Supplementary General Conditions

These Supplemetary Conditions make additions, deletions, or revisions to the General Condtions provided in JEA's Solicitation 025-20. All provisions that are not so amended or supplemented remain in full force and effect.

The terms used in these Supplemental Conditions have the meanings stated in Solicitation 025-20. Additional terms ued in these Supplementary Condtions have the meanings stated below which are applicable to both the singular and plural thereof.

Articlue 2.2 – Definitions

SC-2.2.51 The following has been added to the end of the definition:

"See Specification Section 00 15 19 for additional Shop Drawing and Submittal Requirements. See Drawing S-001 for additional Shop Drawing and Submittal Requirements"

Articlue 2.13.18 – Quality Control and Quality Assurance

SC-2.13.18 Modify the selected paragraph as follows:

"…engineering priciples. The Company shall have only personnel trained in Quality Control techniques and experienced with the nature of the Work perform the Quality Control function. **See Specification Section 00 15 19 for additional Quality Requirements."**

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SECTION 01 51 09

TEMPORARY SEWAGE BYPASS PUMPING

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. This section includes requirements for implementing a temporary bypass pumping system for diverting existing sewage flow around work area for duration of the project.

1.02 DESCRIPTION

A. This specification covers work and equipment required for temporarily diverting sewage around the pump stations. Bypass pumping includes furnishing, installing, operating and maintaining all primary and standby pumps, appurtenances, bypass piping, and all the tools, labor, supervision, materials, and equipment necessary to maintain existing sewer flows and services. The Contractor shall schedule bypass work in advance and coordinate with JEA Water to minimize service outages.

B. The Contractor's attention is referred to the conditions and requirements for temporary and permanent utilities as specified in the JEA Water and Wastewater Standards Manual.

C. The design, installation, and operation of the temporary pumping systems shall be the Contractor's responsibility. The Contractor shall employ the services of a vendor who can demonstrate to the Engineer that he/she specializes in the design, installation, and operation of temporary bypass pumping systems.

D. The system shall be capable of pumping raw wastewater from the indicated manholes to the designated location as shown on the Drawings. The temporary pumping system shall be capable of pumping the variable wastewater flows received by the pump stations. The bypass pumping system shall be capable of pumping up to 110% of the peak flow conditions with one pump and provide a backup pump for 100% redundancy.

E. It is required under this section that the Contractor provide all necessary means to safely convey the variable wastewater flows past the pump station. It will not be permitted to stop or impede the sanitary sewer flows under any circumstances.

F. The Contractor's bid price shall include the following for each bypass pumping system: one pump and at least one backup pump with sound attenuation housing (maximum noise level of 70dBA @ 30 feet) as well as all necessary controls, a high-water alarm signal (light) to indicate pump operational problems and to automatically activate the backup pump, an autodialer and 24-hour on-call maintenance personnel.

G. The contractor shall be capable of having maintenance personnel onsite within 30 minutes of receiving notice that there are problems associated with a bypass pumping system.

1.03 DESIGN REQUIREMENTS

A. Bypass pumping systems shall:
   1. Provide sufficient capacity to pump variable wastewater flows including peak flows.
   2. Operate 24 hours per day.
   3. Automatically operate using level switches installed within the manhole where bypass suction piping is located.
   4. Automatically communicate run status and alarms through JEA's SCADA system.
   5. Automatically dial programmed cellular phone numbers in the event of an alarm condition.
   6. Automatically start redundant pump if primary pump has alarm condition.

B. Provide pipeline plugs and pumps of adequate size to handle peak flow, and temporary discharge piping to ensure variable wastewater flows of sewer system can be safely diverted around sections of work to be repaired and/or replaced.

1.04 SUBMITTALS

A. Submit the following:
   1. Detailed plan and description of proposed pumping system. Indicate number, size, material, location and method of installation of suction and discharge piping, size of pipeline or conveyance system to be bypassed, staging area for pumps, site access point, and expected flow.
      a. Size and location of manhole or access points for suction and discharge hose or piping.
      b. Temporary pipe supports and anchoring required.
      c. Thrust and restraint block sizes and locations.
      d. Sewer plugging method and type of plugs.
      e. Bypass pump sizes, capacity, number of each size to be on site and power requirements.
      f. Backup pump and piping equipment.
      g. Calculations of static lift, friction losses, and flow velocity. Pump curves showing pump operating range.
      h. Design plans and computation for access to bypass pumping locations indicated on drawings.
      i. Calculations for selection of bypass pumping pipe size.
      j. Method of noise control for each pump and/or generator.
      k. Method of protecting discharge manholes or structures from erosion and damage.
      l. Schedule for installation and maintenance of bypass pumping lines.
      m. Procedures to monitor upstream mains for backup impacts.
      n. Procedures for setup and breakdown of pumping operations.
      o. Diesel fuel requirements including fuel storage capacity, secondary containment method, safety signage and procedures, MSDS.
      p. Emergency plan detailing procedures to be followed in event of pump

failures, sewer overflows, service backups, and sewage spillage.

