-in may be in an overly congested area of existing piping.	If the [redacted] storm tie-in needs to move, additional costs for a new structure will be incurred.	Assume an additional $50K for additional manholes.	20	$50,000		Jacobs	SC GS, Tie In Location
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-9	Yes	The planned [redacted] storm water tie-in may be in an overly congested area of existing piping.	If the [redacted] storm sewer connection can occur at the existing manhole (and function), the street cut and manhole would be saved.	Assume a savings of $30K.	20	$30,000		Jacobs	SC GS, Opportunity, Tie In Location
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-10	Yes	The new Carroll MH does not include a drop.	If [redacted] requires an inside drop, the project budget will be negatively impacted.	This would have to be an inside drop into the box culvert. Assume $30K to retrofit.	20	$30,000		Jacobs	SC GS, Carroll Inside Drop
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-11	Yes	PCBs were discovered close to the edge of the TDL excavation.	If PCBs are present in the excavation side slopes, they will need to be covered to protect worker safety.	Costs to cover and maintain side slopes would be approximately $40K.	20	$40,000		Jacobs	SC GS, Excavation Slope Covers

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Construction / Commissioning / Closeout / Warranty -	5	4101	SC	5-4101-SC-12	No	The heat tracing and insulation scope for exposed pipe on the Digesters in the 60% design was unresolved.	If additional heat trace and insulation beyond inclusions would impact the project budget.	Assume an additional $100K in heat tracing costs beyond Design Evolution.	10	$100,000	Work with this on the VE log.	Jacobs	SC GS, Digester Hanging Pipe Heat Trace
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-13	Yes	[redacted] is installing work that will need to be inspected prior to covering in process areas due to slow inspection services.	If work needs to be uncovered to late pass inspections, the project budget will be negatively impacted.	Assume uncovering / recovering costs of $25K.	10	$25,000		Jacobs	SC GS, Building Department Re-Inspections
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-14	Yes	[redacted] is carrying $200K for temporary heating for the project.	Weather depending, additional temporary heating may be required.	Assume an 50%.	20	$100,000		Jacobs	SC GS, Temporary Heat
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-15	Yes	This trade will be coordinated with others for premium routing space in the building.	If not coordinated correctly, additional process piping may be needed (if coordinated correctly, additional piping may also be required).	Assume an additional 3% beyond Design Evolution and Design changes.	20	$180,000		Jacobs	SC GS, Pipe Installation Productivity
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-16	Yes	Concrete durations for the project are on the critical path and aggressive.	If the concrete schedule slips, additional overtime premiums for other trades may be incurred.	Assumes an additional $25K in OT premiums to recover the schedule for trades other than [redacted].	20	$25,000		Jacobs	SC GS, Concrete Productivity
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-17	Yes	The means and methods employed for concrete thermal protection are at the minimum.	Jacobs may require additional provisions to ensure proper protection. This will be examined during submittal reviews.	Assume additional costs of $15K for piping and probes at the TDL and $10K at the DGA.	20	$25,000		Jacobs	SC GS, Concrete Thermal Protection
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-18	Yes	The project includes water cure.	If we can change to membrane cure, the schedule could improve.	Assume savings of $25K.	10	$25,000		Jacobs	SC GS, Opportunity to Remove Water Cure
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-19	Yes	The seal detail for the base of the digesters has not been finalized.	The finalized seal / expansion joint and reinforcing may be more substantial than currently envisioned.	Assume an additional $25K of work per Digester for this detail beyond Design Evolution.	40	$75,000		Jacobs	SC GS, Digester Seal Detail
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-20	Yes	The digesters will be leak tested prior to placing into service. The hydrostatic test will be exerting 25+ psi on the concrete - significantly more than typical concrete installations. The digester cone receives no coating.	If the cones leak, additional crack injection may ne required. In the worst case, additional coatings may need to be added. These provisions were not included in the GMP. This leaking could place the digesters on the critical path.	Assume impacts of $100K per Digester.	20	$300,000		Jacobs	SC GS, Additional Crack Injection

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[redacted]

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Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4301	SC	5-4301-SC-21	Yes	[redacted] is digging several significant trenches close to existing surficial infrastructure.	If surficial infrastructure not schedule for demolition is damaged directly or indirectly (undermining), the project budget will be impacted.	Assume $25K of repairs to concrete, asphalt, curbs, gutters, etc.	10	$25,000		Jacobs	SC GS, Repair Existing Infrastructure
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4301	SC	5-4301-SC-22	Yes	Unable to get enough apprentices to perform 15% of the labor hours to meet ITC requirements	The DB currently projects ~10% of the labor hours will be performed by apprentices.	A cure payment of $50 per hour of labor hours not performed by apprentices will need to be paid to meet the Apprenticeship Requirement.	5	$700,000		[redacted]	SC GS, Apprenticeship Requirements
	5	4102	SC			**Digester Tanks Subcontractor**							
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4102	SC	5-4102-SC-1	Yes	The subcontract terms and conditions have not yet been negotiated. Bid responses indicate that this could be an issue.	If subcontractor is unwilling to accept liquidated damages, payment terms, or other [redacted] requirements, the following may happen: 1. Worst case, not able to sign the subcontract and the next vendor will be employed. 2. May need to finance or pay vendor to finance	For this subcontractor, assume cash flow costs or exposure to SDI replacement (currently SDI not utilized) that cost Jacobs 5% of subcontract value.	20	$450,000		Jacobs	SC Digesters, T's and C's
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4102	SC	5-4102-SC-2	Yes	The Digester Tanks Subcontractor could be on the critical path if their work is delayed. Their installation schedule is 6 - 7 DAY / WK, they could be short on recovery days should something get behind.	If this subcontractor is delayed due to trade difficulties, staffing difficulties (size of contractor), M / WBE issues, or estimate errors, the project critical path will be impacted.	Assume an impact to the critical path of (2) WK.	5	$52,411		Jacobs	SC Digesters, Productivity
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4102	SC	5-4102-SC-3	Yes	This subcontractors work will create work restrictions near the DIG and DGA areas. These areas could be worse if we have a crane height / airspace restriction concern.	If this factors create a no-work zone for periods of the day, the rate of progress at the DGA for other trades could be impacted.	Assume a work-shift change or added overtime of premiums of $100K for other trades.	30	$100,000		Jacobs	SC Digesters, Work Area Restrictions
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4102	SC	5-4102-SC-4	Yes	This subcontractor will need to have 15% onsite Apprenticeship participation. They have committed to this via a union approach.	They are not from Ohio.	If there are concerns about the certification process, the subcontractor may ask for additional costs to achieve the apprenticeship requirement.	10	$25,000		Jacobs	SC Digesters, Apprenticeship Support
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4102	SC	5-4102-SC-5	Yes	Microbial Induced Corrosion Testing may indicate that additional provisions are needed for protecting the Stainless Steel.	If MIC is indicated, additional coatings may be needed. We did not include MIC testing in the GMP, but understand it is a minor cost.	Assume $50K in coatings in specific areas for each Digester.	20	$150,000		Jacobs	SC Digesters, MIC Testing
Construction / Commissioning / Closeout / Warranty -	5	4102	SC	54102SC	No	This subcontractor's work is in the flood zone and they are working during high water times.	If this subcontractor is delayed because of flooding, we assume this would become a Force Majeure claim.		20	$150,000		Jacobs	SC Digesters, Flood Zone
Construction / Commissioning / Closeout /	5	4102	SC	54102SC	No	GMP Price Volatility	See escalation approach.		20	$25,000		Jacobs	SC Digesters, Domestic Preference

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Construction / Commissioning / Closeout /	5	4102	SC	54102SC	No	Stainless Steel Plate Prepayment	See escalation approach.		10	$2,500,000		Jacobs	SC Digesters, Plate Prepurchase
	5	4103	SC			**Precast Concrete Subcontractor**							
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4103	SC	5-4103-SC-1	Yes	This subcontractor will be on the critical path at the TDL and blocking the prime real estate during erection and welding weeks.	If protection activities and coordination efforts result in a delay to the critical path, additional overtime will be ordered.	Assume $10K of additional overtime.	10	$10,000		Jacobs	SC Precast, Domestic Preference
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4103	SC	5-4103-SC-2	Yes	The approach with this subcontractor is to have them be exempt from the Apprenticeship requirement because of their size.	If this assumption is incorrect, additional costs may be incurred to ensure they can be qualified.	Assume an impact of $30K.	20	$30,000		Jacobs	SC Precast, Apprenticeship
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4103	SC	5-4103-SC-3	Yes	The subcontract terms and conditions have not yet been negotiated. Bid responses indicate that this could be an issue.	If subcontractor is unwilling to accept liquidated damages, payment terms, or other [redacted] requirements, the following may happen: 1. Worst case, not able to sign the subcontract and	For this subcontractor, assume cash flow costs or exposure to SDI replacement (currently SDI not utilized) that cost Jacobs 5% of subcontract value.	20	$95,000		Jacobs	SC Precast, T's and C's
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4103	SC	5-4103-SC-4	Yes	Subcontractors have included embeds for the precast for pipe supports, duct supports, etc. Core Slab has labor to install a good number of embeds in their panels included in their bid.	Proper coordination between subcontractors could result in significantly more embeds than carried. This could add value to [redacted] down the road.	Assume an additional $150K in embeds across the trades.	30	$150,000		Jacobs	SC Precast, Embeds
	5	4104	SC			**Roofing Subcontractor**							
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4104	SC	5-4104-SC-1	Yes	The subcontract terms and conditions have not yet been negotiated. Bid responses indicate that this could be an issue.	If subcontractor is unwilling to accept liquidated damages, payment terms, or other [redacted] requirements, the following may happen: 1. Worst case, not able to sign the subcontract and the next vendor will be employed. 2. May need to finance or pay vendor to finance portion of the cash flow (could increase cost of risk).	For this subcontractor, assume cash flow costs or exposure to SDI replacement (currently SDI not utilized) that cost Jacobs 2% of subcontract value.	20	$38,000		Jacobs	SC Roofing, T's and C's
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4104	SC	5-4104-SC-2	Yes	The approach with this subcontractor is to have them be exempt from the Apprenticeship requirement because of their size.	If this assumption is incorrect, additional costs may be incurred to ensure they can be qualified.	Assume an impact of $30K.	20	$30,000		Jacobs	SC Roofing, Apprenticeship
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4104	SC	5-4104-SC-3	Yes	This bidder was significantly less expensive than others.	After vetting, we should be fine. If not, we would need another $100K to go to the next bidder.	Another $100K to go to the next bidder.	10	$100,000		Jacobs	SC Roofing, Core Business
	5	4107	SC			**Overhead Door Subcontractor**							

