GREENLAND WATER RECLAMATION FACILITY PROJECT

CONSTRUCTION MANAGEMENT AT-RISK (CMAR)
079-19 APPENDIX A - SCOPE OF WORK

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Project Description

1.1 Intent

JEA requests Proposals from interested and qualified Proposers to provide Construction Manager at Risk (CMAR) services during design and construction of the Greenland WRF, hereby referenced as the "Project" or the "Work".

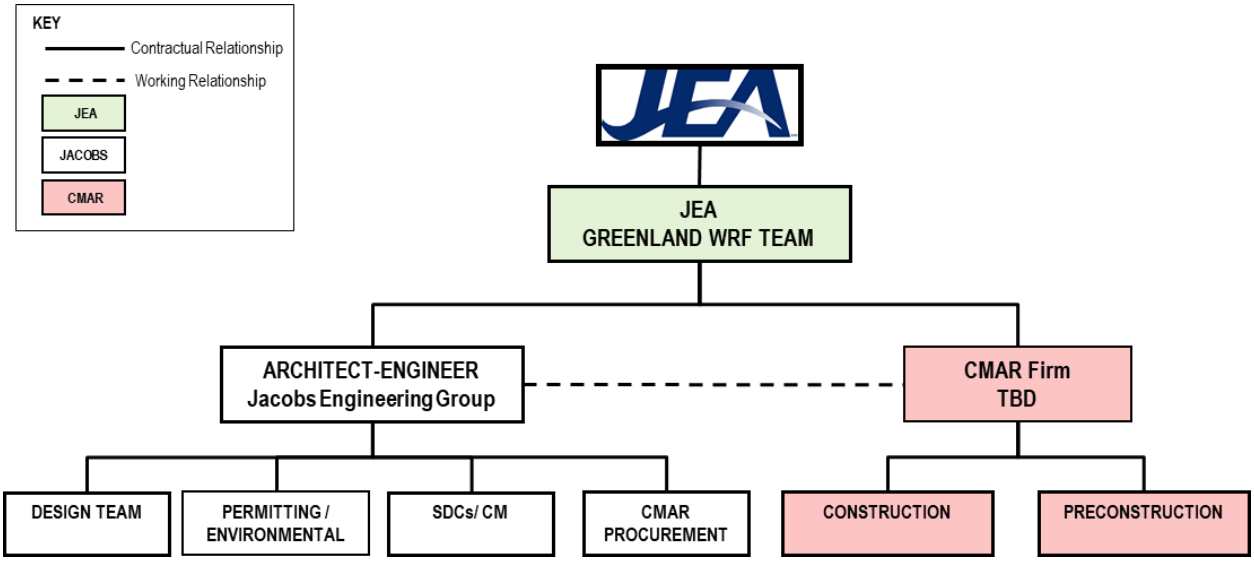
The initial scope of work will consist of pre-construction phase services such as constructability reviews, construction phase sequencing, coordination, alternatives evaluations, cost estimating and cost control (value engineering) services, project schedule development, and preparation and submission of an "open-book" Guaranteed Maximum Price (GMP) proposal for construction phase services.

The contract shall be amended to include the construction phase services following negotiation of a mutually acceptable GMP. The contract may be amended to include construction phase services in multiple phases. During the construction phase, the CMAR shall serve as the single point of responsibility for construction of the work in strict accordance with the contract documents.

Engineering and Design Services for the Project will be performed by the Design Team, led by Jacobs Engineering Group (Jacobs). The Construction Manager will collaborate with the Design Team during the Pre-Construction Phase to facilitate constructability, cost control, scope management, temporary works planning and design, and other project elements as fully described in this scope of services.

The Construction Manager, Design Team, and JEA have a common goal to design and, if JEA approves, construct a quality project meeting JEA's needs, within JEA's schedule, at a reasonable and appropriate cost to JEA, and with a reasonable and appropriate fee for the Construction Manager and Design Team.

The Construction Manager will collaborate with the Design Team throughout the Pre-Construction Phase and provide input to the design pertaining to constructability, means and methods, sequencing, temporary works, cost and schedule to prepare for successful execution of the construction of this Project. The Design Team will prepare final, coordinated Construction Documents that detail the proposed Project.



The Construction Manager will also collaborate with the Design Team throughout the Construction Phase for services they may be contracted to provide including: all request for information, and review and approval of all payment applications, material and equipment submittals, shop drawings submittals, record drawings, start-up, substantial completion, final completion, change management, construction observation or owner's agent oversight and coordination/planning of all site activities.

The Project milestones, as of May 2019 are provided in Table 1. These milestones are subject to modification due to permitting and process schedules.

Milestone	Month/Year
Design Team Notice to Proceed (NTP)	March 2019
10% Design	June 2019
CMAR Anticipated NTP	October 2019
30 percent Design	September 2019
60 percent Design	February 2020
90 percent Design	June 2020
100 percent Design	August 2020
Construction Start – Early Work Package	July 2020
Construction Start – Remaining Work Package	November 2020
Construction End	January 2023

1.2 Project Overview

The proposed greenfield water reclamation facility (WRF) will primarily produce public-access quality reclaimed water in the proposed Greenland WRF service area. The increased demand for reclaimed water, used primarily for irrigation, is projected for the entire area south and east of the St. Johns River. A site location map is included in Figure 1 below and in Appendix C - Project Location Map.