1) Maintain copy of emergency plan on site for duration of project.

2. Certification that bypass system will meet requirements of codes, and regulatory agencies having jurisdiction.

B. The bypass pumping plan shall be submitted to JEA for review a minimum of 10 days prior to any planned bypass. The JEA's permission shall be obtained prior to bypass pumping.

1.05 QUALITY ASSURANCE

A. Follow standards and as specified herein.

B. Perform leakage and pressure tests on discharge piping using clean water, before operation. Notify JEA at least 24 hours prior to testing.

C. Maintain and inspect temporary bypass pumping system every four hours. Responsible operator shall be on site when pumps are operating.

D. Keep and maintain spare parts for pumps and piping on site, as required.

E. Maintain adequate hoisting equipment and accessories on site for each pump.

1.06 DELIVERY AND STORAGE

A. Transport, deliver, handle, and store pipe, fittings, pumps, ancillary equipment and materials to prevent damage and following manufacturer's recommendations.

1. Inspect all material and equipment for proper operation before initiating work.

B. Material found to be defective or damaged due to manufacturer or shipment.

1. When JEA deems repairable: Repair as recommended by manufacturer.
2. When JEA deems not repairable: Replace as directed by JEA before initiating work.

1.07 JOB CONDITIONS

A. Make necessary site visits, inspections, and observations needed to schedule the order of work and identify bypass pumping needs prior to performing work.

B. Ensure that wastewater service is not disrupted during implementation and operation of bypass pumping system.

1.08 ENVIRONMENTAL REQUIREMENTS

A. Schedule and perform work in manner that does not cause or contribute to incidence of overflows, releases or spills of sewage from sanitary sewer system or bypass operation.

B. Maintain system such that diesel fuel and lubricant oils are not subject to accidental

spillage.

C. CONTRACTOR shall be responsible and liable for any wastewater overflows or diesel fuel spills resulting from inadequate construction, maintenance or operation of the bypass system, including reporting to the State of Florida and any resulting fines.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Discharge and Suction Pipes: Approved by JEA.
   1. Discharge piping: Determined according to flow calculations and system operating calculations.
   2. Suction piping: Determined according to pump size, flow calculations, and manhole depth following manufacturer's specifications and recommendations.

B. Polyethylene Plastic Pipe:
   1. High density solid wall and following ASTM F714 Polyethylene (PE) Plastic Pipe (SDR-DR) based on Outside Diameter, ASTM D1248 and ASTM D3550.
   2. Homogenous throughout, free of visible cracks, discoloration, pitting, varying wall thickness, holes, foreign material, blisters, or other deleterious faults.

C. High-Density Polyethylene (HDPE).
   1. Homogenous throughout, free of visible cracks, discoloration, pitting, varying wall thickness, holes, foreign material, blisters, or other deleterious faults.
      a. Defective areas of pipe: Cut out and joint fused as stated herein.
   2. Assembled and joined at site using couplings, flanges or butt-fusion method to provide leak proof joint. Follow manufacturer's instructions and ASTM D 2657.
      a. Threaded or solvent joints and connections are not permitted.
   3. Fusing: By personnel certified as fusion technicians by manufacturer of HDPE pipe and/or fusing equipment.
   4. Butt-fused joint: True alignment and uniform roll-back beads resulting from use of proper temperature and pressure.
      a. Allow adequate cooling time before removal of pressure.
      b. Watertight and have tensile strength equal to that of pipe.
      c. Acceptance by JEA before insertion.
   5. Use in streams, storm water culverts and environmentally sensitive areas.

D. Flexible Hoses and Associated Couplings and Connectors.
   1. Abrasion resistant.
   2. Suitable for intended service.
   3. Rated for external and internal loads anticipated, including test pressure.
      a. External loading design: Incorporate anticipated traffic loadings, including traffic impact loading.
   4. When subject to traffic loading, compose system, such as traffic ramps or covers.
      a. Install system and maintain H-20 loading requirements while in use or as

directed by the JEA.