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[redacted]

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Construction / Commissioning / Closeout / Warranty -	5	4107	SC	5-4107-SC-1	Yes	The approach with this subcontractor is to have them be exempt from the Apprenticeship requirement because of their size.	If this assumption is incorrect, additional costs may be incurred to ensure they can be qualified.	Assume an impact of $30K.	20	$30,000		Jacobs	SC OHD, Domestic Preference
Construction / Commissioning / Closeout / Warranty -	5	4107	SC	5-4107-SC-2	Yes	Final door coating requirements may add costs beyond Design Evolution.	If this happens, the door budget will be short.	Assume additional coating / color / anodization costs of $25K (beyond DE).	10	$25,000		Jacobs	SC OHD, Final Coating Requirement
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4107	SC	5-4107-SC-3	Yes	Overhead Door states they have an aluminum door that can span 27 FT.	It is unclear if that span is in accordance with the Specifications. If the deflection is unacceptable, we may have to change to a heavier steel door or two smaller doors.	This could increase costs by $50K.	10	$50,000		Jacobs	SC OHD, Door Space / Deflection
	5	4108	SC			**Painting and Coating Subcontractor**							
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4108	SC	5-4108-SC-1	Yes	The subcontract terms and conditions have not yet been negotiated. Bid responses indicate that this could be an issue.	If subcontractor is unwilling to accept liquidated damages, payment terms, or othe[redacted] requirements, the following may happen: 1. Worst case, not able to sign the subcontract and the next vendor will be employed. 2. May need to finance or pay vendor to finance portion of the cash flow (could increase cost of risk).	For this subcontractor, assume cash flow costs or exposure to SDI replacement (currently SDI not utilized) that cost Jacobs 5% of subcontract value.	20	$100,000		Jacobs	SC Painting and Coating, T's and C's
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4108	SC	5-4108-SC-2	Yes	We have worked to identify a more economical painting approach than what was included in the 60% design.	This risk can be closed after the approach is agreed upon.	Currently about $1.2M short of what was included at 30%. Assuming[redacted] could want perhaps $250K of this scope.	20	$250,000		Jacobs	SC Painting and Coating, 90% Design
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4108	SC	5-4108-SC-3	Yes	Painting subcontractors often impact the critical path indirectly because of work area exclusions (hazardous atmosphere, masking, etc.).	This project includes electrical rooms where this may become an issue. Typical mitigation measures should eliminate this risk, if not the electrical subcontractor may be impacted with additional overtime premiums.	Assume an overtime premium impact of $15K.	10	$15,000		Jacobs	SC Painting and Coating, Work Area Exclusions
	5	4112	SC			**Bridge Cranes Subcontractor**							

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

LAST UPDATED: 05/01/2025

(R) Category	(R) WBS1 (TT)	(R) WBS2 (S/V)	(R) WBS3 (F/A)	(R) Risk ID	(R) Project Contingency Impact	Risk	Cause of Risk	Consequences	(R) Percentage of Occurrence	(R) Monetary Impact	Risk Response Plan	Risk Holder	Latest Update
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4112	SC	5-4112-SC-1	Yes	The subcontract terms and conditions have not yet been negotiated. Bid responses indicate that this could be an issue.	If subcontractor is unwilling to accept liquidated damages, payment terms, or other [redacted] requirements, the following may happen: 1. Worst case, not able to sign the subcontract and the next vendor will be employed. 2. May need to finance or pay vendor to finance portion of the cash flow (could increase cost of risk).	For this subcontractor, assume cash flow costs or exposure to SDI replacement (currently SDI not utilized) that cost Jacobs 2% of subcontract value.	20	$9,600		Jacobs	SC Bridge Crane, T's and C's
Construction / Commissioning / Closeout / Warranty -	5	4112	SC	5-4112-SC-2	Yes	The approach with this subcontractor is to have them be exempt from the Apprenticeship requirement because of their size.	If this assumption is incorrect, additional costs may be incurred to ensure they can be qualified.	Assume an impact of $30K.	20	$30,000		Jacobs	SC Bridge Crane, Payment Terms
Construction / Commissioning / Closeout /	5	4112	SC	5-4112-SC-3	Yes	The existing crane in the SEC may be used for work therein.	I[redacted] wants this crane recertified after use, we have not included that in the GMP.	Assume a recertification cost of $10K.	20	$10,000		Jacobs	SC Bridge Crane, Existing Certification
	5	4114	SC			**Rigid Inclusions Subcontractor**							
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4202	SC	5-4202-SC-1	Yes	The subcontract terms and conditions have not yet been negotiated. Bid responses indicate that this could be an issue.	If subcontractor is unwilling to accept liquidated damages, payment terms, or other [redacted] requirements, the following may happen: 1. Worst case, not able to sign the subcontract and the next vendor will be employed. 2. May need to finance or pay vendor to finance portion of the cash flow (could increase cost of risk).	For this subcontractor, assume cash flow costs or exposure to SDI replacement (currently SDI not utilized) that cost Jacobs 5% of subcontract value.	20	$65,650		Jacobs	SC Foundations, T's and C's
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4202	SC	5-4202-SC-2	Yes	Currently the plan is complete all deep foundations in a single mobilization.	The upper truck area may require an additional mobilization (these RI to be completed after backfill of lower area).	Assume (1) additional mobilization for $25K.	10	$25,000		Jacobs	SC Foundations, Additional Mobilizations
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4202	SC	5-4202-SC-3	Yes	Subcontractor had previously included $250K for open hole / collapse protection. After discussing, they agreed to exclude this and make it a risk issue.	If this work is needed, the project budget will be negatively impacted.	Subcontractor stated that this risk is worth $250K (removed from their bid).	20	$250,000		Jacobs	SC Foundations, Open Hole Collapse
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4202	SC	5-4202-SC-4	Yes	The Rigid Inclusions subcontractor is on the critical path in the TDL during construction.	If the rigid inclusion subcontractor is delayed on the critical path due to trade difficulties, staffing difficulties (size of contractor), M / WBE issues, or estimate errors, the project critical path will be impacted.	Assume an impact to the critical path of (2) WK.	10	$52,411		Jacobs	SC Foundations, Critical Path

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

LAST UPDATED: 05/01/2025

(R) Category	(R) WBS1 (TT)	(R) WBS2 (S/V)	(R) WBS3 (F/A)	(R) Risk ID	(R) Project Contingency Impact	Risk	Cause of Risk	Consequences	(R) Percentage of Occurrence	(R) Monetary Impact	Risk Response Plan	Risk Holder	Latest Update
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4202	SC	5-4202-SC-5	Yes	The design settlement for the project is set at 1/2" differential, 1" overall. The design is co-managed by Goettle and Jacobs.	If the actual conditions observed during installation or thereafter are different than the investigation indicated, the design approach may not achieve settlement requirements.	Assume an increase in the drilling subcontractors scope of 50% beyond Design Evolution and Design Changes.	20	$656,500	This is a mitigated risk, we selected Goettle because they agreed they could meet this; others did not.	Jacobs	SC Foundations, Settlement
Construction / Commissioning / Closeout /	5	4202	SC	5-4202-SC-6	Yes	[redacted] included spoils management costs for the driller. They were not generous.	If additional spoils management is needed, the project budget may be impacted.	Assume an additional crew part time for spoils management.	20	$25,000		Jacobs	SC Foundations, Additional Spoils Management
Construction / Commissioning / Closeout / Warranty -	5	4202	SC	5-4202-SC-7	Yes	If hazardous materials are discovered in the boreholes [redacted] will be responsible for disposal costs.	The schedule will be impacted.	Assume an impact of (1) MO to the critical path.	10	$827,891		Jacobs	SC Foundations, Additional Hazardous Materials
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4202	SC	54202SC	No	The Building Department has not approved the deep foundations package.	If the Building Department needs additional provisions not included in the GMP, the project budget will be negatively impacted.	Unknown	20	$50,000		Jacobs	SC Foundations, Building Department
	5	4115	SC			**Tank Restoration Subcontractor (See Allowances)**							
	5	4202	SC			**Fire Protection Subcontractor**							
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4202	SC	5-4202-SC-1	Yes	The subcontract terms and conditions have not yet been negotiated. Bid responses indicate that this could be an issue.	If subcontractor is unwilling to accept liquidated damages, payment terms, or other [redacted] requirements, the following may happen: 1. Worst case, not able to sign the subcontract and the next vendor will be employed. 2. May need to finance or pay vendor to finance portion of the cash flow (could increase cost of risk).	For this subcontractor, assume cash flow costs or exposure to SDI replacement (currently SDI not utilized) that cost Jacobs 2% of subcontract value.	20	$7,660		Jacobs	SC Fire, T's and C's
Construction / Commissioning / Closeout /	5	4202	SC	5-4202-SC-2	Yes	Currently no fire pump is included in the design.	If the Building Department requires a fire pump, the project budget will be negatively impacted.	Fire pump system costs are variable. Assume a standalone diesel backup system.	5	$1,200,000		Jacobs	SC Fire, Fire Pump
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4202	SC	5-4202-SC-3	Yes	This trade will be coordinated with others for premium space in the building.	If not coordinated correctly, additional sprinkler piping and heads may be needed (if coordinated correctly, additional piping and sprinkler heads may be required).	Assume an additional 5% beyond Design Evolution and Design changes.	20	$19,150		Jacobs	SC Fire, Final Design Coordination
Construction / Commissioning / Closeout / Warranty -	5	4202	SC	5-4202-SC-4	Yes	We do not have Building Department comments. Building Department comments sometimes impact sprinkled areas.	If Building Department required additional sprinkled areas, the project budget will be negatively impacted	Assume an additional 10% beyond Design Evolution and Design changes.	10	$38,300		Jacobs	SC Fire, Building Department Comments
	5	4203	SC			**Plumbing / HVAC Subcontractor**							