The New Advanced WRF will have an Initial capacity: 6 mgd Average Annual Daily Flow (AADF), with expansion capacity to 12 mgd. The site is approximately 167 acres in size with portions of the site with jurisdictional wetlands and approx. 120 acres of Uplands. The configuration of the site will most likely impact some of the wetland areas, and wetlands impact and mitigation would be expected. The site is in the northeast quadrant of the recently constructed interchange at US Hwy 9B. The proposed facility will address liquid treatment using Bardenpho oxidation ditches and High Level Disinfection (HLD); and the solids treatment aerobic digestion and centrifuge dewatering will be implemented The Facility will be the regional hub for reclaimed water storage and distribution. See Appendix C Technical Memorandum Project Definition for additional details.

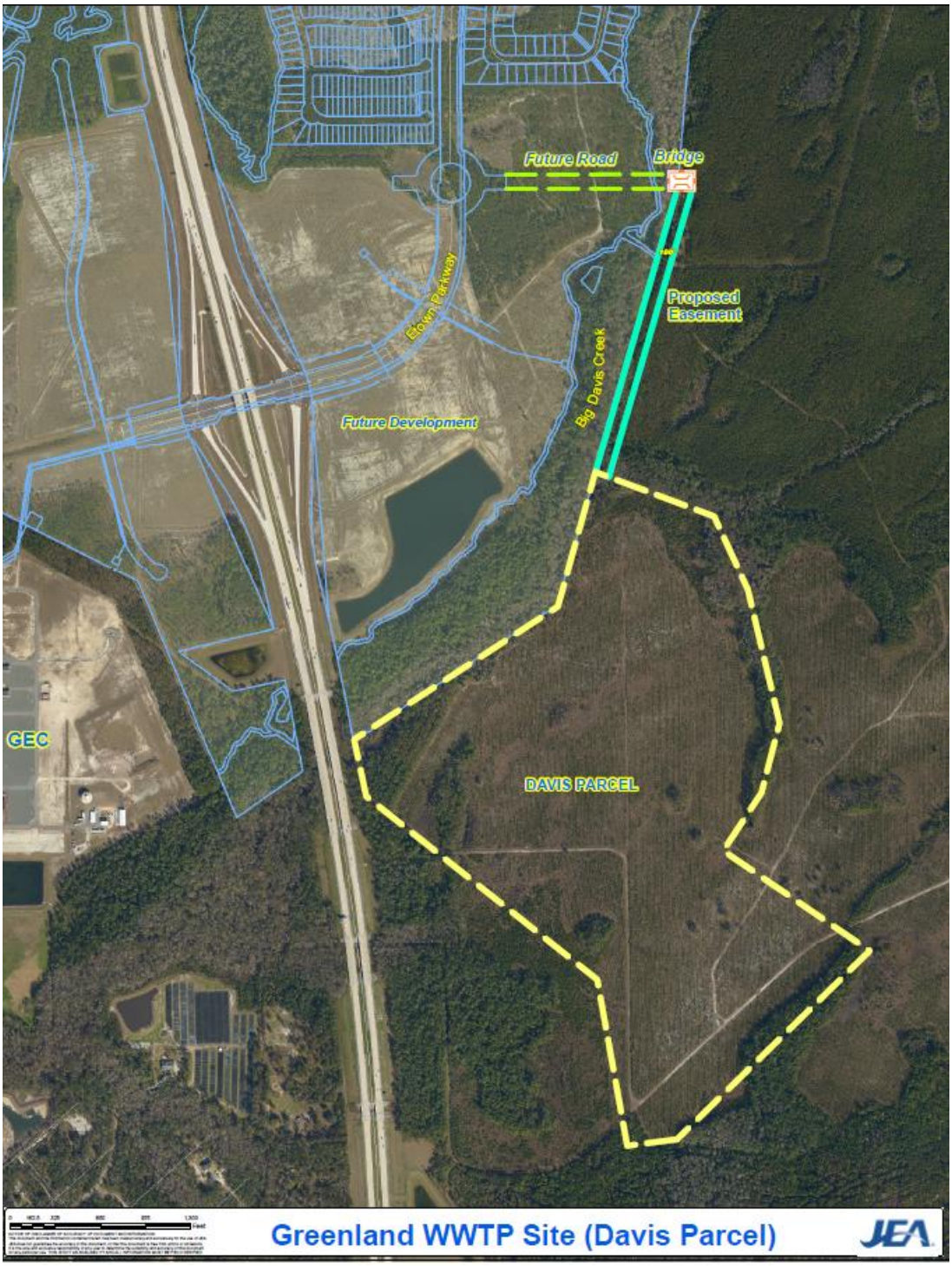


Figure 1: Reclaimed Water System -Greenland Service Area

Access to the Greenland (Davis Parcel) Site is limited. It is the intent that the main access road, identified in the Figure 1 above as the "Proposed Easement" will serve as a temporary access road that will be designed and constructed (up to the Base Course) as part of an "Early Works Package" to allow for mobilization, site and yard piping construction, construction equipment and material access until such time that the permanent road surface can be applied and perform the tie-in with the "Future Road and Bridge" (By Others) is completed. The "Future Road and Bridge" is anticipated to be completed by June 30, 2020. The CMAR Contractor may have to provide provisions

for temporary access and creek hardening prior to the completion of the "Future Road and Bridge" if necessary. Refer to Appendix C - Project Location Map for the project site location map.

