

Attachment D

Project Technical Requirements

REVISED 28APR2017

Project Technical Requirements

A. Progressive Design/Build Services for the 2016 SPLOST North Mainland Sewer Transmission System Description

The North Mainland Sewer Transmission System (NMSTS) consists of six (6) lift stations (LSs), LS 4005, 4006, 4028, 4039, 4048, 4110, and their associated force mains and gravity lines. Table D-1 presents general information regarding each of these six stations, and Figure 2.8 presents the location of each of these stations, as well as other LSs that contribute flow to the Academy Creek Wastewater Treatment Plant (WWTP). The information and data presented Table D-1 and Figure 2.8, and other materials, are contained in the BGJWSC Water and Wastewater Master Plan Update 2015-2035, that was developed by Applied Technology and Management (ATM) in February 2016. An electronic copy of this document is available on the BGJWSC website. A brief description of each LS is presented below in the following text.

Table D-1 Pump Station General Information-North Mainland Sewer Transmission System

Lift Station Number	Location	Pump Type	Pump Discharge Size (In)	Pump Man	Motor HP	No. Pumps	Model	Imp	Discharge Force Main Size (in)
4005	Stonewall & Fifth St	Dry Pit Submersibles	12	Flygt	100	2	3305	630	14
4006	College of Coastal Georgia	Submersible	12	Flygt	35	3	CP 3201	638	18
4028	Carteret Road	Submersible	12	Flygt	35	3	CP 3201	637	16
4039	Glynco WTP	Submersible	-	Flygt	35	3	CP 3201	632	12
4048	US 17 North	Submersible	12	Flygt	35	3	CP 3201	638	16
4110	Harry Driggers Boulevard	Submersible	6	Flygt	88	2	CP3300	464	8/12

Lift Station 4110

LS 4110 is a submersible duplex LS that receives wastewater flows from the northern most regions of the Mainland Collection System, including from LS4118. The LS discharges flow to about 1.54 miles of 8-inch diameter polyvinyl chloride (PVC) force main that transitions to a 12-inch diameter PVC force main that is about 1.37 miles long. The pumps are Flygt pumps and the manufacturer's factory pump curves are available on the Owner's website. Generally, the pumps are individually rated at 1,900 gallons per minute (gpm) at a total discharge head (TDH) of 130-feet. The most recent draw down data from the Owner indicates that the two pumps are actually operating at 426 gpm and 664 gpm, each. LS 4110 discharges to a manhole upstream of LS 4039.

Based on the future projections provided in the BGJWSC Master Plan, LS 4110 will need the capacity to convey 2,031 gpm to LS 4039; and presently does not have the capacity to convey this amount of flow.