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

LAST UPDATED: 05/01/2025

(R) Category	(R) WBS1 (TT)	(R) WBS2 (S/V)	(R) WBS3 (F/A)	(R) Risk ID	(R) Project Contingency Impact	Risk	Cause of Risk	Consequences	(R) Percentage of Occurrence	(R) Monetary Impact	Risk Response Plan	Risk Holder	Latest Update
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4203	SC	5-4203-SC-1	Yes	The Plumbing / HVAC subcontractor is on the critical path in the TDL during construction.	If the plumbing / HVAC subcontractor is delayed on the critical path due to trade difficulties, staffing difficulties (size of contractor), M / WBE issues, or estimate errors, the project critical path will be impacted.	Assume an impact to the critical path of (2) WK.	10	$52,411		Jacobs	SC HVAC, Critical Path Schedule
Construction / Commissioning / Closeout / Warranty -	5	4203	SC	5-4203-SC-2	Yes	The HVAC filters may need to be removed and replaced at substantial completion.	I[redacted] does not want to do this with maintenance staff, the project budget will be negatively impacted.	Assume a replacement cost for units at $15K.	20	$15,000		Jacobs	SC HVAC, HVAC Equipment Replacements
Construction / Commissioning / Closeout / Warranty -	5	4203	SC	5-4203-SC-3	Yes	The HVAC controls may be overkill for what is actually needed.	If we can decrease the scope for the HVAC controls, the project budget will be positively impacted.	Assume a decrease in the HVAC controls of $100K.	20	$100,000		Jacobs	SC HVAC, Opportunity for Less Controls
Construction / Commissioning / Closeout / Warranty -	5	4203	SC	5-4203-SC-4	Yes	The HVAC scope is often the worst in terms of Design Evolution.	If the final HVAC scope exceeds the Design Evolution assigned, the project budget will be negatively impacted.	Assume an impact of an additional 8%.	10	$352,000		Jacobs	SC Electrical, Changes Beyond DE / DC
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4101	SC	5-4101-SC-5	Yes	[redacted] may need to route the new gas line into secondary treatment to get above flood plain. The design currently routes this underground.	If the gas line needs to penetrate the SEC above the flood plain, the building cladding will need to be removed and replaced.	Assume an impact of $25K to complete this work.	30	$25,000		Jacobs	SC HVAC, Gas Line Routing
	5	4301	SC			**Electrical Subcontractor**							
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4301	SC	54301SC	No	EDB difficult excavation for mew MV ductbank around four mile pump station, rerouting, the Willmer Ave gate is only entrance, half to go half roadway at a time electrical and FO ductbanks that need to protect in place that aren't properly shown, (2) known congested regions reviewed with Matt.	Duplicate						
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4301	SC	54301SC	No	Limitations in modifying existing 50-year old Primary Treatment MCC-7 for new project equipment - availability of aftermarket conversion kits for General Electric 7700 Line buckets. Also general age of equipment - plans for replacement under future projects.	Duplicate Two existing 15HP constant-speed Hauled Sludge Pumps in the basement of Primary Treatment are proposed to be replaced with new 20HP sludge pumps on VFDs for transfer out of the new underground FRP Sludge Receiving Tank. An odor control system is planned for this area as well.	May have to power pumps and odor control from adjacent Sludge Handing. Unconventional to power equipment from different areas, but can be accommodated with proper source labeling. Impact to cost, as MCC-7 could use some existing conduit where this option would require new conduit in Tunnel.					
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4301	SC	5-4301-SC-1	Yes	The Electrical subcontractor is on the critical path across multiple stages and areas during construction (table area EDB, TDL levels).	If the electrical subcontractor is delayed on the critical path due to trade difficulties, staffing difficulties, M / WBE issues, or estimate errors, the project critical path will be impacted.	Assume an impact to the critical path of (2) MO.	20	$1,655,781		Jacobs	SC Electrical, Critical Path Schedule

PROJECT-LEVEL RISK REGISTER

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UPDATED BY: Jacobs

LAST UPDATED: 05/01/2025

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Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4301	SC	5-4301-SC-2	Yes	Routing of HDPE temporary lines currently using EDB route on top of levee. These lines may need to be rerouted or cut and rewelded for the new EDB.	Routing of HDPE temporary lines currently using EDB route on top of levee	Assume an impact of $25K for ramps, plating, trenching, etc.	10	$25,000		Jacobs	SC Electrical, MV EDB Routing
Construction / Commissioning / Closeout / Warranty -	5	4301	SC	5-4301-SC-3	Yes	Currently, the wire count to motor operated valves does not fit in allowable conduit sizes.	If we cannot find a seal-tight approach, additional explosion proof junction boxes will be needed in certain areas.	Assume (100) valves need supplementary junction boxes to fix explosion proof issue.	10	$250,000		Jacobs	SC Electrical, Valve Actuators
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4301	SC	5-4301-SC-4	Yes	The delivery schedule is tight for the MCC delivery (installation August and September of 2027).	The paths in the CPM include a difficult to meet submittal period and delivery timeframes from the manufactures. If the overall delivery timeframe of the MCCs is delayed, the critical path of the project will be impacted.	Assume an impact to the critical path of (2) MO and $50K in overtime premiums to compensate.	20	$1,705,781	Mitigation - early submittals?	Jacobs	SC Electrical, MCC Delivery
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4301	SC	5-4301-SC-5	Yes	The delivery schedule is tight for the MV delivery (installation September of 2027).	The paths in the CPM include a difficult to meet submittal period and delivery timeframes from the manufactures. If the overall delivery timeframe of the MCCs is delayed, the critical path of the project will be impacted.	Assume an impact to the critical path of (3) MO and $25K in overtime premiums to compensate.	20	$2,508,672	Mitigation - early submittals?	Jacobs	SC Electrical, MV Delivery
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4301	SC	5-4301-SC-6	Yes	The electrical heat-up date is set for October of 2027 to give the Certificate of Proper Installation ("COPI") process (2) MO.	If the electrical heat-up date slips, the project commissioning will be impacted.	Assume additional shifts and overtime for Jacobs and [redacted] to accelerate the COPI and subsequent periods. This would be an additional (1 - 2) shifts	20	$500,000		Jacobs	SC Electrical, Electrical Live Date
Construction / Commissioning / Closeout / Warranty -	5	4301	SC	5-4301-SC-7	Yes	The Electrical scope is often the last to evolve in the design.	If the final electrical scope exceeds the Design Evolution assigned, the project budget will be negatively impacted.	Assume an impact of an additional 8%.	10	$1,760,000		Jacobs	SC Electrical, Changes Beyond DE / DC
	5	4401	SC			**Instrumentation, Controls, and Programming Subcontractor**							
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4401	SC	5-4401-SC-1	No	If the integration of the new and existing SCADA systems takes additional time and prohibits the project from decommissioning the existing plant then the project schedule will be negatively impacted. Perhaps there's nothing in this that belongs on the	The SCADA system for the existing plant will need to be migrated / integrated with the SCADA for the new plant while keeping both systems operational.	Assume an increase in programming services of 10%.	20	$130,000	ASE's involvement mitigates this risk. Perform I&C workshops with [redacted] to foresee programming issues and clearly	Jacobs	SC I&C, Existing SCADA Integration

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

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Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4401	SC	5-4401-SC-2	Yes	[redacted] programming costs are significantly less than other (2) competitors.	Given the short review window, should missing programming services be discovered, the project budget will be negatively impacted.	Assume that a mitigated increase to programming costs is $1M (actual current spread is $2M, Jacobs would step in to supplement).	10	$1,000,000	For this to be an SDI claim, they have to default. The risk here is that in the next 6 months, before they sign a contract, they back out (2 more budget check ins with them scheduled). Rovisys and Jacobs are not reconciled to the same level as Commerce.	Jacobs	SC I&C, Overall Programming Pricing
Construction / Commissioning / Closeout / Warranty - Subcontractors	5	4401	SC	5-4401-SC-3	Yes	[redacted] has numerous vendor panels and existing panels to coordinate with.	If significant differences are discovered during the submittal process, the project budget will be negatively impacted.	Assume that a mitigated increase to programming costs is $250K. Add Commerce Control labor hours x billing rate.	10	$250,000		Jacobs	SC I&C, Vendor and Existing Panel Coordination
	5	4410	SC	Good		**Truck Scale Subcontractor**							
Construction / Commissioning / Closeout /	6	1000	CS	6-1000-CS-0		**Commissioning and Startup**							
Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-1	No	Primary sludge is required for startup, commissioning, and proper performance of the solids train but the primaries are offline at the time of startup and commissioning	The primaries are offline because 1) WWT wasn't able to get them repaired on time and/or 2) excessive nitrate discharge is not controlled at the source (Shepherd Chemical).	Potential impact on commissioning and initial operations. Assume (1) additional MO of SUC.	10	$2,160,000	Was "FP", replaced with "CS" for the next (6) names.	[redacted]	CSU, Shepherd Nitrate Removal
Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-2	Yes	At start up, thickening facilities do not consistently meet performance criteria (target solids concentration, biogas quantity/quality, Class A Biosolids).	New plant does not meet contractual performance requirements.	Facilities do not perform as intended leading to additional design and commissioning activities. Assume an additional (1) MO of CSU duration.	10	$113,469	Risk to remain open to promote discussion on Performance Guarantees. Risk to be updated as design progresses. Engineering team will also de-rate vendor provided information to provide a buffer between performance claims and actual equipment performance.	Jacobs	CSU, Thickening Facility Performance