1.3 Facility Main Features

The treatment processes, facilities and buildings for the Greenland WRF facilities will be determined during schematic design. A list of the major anticipated facilities and improvements associated with the new Greenland WRF follows:

1. **Headworks:** Two redundant mechanically cleaned screens in separate channels with a manually cleaned bar screen included in a bypass channel. Grit removal will not be provided; however, space and hydraulic provisions will be made for grit removal. The structure will be designed for a future expansion to 12 million gallons per day (mgd) capacity with equipment installed for the current capacity of 6.0 million gallons per day (mgd). Provisions for grease removal will also be included in the design.
2. **Odor Control System:** An odor control system using bio-trickling filter technology at the headworks facility.
3. **Process Bioreactors:** Biological Nutrient Removal System, Four or Five-stage Bardenpho process (Modified Bardenpho Process) in an oxidation ditch configuration including the following:
    a. Two 3.0-mgd annual average daily flow (AADF) trains
    b. Mixers and low-speed mechanical surface aerators with diffusers for the final re-aeration zone
    c. Flow control gates
    d. Instrumentation
4. **Re-aeration Blowers:** Two blowers under canopy.
5. **Secondary Clarifier Flow Splitting Structure:** Structure for required capacity and flow using downward acting weir gates.
6. **Secondary Clarifiers:** Two center-feed circular secondary clarifiers with spiral scraper type mechanisms, full radius scum skimmer, scum wetwell, and scum pump.
7. **Return Activated Sludge (RAS)/Waste Activated Sludge (WAS) Pump Station:** One pump station to serve Clarifiers 1 and 2. RAS will be pumped to the oxidation basin flow splitting structure and WAS will be pumped to the aerobic digesters.
8. **Filters:** Facility to accommodate four 12-disk filter units with provisions for future expansion for a total of eight units. Mechanical components for four 12-disk units to be installed initially.
9. **Ultraviolet (UV) Disinfection**: UV disinfection facility with in-channel, low-pressure, high-intensity UV equipment.
10. **Effluent Transfer Pump Station:** Three vertical turbine pumps to pump to the reclaimed water storage tank discharge. Pump selection will be coordinated with swamp discharge requirements. Provision/space will be provided for two future pumps. This pump station will accommodate an emergency discharge, if determined to be necessary.
11. **Reclaimed Water Storage Tanks:** The amount of onsite storage will be, for budgeting purposes, two 2.5 million-gallon (MG) prestressed concrete storage tanks will be provided.
12. **Reclaimed Water Distribution Pump Station**: A pump station building with four pumps that includes space and provision to add four future pumps. The pump station will be sized based to meet peak demands in the reclaimed water distribution system including potential repumping of reclaimed water pumped to the Greenland storage from other JEA WRFs.
13. **Aerobic Digestion**: Two aerobic digesters with blowers and coarse bubble diffused aeration that operate in series, and provision to add one future digester.
14. **Plant Drain Pump Station:** Submersible duplex pump station to serve new facility.
15. **WAS Dewatering:** Open-sided structure with two levels. The centrifuges will be installed on the elevated second level so that the dewatered cake can drop directly into a truck in the bay below. New feed dewatering

pumps will be located near the aerobic digestion. The facility will include a dedicated polymer storage and feed area located on the lower level.

16. **Secondary Clarifier Polymer Storage and Feed:** Provisions will be included for temporary addition of polymer to the secondary clarifiers, if needed. This would consist of a concrete pad with water and electricity for a temporary polymer feed system and polymer tote.
17. **Chemical Building and Feed System:** Chemical storage and feed system including alum, supplemental carbon, and sodium hypochlorite.
18. **Standby Power:** One standby generator and associated electrical gear to provide standby power for critical electrical loads.
19. **Electrical Building:** Electrical building and related electrical gear and necessary electrical feed.
20. **Reject Water Storage:** Storage pond to accept off-specification reclaimed water.
21. **Reject Return Pump Station**: Return reject to the head of the plant.
22. **Operations Building:** The building will function as the operations facility and will include a locker rooms with shower facilities, bathrooms, break room, laboratory facilities, control room, office and storage area.
23. **Maintenance Building:** Building will include a maintenance bay complete with crane/electrical for welding, and storage area.
24. **All Weather Access Road:** New road into the Greenland WRF will be designed to include drainage, road base, and asphalt. Access Road will also serve as Construction access to the Site, phased construction will be required.
25. **Effluent Transmission Pipeline:** New pipeline from the Greenland WRF for effluent discharge.
26. **Associated Site Work:** Yard piping, yard electrical, grading, driveways/parking, landscaping, and stormwater facilities.

Scope of Service

CMAR services will be carried out in a minimum of two phases with separate contracts and fees for each. In the Pre-Construction Phase, the Construction Manager will provide services during the engineering and design phase of the Project, as specified herein. The intent of the CMAR delivery method is to establish an environment of collaboration, trust, and partnership between the Construction Manager, the Design Team, the JEA Project Management Team, and the appropriate regulatory agencies from the beginning of the Pre-Construction Phase throughout Project delivery.

At design completion, or at any point during the Pre-Construction Phase as may be required by JEA, the Construction Manager will provide a Guaranteed Maximum Price (GMP) for the construction of the Project. Depending on the number of Construction packages determined during the Pre-Construction phase, there may be multiple GMPs to be developed by the Construction Manager. Currently, two (2) GMPs are anticipated; One for an Early Work Package and One for the Remaining Work Package. If a GMP agreement is reached between JEA and Construction Manager, the Construction Manager will be awarded a contract for the Construction Phase. Construction Phase services are generally outlined in this scope of services; however, the final scope of Construction Phase services will be developed during the Pre-Construction Phase by the Construction Manager and JEA. Construction Phase services will generally include, but not be limited to, mobilization, execution of subcontract and supplier agreements, equipment procurement, construction works, demobilization, start-up, commissioning, etc.