E. Valves and Fittings: Determined according to flow calculations, pump sizes previously determined, and system operating pressures. Isolation valves shall be gate valves, check valves shall be tilting disc designed for wastewater service, and fittings shall be HDPE or ductile iron with appropriate restrained transition fittings between adjacent piping material.

F. Plugs: Selected and installed according to size of line to be plugged, pipe and manhole configurations, and based on specific site.

1. Additional plugs: Available in the event a plug fails. Plugs will be inspected before use for defects which may lead to failure.

G. Aluminum "irrigation type" piping or glued PVC piping will not be permitted.

H. Discharge hose will only be allowed in short sections when approved by JEA.

2.02 PUMPING EQUIPMENT

A. All pumps used shall be fully-automatic, self-priming units that do not require the use of foot-valves or vacuum pumps in the priming system. The pumps shall be diesel powered. All pumps used must be constructed to allow dry running for long periods of time to accommodate the cyclical nature of influent flows.

B. Engines shall be muffled in such a manner that the maximum noise level will not exceed 70 dBA at thirty (30) feet from motors. Implement sound damping measures. Standby pumping equipment shall be at the site continuously during pumping to provide 100 percent standby pumping capacity. The standby pumps shall be connected to piping such that if the duty pump fails, the standby pump can be online immediately. Provide manpower to continuously monitor the pumping equipment on a 24-hour basis while in operation and activate standby equipment.

C. The pumps and drives shall be rated for continuous duty and shall be capable of pumping the specified flow range without surging, cavitation, or vibration. The pump shall not overload the driver at any point on the pump operating curve. Rotative components shall be statically and dynamically balanced. The pump shall be suitable for use with raw unscreened sewage and trash. The pump shall be a self-contained unit with critical silence enclosures, designed for temporary use.

D. Pump shall have a ductile iron casing, suction cover, separation tank, and non-return valve, a high nickel steel open impeller, front and rear wear plate, shaft sleeve and shaft.

E. Pump seals shall be constructed of silicon carbide, of the mechanical type, and shall be located in an oil bath. This will allow lubrication by the oil, not the wastewater and will allow pump operation at periods of low flow.

F. The current peak flow conditions: See Contract Drawings.

G. The Bypass Pumping Systems shall be capable of pumping 110% of the peak flow conditions with only one of the two bypass pumps operating.

2.03 PUMP CONTROLS

A. CONTRACTOR shall provide the necessary instrumentation and controls for starting/stopping each pump and for monitoring level, pump status, critical engine functions, battery status, fuel level, etc.

B. The bypass pumps shall have manual start/stop. One pump shall run at all times during bypass operations. A high-water alarm signal (light) will indicate pump operational problems and automatically activate the backup pump.

C. Local visible alarms shall be provided, and automatic communication for alarms shall be by cellular telephone autodialing system with at least ten (10) programmable emergency contact phone numbers.

D. Connect bypass pump system status and alarms to JEA SCADA system.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Equipment specified in this section shall be installed in strict accordance with the manufacturer's instructions and recommendations. Installation shall include furnishing oil, fuel, grease, lubricants, tools and spare parts that may be required to maintain the operation of the pump throughout the construction period, as recommended by the manufacturer. The Contractor shall be solely responsible for maintaining the temporary pumps and appurtenances. At the end of the construction period, the contractor shall remove the pumps and appurtenances.

B. The pumps are to be installed for temporary use only and shall be removed by the Contractor prior to completion of the contract. The contractor shall be responsible for proper operation of the complete pumping system, which includes pump, driver, controls, and appropriate pipe connections, during the construction period.

C. Adequate hoisting equipment for each pump and accessories shall be maintained on the site.

D. The Contractor shall insure that the temporary pumping system is properly maintained, and a responsible operator shall be on hand at all times when pumps are operating.

E. The temporary pumping system shall be placed in service a minimum of 24 hours before any work may begin.

F. Bypass Pipelines:
   1. Pipeline may be placed along shoulder of roads.
      a. Do not place in streets.
   2. When bypass pipeline crosses local streets and private driveways, place in roadway ramps.
      a. When roadway ramps cannot be used, place bypass in trenches and cover with temporary pavement as approved by JEA.

3.02 BYPASS PUMP TEST

A. A functional/operational test of the bypass pump setup must be successfully run for 24 hours before taking the existing manhole(s) and pump station offline.