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

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Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-3	No	At start up, turbine blowers and/or turbine generators CHP do not meet performance or emission specifications across loads and fuel mix resulting in the need for additional equipment.	Turbine blowers and/or generators CHP will be designed to meet performance or emission specifications, however actual equipment can vary and emission specs can change. Jacobs owns this risk if the influent characteristics are within parameters [redacted] owns this risk if they are not. Will be on both Risk Registers.	Purchase of an oxidation catalyst is required resulting in a cost impact of $50K.	20	$50,000	Jacobs will work closely with permitting agency to confirm requirements and will coordinate with engine manufacturers to ensure they comply.	Jacobs	CSU, Oxidation Catalyst
Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-4	No	At start up, turbine blowers and/or turbine generators CHP do not meet performance or emission specifications across loads and fuel mix resulting in the need for additional equipment.	Turbine blowers and/or generators CHP will be designed to meet performance or emission specifications, however actual equipment can vary and emission specs can change. Jacobs owns this risk if the influent characteristics are within parameters, [redacted] owns this risk if they are not. Will be on both Risk Registers.	Purchase of an oxidation catalyst is required resulting in a cost impact of $50K.	20	$50,000	Jacobs will work closely with permitting agency to confirm requirements and will coordinate with engine manufacturers to ensure they comply.	[redacted]	CSU, Oxidation Catalyst
Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-5	Yes	Complex sludge digestion operations lead to process upsets.	The project includes designing and installing a new solids and digestion system. Will be on both Risk Registers. Additional investigation: what happens to old system as we steal sludge during transition. What is needed for cross piping and valving? Split this into two risks.	Facilities do not perform as intended leading to additional design and commissioning activities. Assume an additional (1) MO of CSU duration.	10	$113,469	Jacobs is preparing a detailed startup and commissioning plan to reduce this risk.	Jacobs	CSU, Complex Sludge Digestion Operations

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

LAST UPDATED: 05/01/2025

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Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-6	No	Complex sludge digestion operations lead to process upsets.	The project includes designing and installing a new solids and digestion system. Will be on both Risk Registers. Additional investigation: what happens to old system as we steal sludge during transition. What is needed for cross piping and valving? Split this into two risks.	Facilities do not perform as intended leading to additional design and commissioning activities. Assume an additional (1) MO of CSU duration.	10	$113,469	Jacobs is preparing a detailed startup and commissioning plan to reduce this risk.	[redacted]	CSU, Complex Sludge Digestion Operations
Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-7	No	Side stream return to plant influent negatively impacts liquid treatment processes.	Side stream cannot be effectively treated through existing plant processes. Jacobs owns this risk if process modelling was significantly wrong. [redacted] owns this risk otherwise. Will be on both Risk Registers. GVT retrofit is the mitigation strategy, if those get axed, this needs to be revisited. Jacobs process people think this should be OK either way.	Plant effluent quality or liquid treatment processes are negatively impacted. Assume that adding the GVT / Centrate Storage work to the project would rectify the issue. That work is worth approximately $750K (concrete repair + high performance coatings + mechanical repairs).	5	$750,000	If liquid process stream negatively impacted, then separate side stream treatment and/or load equalization may need to be installed.	Jacobs	CSU, Sidestream Treatment

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

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Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-8	No	Side stream return to plant influent negatively impacts liquid treatment processes.	Side stream cannot be effectively treated through existing plant processes. Jacobs owns this risk if process modelling was significantly wrong. [redacted] owns this risk otherwise. Will be on both Risk Registers. GVT retrofit is the mitigation strategy, if those get axed, this needs to be revisited. Jacobs process people think this should be OK either way.	Plant effluent quality or liquid treatment processes are negatively impacted. Assume that adding the GVT / Centrate Storage work to the project would rectify the issue. That work is worth approximately $750K (concrete repair + high performance coatings + mechanical repairs).	5	$750,000	If liquid process stream negatively impacted, then separate side stream treatment and/or load equalization may need to be installed.	[redacted]	CSU, Sidestream Treatment
Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-9	Yes	The commissioning schedule is based on a single run through component and system testing.	If commissioning activities are unsuccessful on the first try (i.e., pump has to be sent back to factory or await parts) it will impact the schedule since many activities have hard predecessor/successor relationships to begin next step of work based on [redacted] requirements.	Assume an impact of (1) MO of labor and $15K in travel.	20	$113,469		Jacobs	CSU, Successful Commissioning
Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-10	Yes	The process startup for the initial sludge thickening may require sending the new sludge back to the existing facility.	If the process startup for the initial thickening assumes recycle of thickened solids to existing plant, [redacted] may stop recycle if impact to the plant is realized, which will delay schedule.	Assume and additional (2) WKS labor and $10K in travel.	30	$52,411		Jacobs	CSU, Process Startup
Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-11	Yes	The schedule includes a duration for process performance testing and operational testing.	If [redacted] requires a longer testing period for process performance or operational testing, the project budget will be negatively impacted.	Assume and additional (1) MO for the project. (1) MO labor and $50K / travel.	10	$113,469		Jacobs	CSU, Process Performance Testing

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

LAST UPDATED: 05/01/2025

(R) Category	(R) WBS1 (TT)	(R) WBS2 (S/V)	(R) WBS3 (F/A)	(R) Risk ID	(R) Project Contingency Impact	Risk	Cause of Risk	Consequences	(R) Percentage of Occurrence	(R) Monetary Impact	Risk Response Plan	Risk Holder	Latest Update
Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-12	Yes	The process startup does not currently require 24/7 oversight for the duration of the startup and testing period.	I[redacted] requires 24/7 oversight during Process Startup, we have not included staff costs for night shifts or during days once process is stabilized.	(6) MO labor for (2) additional shifts = 6,240 HR + $24K / MO travel = $1.3M	20	$1,300,000	Mitigation strategies - include Jacobs operators?	Jacobs	CSU, Night Staffing
Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-13	Yes	The project commissioning window requires a 45-day Acceptance Test to reach Substantial Completion.	I[redacted] requires a 30-day reliability test in addition to the 45-day acceptance test, the schedule will be delayed by (1) MO for late facilities, specifically the dewatering centrifuges.	Assume and additional (1) MO for the project. (1) MO labor and $50K / travel.	20	$113,469		Jacobs	CSU, 30-Day RT
Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-14	Yes	The project commissioning window requires a 45-day Acceptance Test to reach Substantial Completion.	If the 45-day acceptance test does not pass on the first run, the schedule allows for (15) days to restart once. Additional restarts will negatively impact the project schedule and budget.	Assume and additional (1) MO for the project.	20	$113,469		Jacobs	CSU 45-Day AT
Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-15	Yes	The production of Class A biosolids requires clean process piping and dewatering centrifuges.	If dewatering centrifuges are contaminated during process startup and disinfection of centrifuges is requires, the project schedule will be impacted.	Assume an additional (2) WKS labor and $20K in expenses.	10	$52,411		Jacobs	CSU, Contaminated Centrifuges
Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-16	Yes	The project includes Jacobs Division 01 Specifications and[redacted] Specifications.	If vendors do not include enough time to meet[redacted] Division 01 requirements, the purchase agreement values will be increased.	Assume $75K across $18M in purchase agreements.	10	$75,000		Jacobs	CSU,[redacted] Requirements
Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-17	Yes	Jacobs is responsible for polymer costs for the first (3) months of commissioning.	If polymer costs or usage rates are higher than estimated.	Assume and additional (1) MO for the project.	20	$113,469		Jacobs	CSU, Additional Polymer
Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-18	Yes	The commissioning schedule currently includes (2) MO for component testing.	This is a lot of equipment to complete component testing in (2) MO. If component testing takes longer, the project budget and schedule will be negatively impacted.	Assume 15% more required, or $54K.	20	$54,000		Jacobs	CSU, Additional CSU Staffing
Construction / Commissioning / Closeout / Warranty	0	1000	CS	0-1000-CS-19	Yes	A plan for obtaining seed sludge was included with the GMP.	If the anticipated seed sludge is not available, the cost for the sludge and trucking costs may increase.	Assume purchase pricing and trucking increases costs by $100K.	20	$100,000		Jacobs	CSU, Seed Sludge Hauling Location
Bonds, Insurance, Taxes	8	1000	BT	8-1000-BT-0		**Bonds, Insurance, Taxes**							
Bonds, Insurance, Taxes	0	1000	BT	0-1000-BT-1	Yes	The project includes a Builder's Risk Insurance Policy.	The insurance market over the past several years has become problematic as a result of accumulating claims and losses. If the Builder's Risk Policy is more expensive than previously quoted, the project budget will be negatively impacted.	Assume the Builder's Risk policy increases in cost by 0.25%. Use TPV in calculation.	30	$225,000	Updated with current pricing risk based on recent quotes.	Jacobs	Bonds and Insurance, Volatility in Market Pricing