The Construction Manager will not perform any phase of services until JEA provides written notice to proceed for that phase. JEA may determine not to proceed with the Construction Phase Services, at JEA's sole discretion.

2.1 Pre-Construction Phase

The Pre-Construction Phase begins once the NTP is issued and ends once a final GMP has been agreed to by both the Construction Manager and the JEA. Pre-Construction services to be provided by the Construction Manager include constructability reviews, value engineering, cost estimating and management, scope and risk management,

schedule development, construction planning, and GMP development as detailed below. As specified, the Construction Manager will have design responsibility for temporary works necessary to construct the project including, but not limited to, cofferdams, temporary retaining structures, and dewatering systems.

CMAR Pre-Construction services will include, but not be limited to, the following:

2.1.1 Project Management, General Administration, and Coordination

- The Construction Manager shall proactively collaborate with JEA Project Management Team, Design Team, regulatory agencies and surrounding property owners for access and maintain a cooperative attitude throughout the life of the Project.
- The Construction Manager shall attend early action item workshops.
- The Construction Manager shall attend one (1) Pre-Construction chartering/team building workshop with JEA and Jacobs. This workshop will be combined with the 30% design workshop and the two will take a total of no more than 2 days.
- The Construction Manager shall collaboratively work with Project Management Team to plan, attend, and actively participate in the progress meetings.
- The Construction Manager shall attend weekly design review meetings and project team meetings.
- The Construction Manager shall participate in the workshop review process with JEA and the Design Team at the completion of each phase of the Project prior to proceeding to the next phase. This would include the 60%, 90%, and 100% design review meetings one each for up to 8 hours each.
- The Construction Manager shall become familiar with site conditions, site geology and geotechnical conditions, and constraints as they relate to design and construction.
- The Construction Manager shall attend brainstorming workshops for identification and ordering of long lead items.
- The Construction Manager shall be available to attend and assist with public presentations as requested by JEA.
- The Construction Manager shall assist with providing documentation for environmental permit applications as needed.
- The Construction Manager shall secure additional necessary construction permits, including but not limited to dewatering, building/construction permit, occupancy permit, etc.
- The Construction Manager shall perform field visits and activities, as required.
- The Construction Manager shall develop, maintain, and distribute progress reports at a frequency as determined by JEA. Intended to be monthly during construction with weekly meeting updates utilizing a three week look ahead schedule that corresponds with the monthly schedule update.
- The Construction Manager shall become thoroughly familiar with the site and conditions surrounding the site and document the conditions observed on the site with photos or videos as required by JEA.
- The Construction Manager shall follow and participate in the development of the design through final construction documents, review the in-progress plans and specifications, and become familiar with the evolving plans and specifications.
- The Construction Manager will work in partnership with JEA and Jacobs to develop activities related to risk and scope management. It is estimated that this should take up to 2 meetings of 4 hours each. The Construction Manager shall create the initial Risk Register developed and lead all Risk, Opportunity, and Innovation workshops to identify, define, track and document other project-specific risk, opportunity,

and/or innovation. The Construction Manager shall utilize the Risk Register to form the basis of the CMAR Construction Contingency.

- The Construction Manager will coordinate with JEA and Garney Construction concerning the offsite transmission mains to and from the site.

- The CMAR shall develop a plan and make all efforts possible to achieve the percentage goal as set forth in the contract for Jacksonville Small Emerging Business (JSEB) participation goal, except as allowed under the good faith efforts exception as defined in the City of Jacksonville Ordinance. In no case shall the Construction Manager make changes to the JSEB firms listed in its proposal, revise the JSEB scope of Work or amount of Work as stated in its proposal without prior written notice to the JEA's Representative, and without subsequent receipt of written approval from the JEA's Representative.

2.1.2 Scope Management

- The Construction Manager shall perform scope management during each design phase to ensure that design can be constructed for the established budget. Changes and potential changes to the project scope will be identified, tracked, updated and managed by the Construction Manager in a log. This log along with the estimates provided by the Construction Manager at various design milestones will provide JEA and the project team real time pricing as the project progresses. The objective of scope management is to guide the project team so that there is a net zero change to the overall construction cost once a baseline budget is established and agreed upon.
- The Construction Manager shall continuously monitor the impact of the proposed design on project schedule and recommend adjustments in the design documents including phasing and sequencing to ensure completion of the project in the most expeditious and cost-effective manner possible.

- Construction Manager shall provide scope management update as part of their progress reports.

2.1.3 Cost Estimating

- The Construction Manager shall provide intermediate estimating support to the Design Team for design alternatives beginning with the 30 percent stage and continuing throughout the final design phase. The initial estimate at 30 percent design will become the baseline project estimate. Subsequent estimates at the following design stages shall be provided by the Construction Manager:

- The Construction Manager shall participate in a meeting with JEA and the Design Team, to establish baseline production rate assumptions and standards for formulation of future cost estimates and schedule estimates.

- The Construction Manager shall work with JEA and the Design Team to develop and align the work breakdown structure (WBS).

- The Construction Manager shall work with the JEA and the Design Team to develop the format for the progressive estimates.

- The Construction Manager shall provide detailed open book cost estimates at 30%, 60% and 90% design milestones accompanied with prepared estimate narratives, which include assumptions and clarifications.