3.03 SEWER BYPASSING

A. The Contractor shall schedule the Work so that the bypass pump stations are maintained in continuous operation. All processes shall be maintained in continuous operation during the construction period except during approved interruptions. Installation of the bypass pumping should be made prior to starting other construction activities so that the bypass may be utilized to maintain variable wastewater flows with minimal interruption.

B. The existing pump station shall be shut down ONLY when all bypass operations are acceptable to the JEA and Engineer.

C. Under no circumstances shall sewage or solids be deposited onto the surrounding surfaces or into drainage ways. Sewage shall be handled in a manner so as not to create a health hazard.

D. Maintain continuity of sanitary sewer service during the execution of the work. If sewage backup occurs during Contractor bypass pumping, the Contractor shall cleanup, repair, pay property damage costs, pay fines imposed by jurisdictional authorities, and handle all claims arising therefrom. All spills shall be contained and returned to the sewer system.

E. Provide a designated employee(s) whose only role in the construction effort is to be responsible for continuously monitoring (24 hours a day) the bypassing operation, and all related equipment. The designated employee(s) will not be allowed to participate in any other unrelated undertaking, while the bypassing operation is in effect.

F. Complete a bypassing checklist prior to bypassing operation. The checklist will demonstrate the step-by-step inspection of the pumps, pipes, hold-down cables, plugs, and other equipment or appurtenances that will be used in the operation and sign the checklist.

G. Maintain on site enough equipment and materials to ensure continuous and successful operation of the bypass and dewatering systems. Standby pumps shall always be fueled and operational. Maintain on site a sufficient number of valves, tees, elbows,

connections, tools, sewer plugs, piping and other parts or system hardware to ensure immediate repair or modification of any part of the system as necessary.

H. Once written permission is issued, the Contractor shall remove all components of the temporary pumping system. The Contractor shall perform all restoration work to the satisfaction of JEA.

3.04 DAMAGES

A. Without cost to JEA, repair any damage that may result from the temporary or permanent demobilization from the Work area, and installation, operation, maintenance, and removal of the sewer bypass pumping system. This includes but is not limited to damages resulting from inadequate demobilization, or improper installation, operation and maintenance of the bypass system, mechanical failures, or electrical failures.

B. CONTRACTOR shall remove all pumping system components and restore any modifications to the existing structure as directed by JEA. Any soil containing grease, oil, or fuel from the pump engines shall be removed from the site and replaced with topsoil.

C. All sewer plugs and other bypass system appurtenances shall be removed, and any damage to the station, gravity sewer pipes or manhole shall be repaired.

END OF SECTION

Part 1 General

1.01 Description

A. Scope of Work:

1. The Contractor shall cooperate and coordinate with the Engineer and Owner to schedule and administer the preconstruction meeting, periodic progress meetings, and specifically called meetings throughout the progress of the Work. The Contractor shall:

   a. Prepare and distribute Notification of meeting to attendees of the meeting.

   b. Establish, prepare and distribute agenda for meetings with the notification.

   c. Make physical arrangements for meetings.

   d. Preside at meetings.

   e. The Engineer will take and distribute meeting minutes.

2. Representatives of Contractor, subcontractors, and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.

3. The Owner shall attend meetings to ascertain that the Work is expedited consistent with Contract Documents and construction schedules.

B. Related Requirements Described Elsewhere:

1. Shop Drawings, Working Drawings, and Samples: Section 01 33 23.

2. Project Record Documents: Section 017839.

1.02 Preconstruction Meeting

A. The Contractor will schedule a pre-construction meeting

B. Location: A local site, convenient for all parties, designated by the Owner.

C. Attendance:

1. Owner's project representative.

2. Owner’s Utility Inspector

3. Engineer and his professional sub-consultants (as needed).

4. Contractor and his superintendent.

5. Contractor’s professional consultants (as needed).

6. Major subcontractors.

7. Representatives of major equipment suppliers and manufacturers as appropriate.

8. Others as requested by the Contractor, Owner, and Engineer.

D. The Contractor shall preside at the pre-construction meeting. The Contractor shall provide for keeping minutes and distribution of minutes to the Owner, Engineer and others within seven (7) calendar days of the meeting. The purpose of the pre-construction meeting is to designate responsible personnel and establish a working

relationship. Matters requiring coordination will be discussed and procedures for handling such matters established.