PROJECT-LEVEL RISK REGISTER

[redacted]

UPDATED BY: Jacobs

LAST UPDATED: 05/01/2025

(R) Category	(R) WBS1 (TT)	(R) WBS2 (S/V)	(R) WBS3 (F/A)	(R) Risk ID	(R) Project Contingency Impact	Risk	Cause of Risk	Consequences	(R) Percentage of Occurrence	(R) Monetary Impact	Risk Response Plan	Risk Holder	Latest Update
Design Evolution	10	1000	DE	10-1000-DE-0		**Contingency and Escalation (Design Evolution)**							
Design Evolution	0	1000	DE	0-1000-DE-1	No	The GMP includes a defined Design Evolution percentage to account for the changes in scope as the design evolves from 60% to 100% completion.	If the actual Design Evolution exceeds that included in the GMP, the project budget and schedule will be negatively impacted.	Assume that actual Design Evolution exceeds that included in the GMP by 10%.	20	$224,000	Closed - see details above.	Jacobs	Design Evolution, Actual Beyond Included in GMP
Design Changes	10	1000	DC	10-1000-DC-0		**Contingency and Escalation (Design Changes)**							
Design Changes	0	1000	DC	0-1000-DC-1	No	The GMP includes a defined Design Change percentage to account for the changes in scope as the design evolves from 100% to project completion.	If the actual Design Changes exceeds that included in the GMP, the project budget and schedule will be negatively impacted.	Assume that actual Design Changes exceeds that included in the GMP by 10%.	20	$224,000	Closed - see details above.	Jacobs	Design Changes, Actual Beyond Included in GMP
Escalation	10	1000	ES	10-1000-ES-0		**Contingency and Escalation (Escalation)**		Will be revised with final agreed upon escalation approach.					
Escalation	0	1000	ES	0-1000-ES-1	No	Risk that escalation approach agreed on with [redacted] at GMP exceeds values utilized.	TBD - see A's and C's for basis of current pricing. Use this section to calculate risks for both parties after agreement is made. See Bid Book for escalation concerns.				Send [redacted] escalation language, update when resolved.		Escalation, Actual Beyond Included in GMP
Escalation	0	1000	ES	0-1000-ES-2	No	Jacobs risk resulting from Escalation agreement with [redacted]	Placeholder value for now.	Placeholder value for now.	10	$1,250,000	Send [redacted] escalation language, update when resolved.	Jacobs	Escalation, Actual Beyond Included in GMP
Escalation	0	1000	ES	0-1000-ES-3	Yes	The risk for extraordinary escalation related to tariffs is on [redacted].	We are in a tariff environment where laws are changing constantly resulting in unpredictable escalation.	Assume an impact of 100% over the estimated value (see Tab 10.6for buildup).	30	$5,000,000	Sent [redacted] escalation language.	[redacted]	Escalation, Actual Beyond Included in Allowance
Escalation	0	1000	ES	0-1000-ES-4	Yes	Payment of escalation requests is based on a system. This system requires vendors and subcontractors to demonstrate that material costs increased.	If subcontractors and vendors cannot demonstrate to MSD's satisfaction that costs have increased, and they must be paid to keep the project moving, the project budget will be negatively impacted.	The current escalation budget guesstimate is $2M. Assume that 20% of these claims are not defendable / demonstrable, and there's a 30% chance of that.	30	$400,000	Sent [redacted] escalation language.	Jacobs	Escalation, Ability to Demonstrate Impact

Jacobs

Dave Schoster, PE, DBIA
7108 Fairway Drive, Suite 170
Palm Beach Gardens, FL 33418
352.284.1863
Dave.Schoster@jacobs.com

Contract Terms & Conditions

Progressive Design-Build

of the Rangeline Road Water Treatment Facility (RFQu 20250143)

November 4, 2025

Dave Schoster, PE, DBIA
7108 Fairway Drive, Suite 170
Palm Beach Gardens, FL 33418
352.284.1863
Dave.Schoster@jacobs.com

Jacobs

CONTRACT REVIEW COMMENTS

We appreciate the opportunity to be considered for the delivery of the Rangeline WTP progressive design-build project and have reviewed the sample contract provided with the RFQ. Certain contract terms could be mutually negotiated to allocate risk and reduce the ultimate project cost. Should Jacobs be selected for award, we would welcome the opportunity to review and discuss certain terms, particularly those related to indemnification and limit of liability, during contract negotiations to ensure mutual understanding and fair allocation of risk for all parties.

Indemnification: There are specific clauses within the sample contract that were modified from the DBIA templates related to indemnification of the Design-Builder. We would request that the standard DBIA language be considered and implemented. Specific items being requested for consideration include striking the new language that was added in Section 7.2.1 (DBIA Document No. 535), keeping the DBIA template language in Sections 4.1.5, 7.1.4, and 7.5.1 (DBIA Document No. 535), and eliminating the monetary limitations added in Article 4.5 (Document No. 545). At this stage, the exposure associated with these clauses is difficult to quantify and may result in unexpected costs or contingencies to cover risk.

Limit of Liability: We understand the sample contract reflects statutory requirements applicable to public entities in Florida. We would like to discuss the inclusion of a limitation of liability provision. The intent is to ensure that our exposure remains proportionate to the scope of services consistent with industry practices while maintaining full accountability for the quality and integrity of our work. Specifically, we would request that Article 12 of the Sample Contract (DBIA Document No. 545) be included within the contract with a value amenable to the City.

THE OFFICIAL SITE OF THE FLORIDA DEPARTMENT OF BUSINESS & PROFESSIONAL REGULATION

ONLINE SERVICES

Apply for a License
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AB&T Delinquent Invoice & Activity List Search

LICENSEE DETAILS

3:32:18 PM 10/28/2025

Licensee Information

Name:	**JACOBS PROJECT MANAGEMENT CO (Primary Name)** **JACOBS PROJECT MANAGEMENT CO (DBA Name)**
Main Address:	**1999 BRYAN STREET** **DALLAS Texas 75201**
County:	**OUT OF STATE**
License Mailing:	**1000 WILSHIRE BLVD** **SUITE 2100 (LEGAL)** **LOS ANGELES CA 90017**

License Information

License Type:	**Engineering Business Registry**
Rank:	**Registry**
License Number:	**35591**
Status:	**Current**
Licensure Date:	**11/15/2021**
Expires:	

Special Qualifications	Qualification Effective

Alternate Names

View Related License Information
View License Complaint

2601 Blair Stone Road, Tallahassee FL 32399 :: Email: **Customer Contact Center** :: Customer Contact Center: 850.487.1395

However email addresses are public record. If you do not wish to supply a personal address, please provide the Department with an email address which can be made available to the public. Please see our **Chapter 455** page to determine if you are affected by this change.

CONSULTANT'S GENERAL INFORMATION WORK SHEET

1. Corporation, Partnership, Joint Venture, Individual or other? _ Corporation____

2. Firm's name and main office address, telephone and fax numbers

   Name: Jacobs Project Management Co.

   Address: 7108 Fairway Drive, Suite 710, Palm Beach Gardens, FL 33418

   Telephone Number: 561.799.3855

   Fax Number: N/A

3. Contact person: _ Dave Schoster ___ Email: _ dave.schoster@jacobs.com_____

4. Firm's previous names (if any). _N/A_____

5. How many years has your organization been in business?_78_____

6. Has the Proposer or any principals of the applicant organization failed to qualify as a responsible Proposer; refused to enter into a contract after an award has been made; failed to complete a contract during the past five (5) years or been declared to be in default in any contract or been assessed liquidated damages in the last five (5) years? List the name of project, location, client, engineer, date and reason. Use additional pages if needed.

   Given the size and scale of Jacobs' worldwide operations, in rare instances a project has been terminated prior to its completion. Jacobs as a whole does not track these projects individually, and specifically Jacobs' Water Design-Build Business has never had a contract terminated prior to its completion.

   Total Number of Projects where Failure to Complete Work Occurred: _____

   Project Number 1

   Project Name:

   Project Location:

Client Name and Phone Number:

Engineer Name and Phone Number:

Date:

Reason:

Insert additional projects if needed.

7. Has the Proposer or any of its principals ever been declared bankrupt or reorganized under Chapter 11 or put into receivership?

Yes ( ) No (✓)

If yes, please explain:

8. List any lawsuits pending or completed within the past five (5) years involving the corporation, partnership or individuals with more than ten percent (10 %) interest:
Given the size of the company and the breadth of its services, Jacobs may be involved in a dispute involving a project owner. It is our practice to try and resolve disputes amicably and view litigation as a last resort. Jacobs considers its claims and litigation confidential, and any material matters are disclosed in our SEC filings, none of which materially impact any of Jacobs' client service or business operations.
(N/A is not an acceptable answer - insert lines if needed)

9. List any judgments from lawsuits in the last five (5) years:
Given the size of the company and the breadth of its services, Jacobs may be involved in a dispute involving a project owner. It is our practice to try and resolve disputes amicably and view litigation as a last resort. Jacobs considers its claims and litigation confidential, and any material matters are disclosed in our SEC filings, none of which materially impact any of Jacobs' client service or business operations.
(N/A is not an acceptable answer - insert lines if needed)

10. List any criminal violations and/or convictions of the Proposer and/or any of its principals:
Neither the Proposer nor any of its principals have any criminal violations or convictions.
(N/A is not an acceptable answer - insert lines if needed)

Signature

Executive Vice President
Title

PORT ST. LUCIE
HEART OF THE TREASURE COAST

E-Verify Form

Supplier/Consultant acknowledges and agrees to the following:

1. Shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Supplier/Consultant during the term of the contract; and
2. Shall expressly require any subcontractors performing work or providing services pursuant to the state contract to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term.
3. The Contractor hereby represents that it is in compliance with the requirements of Sections 448.09 and 448.095, Florida Statutes. The Contractor further represents that it will remain in compliance with the requirements of Sections 448.09 and 448.095 Florida Statutes, during the term of this contract and all attributed renewals.
4. The Contractor hereby warrants that it has not had a contract terminated by a public employer for violating Section 448.095, Florida Statutes, within the year preceding the effective date of this contract. If the Contractor has a contract terminated by a public employer for any such violation during the term of this contract, it must provide immediate notice thereof to the City.