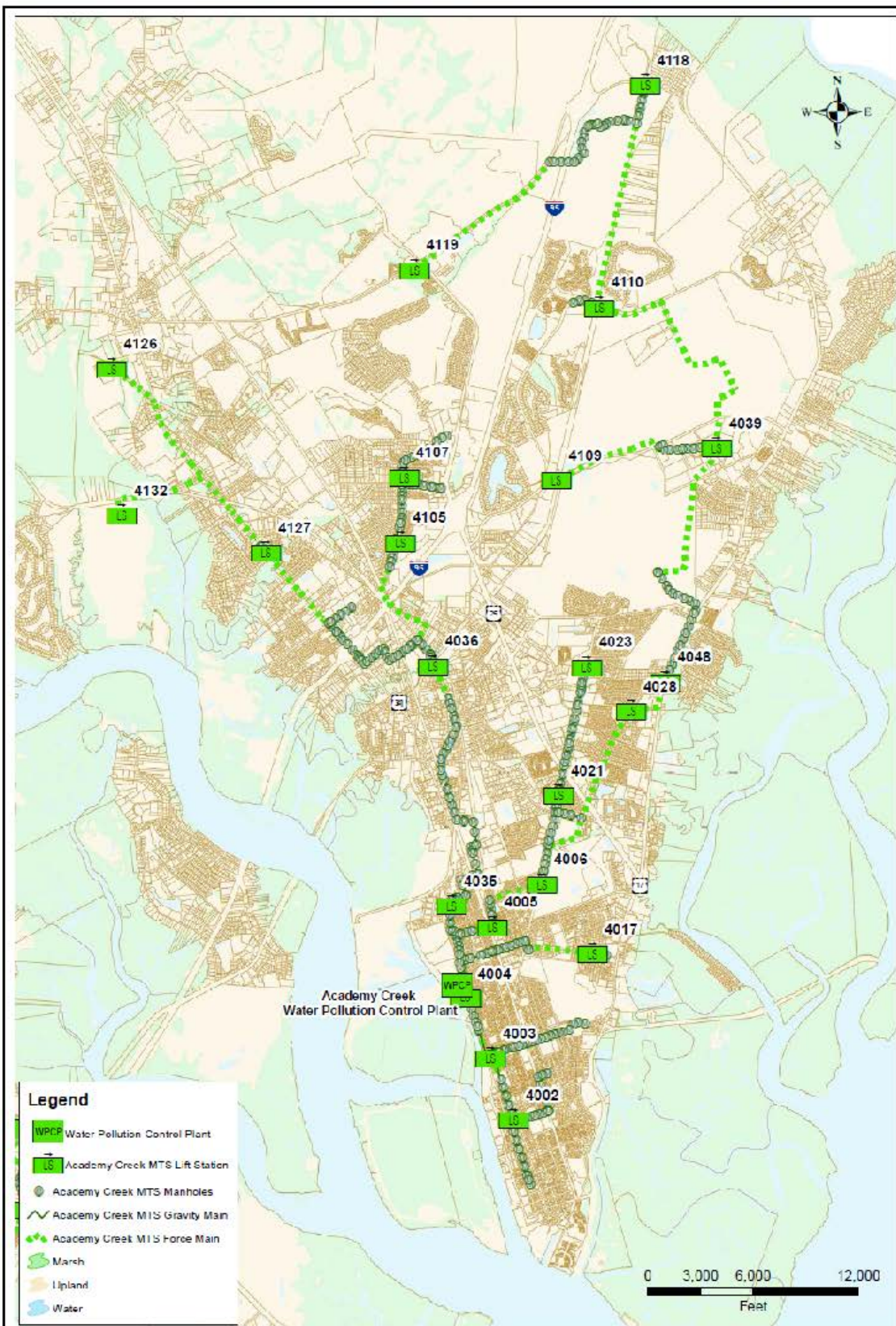


Figure 2.8 JWSC Academy Creek Major Sewer Transmission System

DISCLAIMER: This map is for reference and illustrative purposes only. It should not be used for any legal or financial purposes. The information shown herein is not intended to constitute an offer of insurance or any other financial product. For more information, please contact your agent.



BGJWSC is implementing a project to construct a new 20-inch diameter force main to divert the discharge from LS 4110 away from LS 4039. This project is projected to be complete and operational by June, 2018. The BGJWSC requires the capacity of LS 4110 to be 2,031 gpm.

Lift Station 4039

LS 4039 is a submersible triplex LS that receives wastewater flows from the northern most regions of the Mainland Collection System, including from LS4110. The LS discharges flow to about 1.76 miles of 12-inch diameter PVC force main that discharges into a 27-inch diameter PVC gravity line. The pumps are Flygt pumps and the manufacturer's factory pump curves are available on the Owner's website. Generally, the pumps are individually rated at 2,000 gpm each at a TDH of 50-feet. The most recent draw down data from the Owner indicates that the pumps are actually operating at 817 gpm, 826 gpm, and 725 gpm.

Based on the future projections provided in the BGJWSC Master Plan, LS 4039 will need the capacity to convey 1,636 gpm to the downstream gravity line; and presently does have the capacity to convey this amount of flow.

BGJWSC is planning a project to construct a new 20-inch diameter force main to divert the discharge from LS 4039 away from the downstream gravity line. This project is projected to be complete and operational by the end of 2018. In the meantime, BGJWSC requires the capacity of LS4039 to be 2,336 gpm.

Lift Station 4048

LS 4048 is a submersible triplex LS that receives wastewater flows from the Mainland Collection System, including from the 27-inch gravity line that LS 4039 discharges into. The LS discharges flow to about 0.62 miles of 16-inch diameter ductile iron pipe (DIP) manifold force main. The manifold force main also receives flow from two other downstream LSs, LS 4028 and LS 4006, described below. The next downstream LS that discharges into the manifold force main is LS 4028. Originally, LS 4048 was designed to discharge into LS 4028, and the piping and valves are still available to redirect the flow as originally constructed. The condition of the valves is not available at this time. Presently, flow from LS 4048 bypasses LS 4028.

The pumps are Flygt pumps and the manufacturer's factory pump curves are available on the Owner's website. Generally, the pumps are individually rated at 1,900 gpm at a TDH of 35-feet. Draw down data from the Owner indicates that the pumps are actually operating at 982 gpm, 2,010 gpm, and 2,010 gpm.

Based on the future projections provided in the BGJWSC Master Plan, LS 4048 will need the capacity to convey 3,925 gpm, 2,336 gpm from LS 4039 and an additional 1,589 gpm from the surrounding collection system. Presently the LS does not have the capacity to convey this amount of flow.