- The Construction Manager shall prepare a detailed cash flow analysis for construction activities.

- The Construction Manager estimates shall be detailed open book estimates that are shared with JEA and the engineer of record and shall include, but are not limited to the following:

    - WBS breakdown by facility, discipline, bid group or subcontract package, as agreed to by JEA

    - Construction Manager general conditions of the CMAR showing all labor, materials, temporary facilities, equipment, expenses, travel and other reimbursable costs allowed by contract

- Construction Manager fees on cost of work allowed per contract. The CMAR's fee shall be expressed as a percentage of the cost of the Work. The fee shall include overhead, profit, and other allowable expenses as set forth in the CMAR Agreement No hidden fees will be accepted, and full transparency will be required.
- All direct costs of construction work
- All insurance, bonds, contingencies, allowances, and other related project specific costs
- Material quantity take offs
- Unit prices for materials
- Crew size/make up
- Labor and equipment rates
- Labor man hours and equipment hours
- Labor and equipment production rates
- Fuel consumption rates/costs
- Major equipment, manufacturer services and spare parts
- Work packages that reflect how the work will be bid and contracted. Estimates shall be set up such that the estimated work package costs in the earlier estimates can be replaced by Subcontractor costs when bids are received prior to GMP submittal.
- Scope assumptions and clarifications

- Construction Manager shall use commercial off-the-shelf estimating software. The following estimating software platforms are acceptable for use on this project: Sage Timberline®, MC2®, and HCSS or equals approved by JEA prior to going under contract for the preconstruction services described herein.
- The Construction Manager shall be prepared to share detail and attend and participate in estimate review workshops to reconcile quantities and cost differences at 30%, 60% and 90% design milestones.
- The Construction Manager shall assist in reviewing the design to identify Owner direct purchase, long-lead, and sole source procurement items (equipment, materials and supplies) as well as any early work packages that will help expedite the delivery of the project. When each item is identified, the Construction Manager shall notify JEA and the engineer of record of the suggested procurement approaches and the corresponding cost and schedule impacts.
- The Construction Manager shall monitor conditions in the construction market to identify factors that would or may affect costs and time for completing the project. Construction Manager shall monitor, and report escalation trends as required and determined by JEA.

2.1.4 Constructability Review and Value Engineering

- The Construction Manager shall review the Design Team's ten percent Basis of Design (BOD) document as a reference. No cost estimate or review comments are required at this stage.
- The Construction Manager shall analyze the design for constructability, including construction feasibility and practicality, phasing and sequencing, and alternative materials and methods.
- The Construction Manager shall provide input and plan construction sequencing, access, temporary works, staging, laydown areas, storage, and sequencing on and off the site. Design of temporary works shall be the

responsibility of the Construction Manager, as specified. Engineer of Record will reflect this plan in the design documents as required and mutually agreed upon by JEA, the Construction Manager and EOR.

- The Construction Manager shall provide constructability and value engineering reviews of design at 30%, 60% and 90% design development stages. The constructability review will outline items that in CMAR's opinion may cause problems during construction and identify discrepancies between the drawings and specifications that may result in Change Orders or claims during construction. The value engineering review will offer suggested revisions to the design that will reduce construction cost and/or construction duration, while not impacting project function, design intent and operating costs.

- The Construction Manager shall provide input on construction feasibility; availability of materials and labor; time requirements for installation and construction; temporary project facilities; cost factors, including costs of alternative materials or designs, preliminary budgets, and possible cost savings.

- The Construction Manager shall review and consult with the Design Team on the life cycle design and costs for operations and maintenance of the proposed Project. The Construction Manager shall review and consult with the Design Team on individual products or Project component's service life, which may differ from the overall Project service life considering life cycle design and cost. The life cycle design shall ensure Project performance throughout the service life, with reasonable ownership requirements for inspection, evaluation, maintenance, repair, rehabilitation, and replacement considering the life cycle cost over the entire Project service life.

- The Construction Manager shall provide suggestions on possible alternatives that could reduce costs, improve Project quality, reduce risk, and/or shorten the schedule. The Construction Manager will advise on likely construction phasing and sequencing approaches as well.

- The Construction Manager shall assist in exploring alternative innovative cost and time saving approaches, materials and systems to minimize total construction and operation costs.

- The Construction Manager shall provide recommendations for the use of fast tracking, early ordering of materials, and any other procedures that will maximize the available funds for the project and speed project delivery, actions designed to minimize adverse effects of labor or material shortages, and time requirements for procurement.

2.1.5 Project Schedule

- All schedules required and provided by the Construction Manager shall meet the schedule requirements set forth in the proposed contract, Project Information Scheduling and Reporting Requirements of the Contract.

- The Construction Manager shall create and submit a baseline draft Project construction schedule 2 weeks after the 30% design milestone deliverable submission or contract execution, whichever is later.

- The Construction Manager will update the construction schedule with each progressive estimate and again with the GMP submittal. The Construction Manager shall provide a finalized construction schedule with its GMP, which will be included as part of the Construction Phase Services Contract (if awarded).

- The Construction Manager shall provide project planning and scheduling (using the critical path method) to minimize the construction impact and duration.

- Schedules shall be established according to the Project WBS and shall be kept in Primavera P6.

2.1.6 Construction Planning

- The Construction Manager shall develop and deliver the project specific plans listed below and have them approved by JEA and their Construction Management team prior to moving forward with the work.