E-Verify Company Identification Number 11557

Date of Authorization June 18, 2015

Name of Contractor Jacobs Project Management Co.

Name of Project Progessive Design-Build of the Rangeline Road Water Treatment Facility

Solicitation Number (If Applicable) 20250143

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on_____, _____, 20____ in _____(city), _____(state).

Signature of Authorized Officer

Gregory Fischer, Executive Vice President

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME

ON THIS THE_____ DAY OF_____,20____.

See attached California Jurcat form

NOTARY PUBLIC _____

My Commission Expires: _____

CALIFORNIA JURAT WITH AFFIANT STATEMENT **GOVERNMENT CODE § 8202**

☒ See Attached Document (Notary to cross out lines 1–6 below)
☐ See Statement Below (Lines 1–6 to be completed only by document signer[s], not Notary)

1 _____
2 _____
3 _____
4 _____
5 _____
6 _____

Signature of Document Signer No. 1 *Signature of Document Signer No. 2 (if any)*

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of Los Angeles

BETH HOLLANDER
Notary Public - California
Los Angeles County
Commission # 2409458
My Comm. Expires Jul 26, 2026

Place Notary Seal and/or Stamp Above

Subscribed and sworn to (or affirmed) before me

on this 27th day of October, 2025,
by *Date* *Month* *Year*

(1) Gregory Fischer

(and (2) _____),
Name(s) of Signer(s)

proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

Signature B Hollander
Signature of Notary Public

OPTIONAL

Completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: E-Verify

Document Date: 27 Oct 2025 Number of Pages: 1

Signer(s) Other Than Named Above: _____

PORT ST. LUCIE
HEART OF THE TREASURE COAST

NON-COLLUSION AFFIDAVIT

State of _____}

County of _____}

_____, being first duly sworn, disposes and says that:
(Name/s)

1. They are Executive VP of Jacobs Project Management Co. the Proposer that
(Title) (Name of Company)

has submitted the attached PROPOSAL;

2. He is fully informed respecting the preparation and contents of the attached proposal and of all pertinent circumstances respecting such PROPOSAL;

3. Such Proposal is genuine and is not a collusive or sham Proposal;

4. Neither the said Proposer nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Proposer, firm or person to submit a collusive or sham Proposal in connection with the contract for which the attached proposal has been submitted or to refrain from proposing in connection with such Contract or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Proposer, firm or person to fix the price or prices in the attached Proposal or of any other Proposer, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of Port St. Lucie or any person interested in the proposed Contract; and

5. The price or prices quoted in the attached Proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Proposer or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

PORT ST. LUCIE
HEART OF THE TREASURE COAST

(Signed) _____

(Title) Executive Vice President

STATE OF FLORIDA }
COUNTY OF ST. LUCIE} SS:

See attached California Acknowledgement form

The foregoing instrument was acknowledged before me this *(Date)* _____

by: _____ who is personally known to me or who has produced

_____ as identification and who did (did not) take an oath.

Commission No. _____

Notary Print: _____

Notary Signature: _____

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Los Angeles)

On 27 October 2025 before me, Beth L. Hollander, Notary
(insert name and title of the officer)

personally appeared Gregory Fischer,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

BETH HOLLANDER
Notary Public - California
Los Angeles County
Commission # 2409458
My Comm. Expires Jul 26, 2026

Signature B Hollander (Seal)

TRUTH-IN-NEGOTIATION CERTIFICATE AND AFFIDAVIT

STATE OF FLORIDA §
COUNTY OF ST. LUCIE §

Before me, the undersigned authority, personally appeared affiant Gregory Fischer, who being first duly sworn, deposes and says:

1. That the undersigned firm is furnishing this Truth in Negotiation Certificate pursuant to Section 287.055(5)(a) of the Florida Statutes for the undersigned firm to receive an agreement for professional services with the City of Port St. Lucie, St. Lucie County, Florida.

2. That the undersigned firm is a corporation which engages in furnishing professional engineering services and is entering into an agreement with the City of Port St. Lucie, St. Lucie County, Florida to provide professional services for a project known as Progressive Design-Build of the Rangeline Road Water Treatment Facility.

3. That the undersigned firm has furnished the City of Port St. Lucie, St. Lucie County, Florida a detailed analysis of the cost of the professional services required for the project.

4. That the wage rate information and other factual unit cost, which the undersigned firm furnished, were accurate, complete and current at the time the undersigned firm and the City of Port St. Lucie entered into the agreement for professional services on the project.

5. That the agreement which the undersigned firm and the City of Port St. Lucie entered into on this job contained a provision that the original agreement price and any additions thereto shall be adjusted to include any significant sums by which the City of Port St. Lucie determines the agreement price was increased due to inaccurate, incomplete or non-current wage rates or other factual unit cost and that all such agreement adjustments shall be made within one (1) year following the end of the agreement.

FURTHER AFFIANT SAYETH NAUGHT

Jacobs Project Management Co.
Name of Firm

Gregory Fischer
By: Executive Vice President

The foregoing instrument was acknowledged before me by _____ who has produced _____ as identification or is personally known to me.

WITNESS my hand and official seal in the Stare of County last aforesaid this _____ day of _____,

(SEAL)

_____
Signature

_____
Notary Name (typed or printed)

_____
Title or Rank

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Los Angeles)

On 24 October 2025 before me, Beth L. Hollander, Notary
(insert name and title of the officer)

personally appeared Gregory Fischer,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

BETH HOLLANDER
Notary Public - California
Los Angeles County
Commission # 2409458
My Comm. Expires Jul 26, 2026

WITNESS my hand and official seal.

Signature B Hollander (Seal)

PORT ST. LUCIE
HEART OF THE TREASURE COAST

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

The Contractor certifies that, the firm or any person associated therewith in the capacity of owner, partner, director, officer, principal, investigator, project director, manager, auditor, and/or position involving the administration of federal funds:

(a) are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions, as defined in 49 CFR s29.110(a), by any federal department or agency;

(b) have not within a three-year period preceding this certification been convicted of or had a civil judgment rendered against it for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state, or local government transaction or public contract; violation of federal or state antitrust statutes; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property

(c) are not presently indicted for or otherwise criminally or civilly charged by a federal, state, or local governmental entity with commission of any of the offenses enumerated in paragraph (b) of this certification; and

(d) have not within a three-year period preceding this certification had one or more federal, state, or local government public transactions terminated for cause or default.

The Contractor certifies that it shall not knowingly enter into any transaction with any subcontractor, material supplier, or vendor who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this project by any federal agency unless authorized by the Florida Department of Transportation."

Company Name: Jacobs Project Management Co.

Authorized By: _____ Gregory Fischer
(Sign) (Print Name)

Title: Executive Vice President Date: 27 October 2025

***All subcontractors are required to submit this form with the prime contractor's proposal**
This is a mandatory document. No exceptions will be made.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

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The Contractor certifies that it shall not knowingly enter into any transaction with any subcontractor, material supplier, or vendor who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this project by any federal agency unless authorized by the Florida Department of Transportation."

Company Name: Ardaman & Associates, Inc.

Authorized By: _____ Jason M. Parker, P.E.
(Sign) (Print Name)

Title: Vice President Date: 09/26/2025

*****All subcontractors are required to submit this form with the prime contractor's proposal*****
This is a mandatory document. No exceptions will be made.

PORT ST. LUCIE
HEART OF THE TREASURE COAST

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

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The Contractor certifies that it shall not knowingly enter into any transaction with any subcontractor, material supplier, or vendor who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this project by any federal agency unless authorized by the Florida Department of Transportation."

Company Name: CROM, LLC

Authorized By: Dale A. Shinskey (Sign) Dale Shinskey (Print Name)

Title: Controller Date: 09/26/2025

*****All subcontractors are required to submit this form with the prime contractor's proposal*****
This is a mandatory document. No exceptions will be made.

PORT ST. LUCIE
HEART OF THE TREASURE COAST

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

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(c) are not presently indicted for or otherwise criminally or civilly charged by a federal, state, or local governmental entity with commission of any of the offenses enumerated in paragraph (b) of this certification; and

(d) have not within a three-year period preceding this certification had one or more federal, state, or local government public transactions terminated for cause or default.

The Contractor certifies that it shall not knowingly enter into any transaction with any subcontractor, material supplier, or vendor who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this project by any federal agency unless authorized by the Florida Department of Transportation."

Company Name: InfraMap Corp.

Authorized By: _____ Paul Hayes
(Sign) (Print Name)

Title: President/CEO Date: 10/23/2025

*****All subcontractors are required to submit this form with the prime contractor's proposal*****
This is a mandatory document. No exceptions will be made.