Lift Station 4028

LS 4028 is nearly identical to LS 4048 and is a submersible triplex LS that receives wastewater flows from the Mainland Collection System. The LS discharges flow to about 2.28 miles of 16-inch diameter DIP manifold force main. As described above, the manifold force main also receives flow from the upstream LS 4048 and one downstream station, LS 4006. Flow from LS 4028 bypasses LS 4006.

The pumps are Flygt pumps and the manufacturer's factory pump curves are available on the Owner's website. Generally, the pumps are individually rated at 1,900 gpm at a TDH of 35-feet. Draw down data from the Owner indicates that the pumps are actually operating at 450 gpm, 1,200 gpm, and 1,285

gpm.

Based on the future projections provided in the BGJWSC Master Plan, LS 4048 will need the capacity to convey 1,539 gpm received from the surrounding collection system. Presently the LS does not have the capacity to convey this amount of flow. The total flow in the 16-inch force main downstream of LS 4028 is 5,564 gpm.

Lift Station 4006

LS 4006 is a submersible triplex LS that receives wastewater flows from the Mainland Collection System. The LS discharges flow to about 0.59 miles of 18-inch diameter DIP manifold force main. The 16-inch manifold force main transitions to an 18-inch diameter force main at LS 4006. As described above, the manifold force main also conveys flow from the two upstream LSs, LS 4048 and LS 4028.

The pumps are Flygt pumps and the manufacturer's factory pump curves are available on the Owner's website. Generally, the pumps are individually rated at 2,100 gpm at a TDH of 42-feet. Draw down data from the Owner indicates that the pumps are actually operating at 3,464 gpm, 2,914 gpm, and 3,321 gpm.

Based on the future projections provided in the BGJWSC Master Plan, LS 4006 will need the capacity to convey 3,287 gpm received from the surrounding collection system. Presently the LS does not have the capacity to convey this amount of flow into the manifold force main with the design flows from LSs 4048 and 4028. The total flow in the 18-inch force main downstream of LS 4006 is projected to be 9,001 gpm. The 18-inch force main discharges flow into a 30-inch diameter PVC gravity line that conveys this flow and other gravity flows to a manhole upstream of LS 4005.

BGJWSC is implementing a project to construct a new 24-inch diameter force main to connect the existing 18-inch force main and divert the discharge from the three LSs, LS 4028, LS 4048, and LS 4006, to a manhole downstream of LS 4005. This will eliminate this flow from being conveyed to LS 4005. This project is projected to be complete and operational by the September or October of 2017. In the meantime, BGJWSC requires the capacity of LS4006 to be 3,437 gpm.

Lift Station 4005

LS 4005 is a dry-pit submersible duplex LS that receives wastewater flows from the Mainland Collection System and from the existing 18-inch diameter manifold force main that conveys flows from LSs LS 4028, LS 4048, and LS 4006. LS 4005 discharges flow to about 1,200 feet of 14-inch diameter fiberglass force main that discharges into a downstream manhole on a 30-inch gravity line.

The pumps are Flygt pumps and the manufacturer's factory pump curves are available on the Owner's website. Generally, the pumps are individually rated at 4,226 gpm at a TDH of about 67-feet. Draw down data from the Owner indicates that the two pumps are each actually operating at 3,281 gpm.

Based on the future projections provided in the BGJWSC Master Plan, LS 4005 will need the capacity to convey 9,321 gpm, 9,001 gpm from the 18-inch manifold force main and 320 gpm received from the surrounding collection system. Presently the LS does not have the capacity to convey this amount of flow to the downstream gravity line.

As stated above, BGJWSC is implementing a project to construct a new 24-inch diameter force main to divert the flow from the 18-inch force main away from LS 4005; which will significantly reduce the capacity requirements of this LS. This project is projected to be complete and operational by the September or October of 2017. In the meantime, BGJWSC requires the capacity of LS4005 to be 9,321 gpm.

Jockey Pumps

The Owner has purchased four (4) Godwin Dri-Prime, diesel driven, self-priming “jockey pumps” that were originally intended serve as back-up pumps for LSs LS 4110, LS 4039, LS 4048, and LS 4005. These pumps are available to be utilized as part of this project to serve in an interim basis to support the NMSTS to meet its design capacities during the period that other improvements are being completed. The DB Entity can utilize these pumps in its design for improving the system with approval by the Owner. A description of each pump is presented below, and specific pump information is available from the Owner’s website.

1. **Jockey Pump LS4110** – Jockey Pump LS4110 is a Godwin model HL200M Dri-Prime® Pump with a current design duty point of 1,500 gpm at 315-feet TDH.
2. **Jockey Pump LS4048** – Jockey Pump LS4048 is a Godwin model CD300M Dri-Prime® Pump with a current design duty point of 3,200 gpm at 151-feet TDH.
3. **Jockey Pump LS4039** – Jockey Pump LS4039 is a Godwin model CD225M Dri-Prime® Pump with a current design duty point of 1,700 gpm at 100-feet TDH.
4. **Jockey Pump LS4005** – Jockey Pump LS4005 is a Godwin model CD300M Dri-Prime® Pump with a current design duty point of 5,000 gpm at 57-feet TDH.