- The Construction Manager shall submit the project specific plans mentioned below at the submission of the 30 percent Design Milestone deliverable and update for the subsequent design milestones. The final draft of all project specific plans mentioned below by the end of the 90% phase. A Notice to Proceed (NTP) will be issued as scheduled but work will not be allowed to begin without these plans being submitted and approved.

    a. A comprehensive safety plan for the Work. This safety plan shall include a detailed trench safety plan and related plans for any means, methods or construction techniques that involve structural support or other engineered systems or components, which plans shall be designed and sealed by a validly licensed Florida Professional Engineer, as required by applicable Codes. The CMAR shall then comply with the safety plan as approved by JEA. With the GMP submittal, the CMAR shall develop and submit to JEA for review and approval. The comprehensive Safety Plan shall also include the following Plans:

        i. A Project Specific Construction Emergency Response Plan.
        ii. A Hurricane / Severe Weather Plan.
        iii. A Project Specific Construction Site Safety Plan.

    b. Provide an Environmental Management Plan detailing projects for a Storm Water Pollution Prevention Plan, Spill Pollution Prevention Plan and handling other environmental issues required to comply with permits and regulations. Submit with each GMP for the scope of work included in that specific GMP.

    c. Obtain construction-related approvals of public agencies and authorities with jurisdiction over the Project work.

    d. A Procurement Plan describing approach for self-performance, competitive bidding, optimization of participation, equipment procurement, early work package, JSEB and subcontractor work packages and procurement strategy, and the overall prequalification, evaluation and selection process. Submit draft no later than 15 working days after the 30% design review workshop and final 10 work days after comments are received.

    e. A Document Management Plan. Submit draft no later than 15 working days after the 30% design review workshop and final 10 work days after comments are received.

    f. A Construction Risk Management Plan. Submit initial plan no later than 15 working days after the preconstruction phase NTP. Update continuously as necessary throughout the lifecycle of the project.

    g. A Scope/Change Management Plan. Submit no later than 15 working days after the preconstruction phase NTP.

    h. A Project Communications Plan. Submit no later than 15 working days after the preconstruction phase NTP.

    i. A Project Commissioning Plan. Submit draft no later than 15 working days after the final with the GMP that includes commissioning services.

    j. The Quality Management Plan (QMP) which includes quality control plan and proposed organization. Submit no later than 15 working days after the preconstruction phase NTP.

    k. A Project Management Plan (PMP). Submit no later than 15 working days after the preconstruction phase NTP.

2.1.7 GMP Development

- At a mutually agreeable level of design development, the CMAR shall be responsible for providing an open-book GMP proposal (similar to the requirements of open book estimating outlined above) for construction of the work. The current schedule contemplates two GMP proposals, but the actual number of GMP proposals provided will be as presented by the Construction Manager in their approach and agreed by JEA. The final preconstruction contract agreement scope will clearly outline and identify what has been agreed upon. The GMP shall conform to the contract requirements and represent the total cost of constructing, commissioning, and warranting the work as specified. The GMP shall consist of the CMAR's fee, General Conditions, the direct cost of the work, insurance, bonds, contingencies, allowances, and related costs. The CMAR's fee shall be expressed as a percentage of the cost of the Work. The fee shall include overhead, profit, and other allowable expenses as set forth in the CMAR Agreement.

- The Construction Manager shall flow down and incorporate JEA's terms relating to quality, safety, community, and environmental factors to its subcontractors and suppliers.

- The Construction Manager shall compete any proposed self-perform work with the market (a minimum of 2 other competitive bids and more if possible) and identify work in the proposed GMP that the Construction Manager proposes to self-perform. The Construction Manager will submit a narrative report that describes how the mix of self-performed and sub-contracted work ensures that the overall division of work and pricing will be most advantageous to JEA.

- The GMP proposal shall include cost summaries by division of work, trade, and work area, supported by a detailed line-item breakdown for all individual work activities. JSEB and Subcontractor and vendor bid items which may be shown as lump sum line items subject to JEA approval. Each line item breakdown shall include the estimated quantity, man-hours and labor rates, materials and material unit costs, owned and rented equipment and associated rates, other incidental costs and sales tax. The CMAR shall provide JEA with copies of all bid packages, scope sheets, takeoffs, quotes, and supporting documentation used to prepare the GMP for review prior to GMP negotiations.

- The Construction Manager shall conduct subcontractors and material suppliers' outreach shortly after the work packages are developed in the procurement plan and continuously up until bid time to inform them about the Project to gain interest. Construction Manager shall package work to optimize JSEB participation and opportunity.

- The Construction Manager shall pre-qualify subcontractors (including second tier and lower) to determine qualification, financial stability, safety record, bonding capacity, and available resources. CMAR shall only employ subcontractors who are duly licensed and qualified to perform the Work consistent with the Contract Documents and JSEB requirements. CMAR shall flow down the appropriate clauses of the prime contract to each respective subcontractor. JEA may reasonably object to CMAR's selection of any Subcontractor, provided that the Contract Price and/or Contract Time(s) shall be adjusted to the extent that JEA's decision impacts the CMAR's cost and/or time of performance.

- The Construction Manager shall schedule and conduct pre-bid conferences with pre-qualified bidders; subcontractors, material suppliers, and equipment suppliers.

- The Construction Manager shall obtain bids only from the pre-qualified subcontractors and JSEB subcontractors.

- The Construction Manager shall review with JEA and the Design Team the proposed packaging of the construction work prior to finalizing the procurement plan.