E. The suggested agenda for the pre-construction meeting would include the following:

1. Safety Moment
2. Introductions
3. Project Summary
4. Communication Protocol
5. Contract Terms and Dates
6. Project Safety Requirements
7. List of Major Subcontractors and Suppliers
8. Schedule of Values
9. Project Schedule Overveiw
    a. Overall schedule with major milestones and dates
    b. Critical work sequencing: Relationships and coordination with other contracts and/or work.
    c. Major equipment deliveries and priorities.
    d. Monthly Progress Schedules
    e. Completion Time for Contract
    f. Liquidated Damages
10. Submittal of Shop Drawings, Project Data and Samples.
11. Procedures and processing of:
    a. Field decisions.
    b. Proposal requests.
    c. Request for Information.
    d. Submittals.
    e. Change Orders.
    f. Record Drawings
    g. Applications for Payment.
12. Use of Premises
    a. Storage, staging and laydown areas
    b. Owner’s Requirements for Use of Facilities
    c. Housekeeping Procedures
    d. Access and Traffic Control
    e. Security

13. Preconstruction Activities
    a. Survey
    b. Video/digitial records
    c. Contruction Facilities and controls
    d. Temporary Utilities
14. Constrution Activities
    a. Contractor work hours
    b. Inspection
    c. Testing
    d. Progress Meetings
15. Project Inpsection
16. Labor Requirements
17. Laboratory testing of material requirements
18. Application for Payment
    a. Schedule of Values
    b. Submittal Dates
    c. Application for Payment
    d. Final Payment
19. Contract Closeout
    a. Substantial Completion
    b. Final Inspection
    c. Contractor’s Closeout Submittals

1.03 Progress Meetings

A. The Contractor shall schedule regular periodic meetings. The progress meetings will be held a minimum of once every thirty (30) days and at other times as required by the progress of the Work. The first meeting shall be held within thirty (30) days after the pre-construction meeting or thirty (30) days or less after the date of Notice to Proceed. The Contractor shall prepare and distribute the meeting agenda at least 48 hours prior to the next Project progress meeting.

B. Hold called meetings as required by progress of the Work.

C. Location of the meetings: At project site.

D. Attendance:
   1. Engineer and his professional Subconsultants as needed.
   2. Contractor and his Superintendent.
   3. Owner's representatives.
   4. Subcontractors (active on the site, as appropriate to the agenda).

5. Others as appropriate to the agenda (suppliers, manufacturers, other subcontractors, etc.).

E. The Contractor shall preside at the meetings and provide for keeping minutes and distribution of the minutes to the Owner, Engineer, and others within seven (7) calendar days of the meeting. The purpose of the meetings will be to review the progress of the Work.

F. The suggested agenda for the progress meetings will include but not be limited to the following:

1. Safety Moment
2. Introductions
3. Review approval of minutes of previous meeting.
4. Schedule
    a. Review of Work progress since previous meeting
    b. Work scheduled (4-week look ahead schedule).
    c. Critical Path Review
    d. Key upcoming milestones
    e. Problems which may impede construction schedule
    f. Owner Coordination
    g. Equipment delivery schedules
    h. Corrective measures to regain project schedule
    i. Material and Delivery Status
5. Review of Logs
    a. RFI Log
    b. Shop Drawing Log
    c. Change Log
6. Review of Previous Action Items
7. New Business
    a. Field observations, problems, conflicts.
    b.
8. Summary of Action Items
9. Other business.

G. The Contractor's representative is to attend the progress meetings and have the authority to act on behalf of the entity he represents on field related matters. The Contractor's representative is to study previous meeting minutes and current agenda items, in order to be prepared to discuss pertinent topics and provide specific information including but not limited to:

1. Previous meeting minutes and any required changes to the minutes.

2. Status of all submittals and what specifically is being done to expedite them.
3. Describe current status and activities for the Project.
4. Status of all activities behind schedule and what specifically will be done to regain the schedule.
5. Status of all material deliveries, latest contact with equipment manufacturer, and specific actions taken to expedite materials.
6. Status of open deficiencies and what is being done to correct the same.

H. The Contractor is to provide a current submittal log at each progress meeting in accordance with Section 013323: Shop Drawings, Working Drawings, and Samples.

I. The Contractor shall provide a four (4) week look ahead schedule at each Project progress meeting.

1.04 Special Meetings

A. Special meetings may be called by the Engineer or the Owner as necessary.

1. Agenda: As necessary.
2. Attendance: As appropriate.

Part 2 Products (Not Used)

Part 3 Execution (Not Used)

END OF SECTION

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