B. Scope of Services Summary

The JWSC believes the D-B procurement method will accomplish its objectives. To achieve the optimal benefit from this process, BGJWSC prefers that the Proposer’s Project team be one that is a truly integrated team with a genuine, collaborative philosophy. Such a team would integrate the two prime roles of designer and builder. These prime roles would be integrated in a manner that supports collaboration and high performing team concepts. This team structure should share risk and reward, contain proper incentives, and allow for the routine conflict resolution of the issues that typically arise among these two prime roles.

The Design-Builder shall provide the JWSC with the following integrated D-B services:

Design:

- Design of improvements and modifications to the existing NMSTS to provide it the capacity to meet the design capacities identified in Section A above and related work
- Permitting
- Equipment Procurement Services
- Construction oversight

Construction:

- Construction management
- Construction of the NMSTS improvements and related work as appropriate, with coordination and integration with other current and planned JWSC projects
- Completion of installation and start-up of all required equipment as well as plant performance and acceptance tests
- Successful completion of the LS acceptance tests

- Other requirements as mandated by the Agreement

In providing these services, the Design-Builder shall at all times comply with the following:

- BGJWSC Design criteria and performance standards
- Measures set forth in the Project’s certified/approved Georgia EPD permits
- Design review/approval processes as detailed in this RFP
- Industry design and construction standards
- Local, state, and federal regulations

C. Background Documents

A list of background documents for the Project that are available to Proposers is provided in Table 1 at the end of this section. BGJWSC has made these documents available for downloading by interested proposers from its website at www.BGJWSC.org.

Proposers are advised that the background documents which are being furnished to them have been prepared in the course of the Owner’s development of this and other projects. By submitting a Proposal, each Proposer certifies that it has read and understands the disclaimer for the background documents below.

Disclaimer: The background documents for the Project which are available to Proposers are provided to Proposers solely for their informational purposes, and the documents shall not be considered an appropriate or exhaustive list of information necessary for a Proposer to meet the Design-Builder’s obligations under the Agreement. The information, recommendations, conclusions, findings, analyses, results, or views expressed in the background documents have not been approved or endorsed by BGJWSC, and accordingly should not be construed as representing BGJWSC policy.

BGJWSC neither makes any representation nor warranty with respect to, nor assumes any responsibility for the appropriateness, completeness, or the accuracy of, the background documents. Proposers are solely responsible for conducting their own independent research and due diligence for the preparation of their Proposals and the subsequent delivery of services under the Agreement. No information derived from any part of the background documents, the RFP, or from BGJWSC or any of its agents, employees, contractors, advisors, or consultants, shall relieve the Design-Builder from any risk or from fulfilling all terms of the Agreement. Available documents include:

No.	Description	Organization	Format
1	BGJWSC Water and Wastewater Master Plan Update 2015-2035	ATM	pdf
2	Lift station pump curves	BGJWSC	pdf
3	Jockey pump curves	BGJWSC	pdf
4	Lift Station record drawings	BGJWSC	pdf
5	GIS Data from BGJWSC GIS system	BGJWSC	Arc-ESRI
6	Pump station run time and operation data	BGJWSC	pdf
7	Lift station draw down test data	BGJWSC	pdf

D. Accuracy of RFP and Related Documents

Should a Proposer find discrepancies in, or omissions from, this RFP and its related documents, the Proposer shall immediately notify Owner's representative at the address and telephone number provided in Section 3. If necessary, a written addendum will be issued. Every Proposer requesting a clarification of this RFP will be responsible for delivering such requests in writing in conformance with the requirements of Section 3.

BGJWSC considers any information that it may have released either verbally or in writing (other than such written information that was released as part of the formal procurement process) to be unofficial and therefore will not guarantee its relevance or validity.

E. Independent Investigation

Proposers are solely responsible for conducting their own independent research and due diligence in the preparation of Proposals and the subsequent delivery of services under the Agreement. The Agreement requires the Design-Builder to agree that the Project sites are acceptable and suitable for the construction of the expanded facilities, and to assume the risk of subsurface geotechnical conditions at the Project Sites that may affect the Project as defined in the Agreement. Proposers, therefore, are advised to make all necessary inspections and visits to the Project Sites and to review all available and relevant data and information, prior to the submittal of their Proposals, which are necessary in their judgment to undertake the Project.

Each Proposer is encouraged to include the costs for any necessary geotechnical or other subsurface investigations appropriate to its Proposal. Proposers may arrange for Project Site visits and investigations using communications protocol outlined in Section 3.