- The Construction Manager shall solicit competitive sealed proposals from subcontractors. The Construction Manager shall open all trade contractor or subcontractor bids or proposals in a manner that does not disclose the contents of the bid or proposal to a person not employed by CMAR, JEA, or the Design Team. The Construction Manager shall submit their bid for any defined scope of work package they would like to

self-perform to JEA 24 hours in advance of when others bidders from the market submit. The Construction Manager will recommend to JEA the best value firm to perform the work in their GMP for each work package. Assuming all bidders have been prequalified by the Construction Manager, this recommendation will be reviewed by JEA and ultimately JEA will provide final approval on who is awarded the work for each package.

- The Construction Manager shall provide a complete GMP proposal to include the following: clarifications, assumptions, general conditions, construction costs, payment and performance bonds, insurances, overhead and profit, contingency, and associated schedule as outlined in the contract and required for a GMP Amendment.

2.1.8 Deliverables

The deliverables listed below shall be completed and submitted by the Construction Manager prior to the end of each Pre-Construction Phase.

- 30% Design Milestone
    - Submittal of all the project specific plans as required by Section 2.1.6 above.
    - Constructability review report/written comments resulting from 30% Design review.
    - Early Work Package Report (Scope to be started after 60% design phase)
    - 30% Value Engineering Suggestions.
    - Baseline/30% Cost Estimate and Narrative including scope management update of threats and opportunities to the project costs vs budget.
    - Baseline Construction Schedule including construction activities.
    - Monthly Progress Reports.
    - Construction cost estimates for changes in the decision log.
- 60% Design Milestone
    - Update and/or submittal of all the project specific plans as required by Section 2.1.6 above.
    - Constructability review report / written comments resulting from 60% Design review.
    - 60% Value Engineering Suggestions.
    - 60% Cost Estimate and Narrative including scope management update of threats and opportunities to the project costs vs budget.
    - If suggested by the Construction Manager, a GMP proposal for Early Work Package.
    - Construction applications necessary for the early work package.
    - Project Schedule Update including construction activities.
    - Monthly Progress Reports.
    - Construction cost estimates for changes in the decision log.
- 90% Design Milestone
    - Final draft of all the project specific plans mentioned in Section 2.1.6 above.
    - Constructability review report / written comments resulting from 90% Design review.
    - 90% Value Engineering Report Suggestions.
    - 90% Cost Estimate and Narrative including scope management update of threats and opportunities to the project costs vs budget.
    - Project Schedule Update including construction activities.
    - Monthly Progress Reports.
    - Updated decision log (provided on a weekly basis).
- GMP Milestone
    - Construction applications necessary for the remaining work package.
    - GMP Proposal for Remaining Work Package.

- Final Project Construction Schedule.

2.2 Construction Phase

As described herein, if a GMP agreement is reached between JEA and the Construction Manager, the Construction Manager will perform Construction Phase Services under an Amendment to the Contract. Expected Construction Phase requirements are listed in this section; however, the full Construction Phase scope of services will be developed during the Pre-Construction Phase. All items listed herein are subject to change pending Pre-Construction activities.

Construction Phase services are expected to include, but not be limited to: provision of all labor, supervision, management, materials, tools, equipment, temporary facilities, permits and permit coordination, utility coordination, scheduling and schedule management, subcontractor coordination and all other services necessary to timely complete the Project in accordance with the requirements of the Contract Documents for each work package identified and defined in the Pre-Construction Phase. These services include, but are not limited to, the following:

- The Construction Manager shall coordinate and manage the construction of the Project including all required appurtenances, necessary site improvements, and all other work required to make the Project a complete and operable plant that meets all performance requirements within the Guaranteed Maximum Price and within the scheduled time.
- The Construction Manager shall furnish all labor, material, equipment, suppliers and subcontractors for the performance of the construction in strict accordance with all applicable Contract Documents.
- The Construction Manager shall provide construction project administration.
- The Construction Manager shall administer a formal Project Management Information System (for progress reports, schedule reports, cost controls, accounting, etc.).
- The Construction Manager shall establish field offices for JEA, Construction Manager, and Owner's Agent (if applicable) personnel.
- The Construction Manager shall identify, quantify, document, and implement Project and construction risks and opportunities, risk avoidance, reduction, mitigation strategies as well as monitor and provide written input into a Project risk register. The risk register will be maintained by JEA's PM. The Construction Manager shall participate in the preparation, modifications, and maintenance of the Project's risk register and the Construction Manager shall continuously communicate its assumptions regarding impacts to risk and opportunities as the design progresses.
- The Construction Manager shall coordinate and comply with various Federal, State, and local and state agencies, as necessary.
- Obtain all required construction permits and approvals.
- The Construction Manager shall maintain a comprehensive health and safety program and ensure subcontractors adherence to those programs, providing a safe work site for all project participants and visitors.
- The Construction Manager shall execute standardized project subcontract agreements and material and equipment purchase order agreements.
- The Construction Manager shall manage all subcontractor and supplier work including inspection of the work performed by subcontractors to ensure conformance with the Contract Document.
- The Construction Manager shall monitor and manage all quality controls on the Project site as well as maintaining quality controls over shop drawings, equipment and materials.