PORT ST. LUCIE
HEART OF THE TREASURE COAST

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

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(a) are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions, as defined in 49 CFR s29.110(a), by any federal department or agency;

(b) have not within a three-year period preceding this certification been convicted of or had a civil judgment rendered against it for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state, or local government transaction or public contract; violation of federal or state antitrust statutes; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property

(c) are not presently indicted for or otherwise criminally or civilly charged by a federal, state, or local governmental entity with commission of any of the offenses enumerated in paragraph (b) of this certification; and

(d) have not within a three-year period preceding this certification had one or more federal, state, or local government public transactions terminated for cause or default.

The Contractor certifies that it shall not knowingly enter into any transaction with any subcontractor, material supplier, or vendor who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this project by any federal agency unless authorized by the Florida Department of Transportation."

Company Name: Infrastructure Solution Services, LLC

Authorized By: Brian Stahl (Sign) Brian Stahl, P.E. (Print Name)

Title: Regional Director Date: 10/08/25

*****All subcontractors are required to submit this form with the prime contractor's proposal*****
This is a mandatory document. No exceptions will be made.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

The Contractor certifies that, the firm or any person associated therewith in the capacity of owner, partner, director, officer, principal, investigator, project director, manager, auditor, and/or position involving the administration of federal funds:

(a) are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions, as defined in 49 CFR s29.110(a), by any federal department or agency;

(b) have not within a three-year period preceding this certification been convicted of or had a civil judgment rendered against it for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state, or local government transaction or public contract; violation of federal or state antitrust statutes; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property

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Company Name: Tetra Tech, Inc.

Authorized By: Digitally signed by James J Wallace Date: 2025.10.01 13:57:25-04'00' James Wallace, PE

(Sign) (Print Name)

Title: Vice President Date: 10/01/2025

*****All subcontractors are required to submit this form with the prime contractor's proposal** This is a mandatory document. No exceptions will be made.***

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

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Company Name: The Merchant Strategy, Inc.

Authorized By: Sharon J. Merchant Sharon J. Merchant
(Sign) (Print Name)

Title: President Date: 10/14/2025

*****All subcontractors are required to submit this form with the prime contractor's proposal*****
This is a mandatory document. No exceptions will be made.

CERTIFICATION REGARDING LOBBYING

The undersigned Contractor certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

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[Note: Pursuant to 31 U.S.C. 1352 (1)-(2)(A), any person who makes a prohibited expenditure of fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such expenditure or failure]

The Contractor, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, *et seq., apply* to this certification and disclosure, if any.

Company Name: Jacobs Project Management Co.

Authorized By: _____ Gregory Fischer
(Sign) (Print Name)

Title: Executive Vice President Date: 27 October 2025

*****ALL SUBCONTRACTORS ARE REQUIRED TO FILL OUT THIS FORM AND SUBMIT WITH BID PACKAGE***** ***This is a mandatory document. No exceptions will be made.***

CERTIFICATION REGARDING LOBBYING

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Company Name: Ardaman & Associates, Inc.

Authorized By: _____ Jason M. Parker, P.E.
(Sign) (Print Name)

Title: Vice President Date: 09/26/2025

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PORT ST. LUCIE

CERTIFICATION REGARDING LOBBYING

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Company Name: CROM, LLC

Authorized By: Dale A. Shinskey (Sign) Dale Shinskey (Print Name)

Title: Controller Date: 09/26/2025

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CERTIFICATION REGARDING LOBBYING

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Company Name: InfraMap Corp.

Authorized By: _____ Paul Hayes
(Sign) (Print Name)

Title: President/CEO Date: 10/23/2025

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PORT ST. LUCIE
HEART OF THE TREASURE COAST

CERTIFICATION REGARDING LOBBYING

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Company Name: Infrastructure Solution Services, LLC

Authorized By: Brian Stahl (Sign) Brian Stahl, P.E. (Print Name)

Title: Regional Director Date: 10/08/25

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Company Name: Tetra Tech, Inc.

Authorized By: Digitally signed by James J Wallace Date: 2025.10.01 13:57:06-04'00' James Wallace, PE

(Sign) (Print Name)

Title: Vice President Date: 10/01/2025

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Company Name: The Merchant Strategy, Inc.

Authorized By: Sharon J. Merchant (Sign) Sharon J. Merchant (Print Name)

Title: President Date: 10/14/2025

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PORT ST. LUCIE
HEART OF THE TREASURE COAST

TRENCH SAFETY ACT COMPLIANCE STATEMENT

Project Name: Progressive Design-Build of the Rangeline Road Water Treatment Facility

Project Location: Port St. Lucie

Instructions:

Chapter 90-96 of the Laws of Florida requires all Contractors' engaged by The City of Port St. Lucie, Florida to comply with Occupational Safety and Health Administration Standard 29 C.F.R. s. 1926.650 Subpart P. All prospective Contractors are required to sign the compliance statement and provide compliance cost information where indicated below. The costs for complying with the Trench Safety Act must be incorporated into this project's base bid.

Certify this form in the presence of a notary public or other officer authorized to administer oaths.

Certification

1. I understand that Chapter 90-96 of the Laws of Florida (The Trench Safety Act) requires me to comply with OSHA Standard 29 C.F.R. s. 1926.650 Subpart P. I will comply with The Trench Safety Act and I will design and provide trench safety systems at all trench excavations in excess of five feet in depth for this project.

2. The estimated cost imposed by compliance with The Trench Safety Act will be:

   To Be Determined Dollars (Written) _____ (Figures)

3. The amount listed above has been included within the Base Bid.

Certified: Jacobs Project Management Co.
(Company-Contractor)

By: _____ Gregory Fischer, Executive Vice President
Signature of Authorized Officer — Printed Name and Title of Authorized Officer or Agent

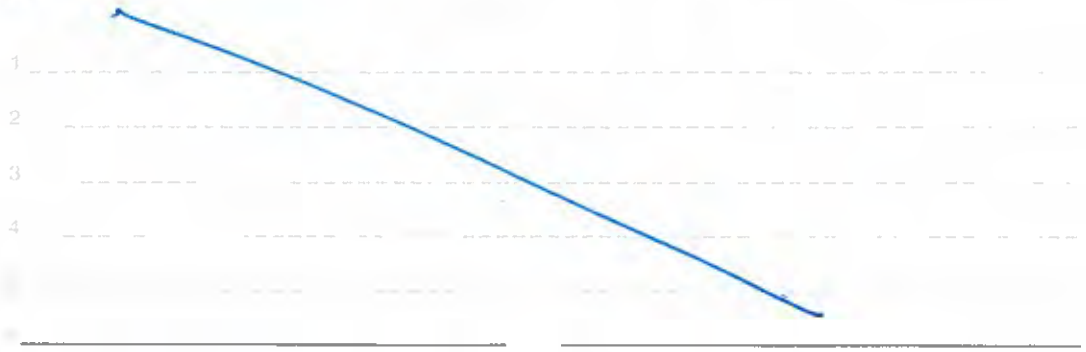
Sworn to and subscribed before me in _____ County, Florida on the ___ day of _____, 20__.

_____
NOTARY PUBLIC

see California Jurat Form

CALIFORNIA JURAT WITH AFFIANT STATEMENT

☒ See Attached Document (Notary to cross out lines 1–6 below)
☐ See Statement Below (Lines 1–5 to be completed only by document signer[s], *not* Notary)



Signature of Document Signer No. 1

Signature of Document Signer No. 2 (if any)

State of California

County of Los Angeles

Subscribed and sworn to (or affirmed) before me on this 27th day of October, 2025 by

(1) Gregory Fischer,
Name of Signer

proved to me on the basis of satisfactory evidence to be the person who appeared before me (.) (,)

(and

(2) _____,
Name of Signer

proved to me on the basis of satisfactory evidence to be the person who appeared before me.)

Signature B Hollander
Signature of Notary Public

BETH HOLLANDER
Notary Public - California
Los Angeles County
Commission # 2409458
My Comm. Expires Jul 26, 2026

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Further Description of Any Attached Document

Title or Type of Document: Trench Safety

Document Date: 27 Oct 2025 Number of Pages: 1

Signer(s) Other Than Named Above: _____

RIGHT THUMBPRINT OF SIGNER #1	RIGHT THUMBPRINT OF SIGNER #2
Top of thumb here	Top of thumb here

BUILD AMERICA, BUY AMERICA CERTIFICATION OF COMPLIANCE

This solicitation is for services related to an infrastructure project that is subject to the Build America, Buy America Act (BABAA) requirements included in the Infrastructure Investment and Jobs Act (IIJA), Pub. L. 177-58, §§ 70901-70953. Absent an approved waiver, all iron, steel, manufactured products, and construction materials used in this project must be produced in the United States, as further outlined in 2 CFR Part 184 and the Office of Management and Budget's Memorandum M-24-02 titled, "Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure," dated October 25, 2023.

Any request for substitute or "or equal" shall include the manufacturer's certification of compliance with the Build America, Buy America Act (BABAA) requirements included in the Infrastructure Investment and Jobs Act (IIJA), Pub. L. 177-58, §§ 70901-70953.

Definitions section:

BABAA: The Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Deal of 2021 includes the Build America, Buy America Act that requires a Buy America Preference for federal financial assistance awards for infrastructure which stipulates that all iron and steel, manufactured products, and construction materials used in such infrastructure projects are produced in the United States.

Construction Materials: Construction materials are defined as articles, materials, or supplies that consist of only one of the following items: non-ferrous metals, plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables), glass (including optic glass), fiber optic cable (including drop cable), optical fiber, lumber, engineered wood, or drywall. Minor additions of articles, materials, supplies, or binding agents to one of the construction materials listed above, or the inclusion of one of these listed construction materials as an input to another listed construction material, does not change the categorization of the construction material

Manufactured Product: Manufactured product are articles, supplies, or materials that have been (i) processed into a specific form and shape; or (ii) combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies. If an item is classified as an iron or steel product, a construction material, or a Section 70917(c)

material[1] under 2 CFR 184.4(e) and the definitions set forth in 2 CFR 184.3, then it is not a manufactured product.