- The Construction Manager shall provide a payment and performance bond and all insurances as required by the RFP.
- The Construction Manager shall implement the Construction Site Safety Plan to provide a safe working site for the project.
- The Construction Manager shall conduct a Pre-Construction meeting with all the subcontractors performing the major elements of the work prior to the start of their work activities.
- The Construction Manager shall track construction costs and maintain detailed construction cost records, including development of a Change Order submission and tracking system.
- The Construction Manager shall continue collaborating with JEA and the Design Team to mitigate the cost and impact of any issues arising during construction.
- The Construction Manager shall review and process shop drawings and other submittals for submission to Design Team for approval in compliance with the project schedule. Submittals requiring a resubmittal will be charged to the CMAR on a T&M basis for the Design Engineer and Construction Managers time to evaluate and process.
- The Construction Manager shall monitor and update the construction CPM schedule.
- The Construction Manager shall review and process all pay request applications from subcontractors and suppliers.
- The Construction Manager shall process and submit all monthly pay request applications to the Design Team for approval.
- The Construction Manager shall provide regular open-book financial accounting status reports on Project costs.
- The Construction Manager shall conduct recurring progress meetings with the on-site trade foremen and superintendents.
- The Construction Manager shall plan and lead weekly activity coordination and monthly progress meetings (attended by key CMAR team members; at a minimum the CMAR Project Manager and/or CMAR Construction Manager) with JEA and Design Team.
- The Construction Manager shall coordinate all compliance inspections by regulatory agencies and JEA representatives.
- The Construction Manager shall manage the operational verification and equipment startup and testing necessary for JEA to accept the completed project.
- The Construction Manager shall implement close out procedures necessary for the JEA to accept the overall project as being finally complete.
- The Construction Manager shall prepare and submit Monthly Progress Reports in accordance with the requirements of the Contract Agreement.
- The Construction Manager shall have responsibility for design of, and preparation of signed / sealed construction documents for, temporary works as required. These items shall include, but shall not be limited to, cofferdams and other temporary structures (retaining structures), dewatering systems.
- Temporary works design shall be performed under the responsible charge of a competent Florida-licensed Professional Engineer. All construction drawings, specifications, and other applicable work products shall be approved by the Design Team before implementation.

- The Construction Manager shall schedule and attend at least two (2) facility startup meetings prior to submitting the Facility Startup Plan.
- The Construction Manager shall prepare and submit a Facility Startup Plan to JEA for review and approval.
- The Construction Manager shall perform the facility startup; successfully bringing all processes constructed under the Project online and supporting the Plant Staff in the initial operation will be imperative.
- The Construction Manager shall provide all Vendor Operations and Maintenance Manuals and related Equipment Data to the Architect-Engineer for inclusion in the Operations & Maintenance Manual.
- The Construction Manager shall furnish manufacturers' representatives for detailed classroom and hands-on training to Owner's personnel on operation and maintenance of specified product (system, subsystem, component) and as may be required in applicable Specifications
- The Construction Manager shall furnish trained, articulate personnel to coordinate and expedite training, to be present during training coordination meetings with Owner, and familiar with operation and maintenance manual information.
- The Construction Manager shall furnish complete training materials, to include operation and maintenance data, to be retained by each trainee.
- Create and maintain a Schedule of the Plant's Assets.
- Upon completion of the Work, the Construction Manager shall prepare redline and submit as-built drawings to JEA that represent to scale all as-built conditions for the plant site and building facilities.

Cost and Fee

3.1 Explanation of GMP

If a GMP agreement is reached between JEA and the Construction Manager, the GMP amount will be incorporated into the Contract for Construction Phase Services. A GMP is the sum of the Cost of Work, General Conditions (GC), bonds and insurance, Construction Manager Fee, and any agreed upon contingency.

GMP = Cost of Work + GCs + Bonds & Insurance + Construction Manager Fee (Overhead & Profit) + Contingency + any owner allowances

JEA anticipates requesting a final proposed GMP no earlier than completion of 90% contract documents. JEA reserves the right not to award any part(s) or all of the Construction Phase Services and bid/award some or all of the construction work separately. The Construction Manager shall deliver to JEA a proposed GMP and GMP Supporting Documents at any appropriate design milestones identified in the sequencing plan. Depending on the number of Construction packages determined during the Pre-Construction phase, there may be multiple GMPs to be developed by the Construction Manager. Currently, two (2) GMPs are anticipated; One for an Early Work Package and One for the Remaining Work Package.

JEA is desirous of incentivizing the Construction Manager to continue to find ways of reducing costs during construction through diligent and professional construction management of the procurement and construction processes & techniques. Refer to the Contract Agreement, section 2.6.5 Savings, for further details.

3.1.1 Cost of the Work

The Cost of the Work shall be as defined in Section 2.5.2 of the Contract Agreement.

3.1.2 General Conditions

The GC category shall be for onsite personnel that will provide management oversight during construction and any equipment, materials, utilities, facilities, office supplies and travel expenses necessary for execution of the Project.

The Construction Manager shall provide general condition items that include the following: temporary jobsite facilities, utilities, data/telecom services, office supplies, local staff phones, project vehicles, safety supplies, printing and reproduction services, project signs, vehicles, per diem, travel, lodging, dumpsters, portable toilets, etc. The GCs for each GMP will be negotiated on an open book basis. Development of this value shall be based on the rates submitted and negotiated in the GMP proposal. Rates in this category shall be all inclusive and include overhead, burden, insurance, retirement, and cell phones. This cost shall be based on the level of effort, facilities, and duration required to manage and oversee each work package.

3.1.3 Construction Manager Fee

The Construction Manager shall be entitled to a Construction Manager Fee expressed as a percentage of the Cost of Work as outlined in Section 6.2 of the Contract Agreement.

JEA intends to establish the Construction Manager Fee component of the GMP during negotiations for Pre-Construction Services.