However, an article, material, or supply classified as a manufactured product under 2 CFR 184.4(e) and under section i and ii of this definition may include components that are construction materials, iron or steel products, or section 70917(c) materials. BABA-compliant manufactured products are produced in the United States, and the cost of components that are mined, produced, or manufactured in the United States exceeds 55 percent of the total cost of all components, with total cost calculated as follows:

(a) For components purchased by the manufacturer, the acquisition cost, including transportation costs to the place of incorporation into the manufactured product (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(b) For components manufactured by the manufacturer, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (a), plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the manufactured product.

Manufacturer's Certification: Documentation provided by a manufacturer certifying that the items provided by manufacturer meet the Buy America Preference requirements of BABAA.

Contractor's Responsibilities section:

All products must meet BABAA requirements.

Contractor shall include manufacturer's certification for BABAA requirements with all applicable submittals. If a specific manufacture is used in the bidding, a statement that Manufacturer will comply with BABAA requirements must be included with the bid submission. Contractor shall comply with BABAA requirements, including coordination with manufacturers, distributors, and suppliers to correct deficiencies in any BABAA documentation.

Contractor shall certify upon completion that all work and materials have complied with BABAA requirements.

For any change orders, Contractor shall provide BABAA documentation for any new products or materials required by the change.

[1] Section 70917(c) materials means "cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives."

Installation of materials or products that are not compliant with BABAA requirements shall be considered defective work. Contractor should ensure that Engineer/Architect has an approved manufacturer's certification or waiver prior to items being delivered to the project site.

By submitting an application for payment, based in whole or in part on furnishing equipment or materials, Contractor certifies that such equipment and materials, to Contractor's knowledge, are compliant with BABAA requirements.

Bidder is familiar with all laws and regulations that may affect the cost, progress, and performance of the work, including the Build America, Buy America Act (BABAA) requirements.

Company Name: Jacobs Project Management Co.

Print Name: Gregory Fischer

Title: Executive Vice President

Signature:

Date: 10.27.2025

BUILD AMERICA, BUY AMERICA CERTIFICATION OF COMPLIANCE

This solicitation is for services related to an infrastructure project that is subject to the Build America, Buy America Act (BABAA) requirements included in the Infrastructure Investment and Jobs Act (IIJA), Pub. L. 177-58, §§ 70901-70953. This solicitation will consider an engineering design that requires installation of domestically-made products in this project. The engineering design must incorporate in the Bid Addenda, Executed Contracts, and Change Orders that all iron, steel, manufactured products, and construction materials are BABAA compliant, produced in the United States, as further outlined in 2 CFR Part 184 and the Office of Management and Budget's Memorandum M-24- 02 titled, "Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure," dated October 25, 2023. In absence of a readily available and sufficient quantities of domestically made products, the Contractor will consider and explore all available alternatives before requesting a waiver.

Definitions section:

BABAA: The Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Deal of 2021 includes the Build America, Buy America Act that requires a Buy America Preference for federal financial assistance awards for infrastructure which stipulates that all iron and steel, manufactured products, and construction materials used in such infrastructure projects are produced in the United States.

Construction Materials: Construction materials are defined as articles, materials, or supplies that consist of only one of the following items: non-ferrous metals, plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables), glass (including optic glass), fiber optic cable (including drop cable), optical fiber, lumber, engineered wood, or drywall. Minor additions of articles, materials, supplies, or binding agents to one of the construction materials listed above, or the inclusion of one of these listed construction materials as an input to another listed construction material, does not change the categorization of the construction material

Manufactured Product: Manufactured product are articles, supplies, or materials that have been (i) processed into a specific form and shape; or (ii) combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies. If an item is classified as an iron or steel product, a construction material, or a Section 70917(c)

material[1] under 2 CFR 184.4(e) and the definitions set forth in 2 CFR 184.3, then it is not a manufactured product.

However, an article, material, or supply classified as a manufactured product under 2 CFR 184.4(e) and under section i and ii of this definition may include components that are construction materials, iron or steel products, or section 70917(c) materials. BABA-compliant manufactured products are produced in the United States, and the cost of components that are mined, produced, or manufactured in the United States exceeds 55 percent of the total cost of all components, with total cost calculated as follows:

(a) For components purchased by the manufacturer, the acquisition cost, including transportation costs to the place of incorporation into the manufactured product (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(b) For components manufactured by the manufacturer, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (a), plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the manufactured product.

Manufacturer's Certification: Documentation provided by a manufacturer certifying that the items provided by manufacturer meet the Buy America Preference requirements of BABAA.

Contractor's Responsibilities section:

Engineer/Architect approval of shop drawings or samples shall include review of BABAA documentation.

Bidder is familiar with all laws and regulations that may affect the cost, progress, and performance of the work, including the Build America, Buy America Act (BABAA) requirements.

Company Name: Jacobs Engineering Group Inc.

Print Name: Gregory Fischer

Title: Executive Vice President

Signature:

Date: 10·27·2025

[1] Section 70917(c) materials means "cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives."

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▶ Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

JACOBS PROJECT MANAGEMENT CO.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☑ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ ________

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is **not** disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) ________

Exemption from FATCA reporting code (if any) ________

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

1999 BRYAN STREET, SUITE 3500

Requester's name and address (optional)

6 City, state, and ZIP code

DALLAS, TX 75201

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN,* later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

☐☐☐ – ☐☐ – ☐☐☐☐

or

Employer identification number

3 5 – 2 3 2 1 2 8 9

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here Signature of U.S. person ▶ [signature] Date ▶ February 3, 2025

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9.*

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 10/09/2025

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 LIC #0437153 1-212-948-1306 Marsh Risk & Insurance Services CIRTS_Support@jacobs.com 633 W. Fifth Street Los Angeles, CA 90071 USA	CONTACT NAME: PHONE (A/C, No, Ext): FAX (A/C, No): 1-212-948-1306 E-MAIL ADDRESS:
INSURED Jacobs Project Management Co. C/O Global Risk Management 555 South Flower Street, Suite 3200 Los Angeles, CA 90071 USA	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : ACE AMER INS CO — 22667 INSURER B : INDEMNITY INS CO OF NORTH AMER — 43575 INSURER C : INSURER D : INSURER E : INSURER F :

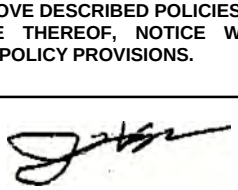
COVERAGES **CERTIFICATE NUMBER:** 752370914 **REVISION NUMBER:**

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			HDO G48977145	07/01/25	07/01/26	EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 100,000
	X CONTRACTUAL LIABILITY						MED EXP (Any one person)	$ 5,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PERSONAL & ADV INJURY	$ 1,000,000
	X POLICY PRO-JECT LOC						GENERAL AGGREGATE	$ 2,000,000
	OTHER:						PRODUCTS - COMP/OP AGG	$ 2,000,000
								$
A	AUTOMOBILE LIABILITY			ISA H11371504	07/01/25	07/01/26	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$
	DED RETENTION $							$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			WLR C72792919 (AOS)	07/01/25	07/01/26	X PER STATUTE OTH-ER	
A	ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N: N	N / A		WCU C72792932 (OH)*	07/01/25	07/01/26	E.L. EACH ACCIDENT	$ 100,000
A	(Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below			SCF C72792920 (WI)	07/01/25	07/01/26	E.L. DISEASE - EA EMPLOYEE	$ 100,000
							E.L. DISEASE - POLICY LIMIT	$ 500,000
A	PROFESSIONAL LIABILITY			EON G21655065 016	07/01/25	07/01/26	PER CLAIM/PER AGG	2,000,000
A	CONTRACTORS POLLUTION			CPM G21743793 023	07/01/25	07/01/26	PER CLAIM/ PER AGG	2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

PROJECT MGR: Grant Misterly. CONTRACT MGR: Grant Misterly. RE: Provide progressive design-build services for PDB of the Rangeline Road Water Treatment Facility. CONTRACT END DATE: 10-31-2027. PROPOSAL NUMBER: RFQu 20250143. SECTOR: Public. City of Port St. Lucie, a municipality of the State of Florida, its officers, employees and agents are added as an additional insured for general liability, auto liability & pollution liability as respects the negligence of the insured in the performance of insured's services to cert holder under contract for captioned work. The General Liability, Auto Liability and Pollution Liability insurance policies are primary and the certificate holder's insurance is excess and non-contributory. Waiver of subrogation is hereby granted in favor of cert holder for GL, AL, WC and

CERTIFICATE HOLDER	CANCELLATION
City of Port St. Lucie 121 SW Port St. Lucie Blvd Port St. Lucie, FL 34984 USA	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 

SUPPLEMENT TO CERTIFICATE OF INSURANCE

DATE
10/09/2025

NAME OF INSURED: Jacobs Project Management Co.

Additional Description of Operations/Remarks from Page 1:

Poll. General Liability coverage includes the severability of interests/Cross Suits Liability provision in favor of the holder. *THIS IS A SAMPLE CERTIFICATE ONLY*. THE ACTUAL CERTIFICATE FOR THE PROPOSED PROJECT WILL COMPLY WITH THE TERMS AND CONDITIONS NEGOTIATED IN THE FINAL CONTRACT, CONSISTENT WITH POLICY TERMS AND CONDITIONS.

Additional Information:

*$2,000,000 SIR FOR STATE OF: OHIO