

Daphne Utilities Standard Specifications

Proposed Amendments

December 20, 2018

The following amendments are being proposed to DU Standard Specifications. Please direct all questions/comments to Melinda Immel, Volkert at melinda.immel@volkert.com.

Refer to DIVISION III – CONSTRUCTION SPECIFICATIONS, SECTION 3 – GENERAL SPECIFICATIONS FOR SANITARY SEWER.

3.21 Pumping and Bypassing. The entire section shall be deleted and replaced with the following. New or modified verbiage has been shown in bold for convenience.

3.21 PUMPING AND BYPASSING

A. Scope of Work

When pumping/bypassing is required, the Contractor shall **furnish all labor, materials, equipment, and incidentals required to maintain continuous and reliable wastewater service in all wastewater lines impacted by the work during construction.**

During various phases of the Work, it may be necessary to construct and maintain temporary bypass sewers to maintain continuous and reliable wastewater flow in all pipes, including individual service connections. Various phases of the Work that shall necessitate the implementation of temporary bypass sewers include, but are not limited to, connections of new sewers to existing sewers, trenchless rehabilitation of existing sewers, and pipeline inspection.

Portions of the Work may require that upstream pump stations be placed out of service for prolonged periods. In these instances, the Contractor shall construct a temporary bypass sewer that shall discharge into either the original piping DOWNSTREAM of the affected area, or into a neighboring gravity sewer identified that flows to an unaffected pump station.

Contractor shall construct and maintain all temporary bypass sewers and be responsible for all bypass pumping of sewage that may be required to prevent backing up of sewage and allow appropriate conditions for proper inspection, rehabilitation, testing or drainage during force main rehabilitation, replacement or reconnections to existing sewers. No sewage or solids shall be dumped, bypassed or allowed to overflow into streets, streams, ditches, catch basins or storm drains nor will it be allowed to "back up" upstream to such an extent that homes, businesses, etc. along the sewer are flooded. The Contractor shall immediately remove and dispose of all offensive matter spilled during the bypass pumping at his own expense. The Contractor shall also be responsible for paying any fines imposed and/or legal costs as a result of spills, overflows or backup that occur as a result of the bypass pumping operations and/or Work being performed. Also, the Contractor shall be responsible for any costs incurred by Daphne Utilities including but not limited to material, equipment, labor, outside Contractors utilized in an effort to prevent or minimize impacts of any spill or backup that occurs as a result of the bypass pumping operations and/or Work being performed.

Contractor shall provide a redundant bypass pump, intake and discharge conduit, and other equipment necessary to provide continuous wastewater flow and prevent the backing up of sewage in the case of emergencies at all times. All hoses and fittings shall be in good condition and shall not have repairs or be modified for the operation of the system. **Secondary containment at the suction and discharge manholes may be required by Daphne Utilities at their sole discretion. Secondary containment will be required when bypass operations are near waterways.**

The bypass system shall be of sufficient capacity to handle existing flows plus additional flow that may occur during periods of heavy rainfall. The Contractor shall provide a spare bypass pump equal in size for each pump required for all bypassing operations. The spare pump(s) shall be on-site and piped for immediate service during all bypass operations. The spare pump(s) shall be configured to start automatically if initial pump fails or cannot maintain flow level in manhole or wet well. **In the event that the spare pump is required to operate, the Contractor shall take immediate measures to secure and install a new spare pump or cease activities and resume normal operation of the sewer system until a spare pump is available for operation. Bypass pumps, including redundant pumps, shall be critically silenced when used in residential settings or areas where excessive noise levels would create a disturbance.**

The Contractor will be responsible for furnishing the necessary labor and supervision to set up and operate the pumping and bypassing **system including supervision of the existing sewer system within the proximity of the bypass operation to ensure no negative impacts are occurring from the bypass operations. Such personnel shall be familiar with bypass pumping operations and be authorized and able to address concerns by whatever means necessary. The Contractor shall perform written, daily inspection logs confirming the pumps, piping, and appurtenance of the system are all in proper working order.** The Contractor is responsible for all maintenance of the bypass pumping system to ensure no disruption in the system. The Contractor shall assure that an overnight bypass will not result in an overflow event. **Constant supervision of the system while operating will be required including twenty-four (24) hour supervision if the system is operating twenty-four hours a day. SCADA monitoring systems with alarms will not be considered as meeting the supervision requirement. Supervision must be performed by qualified field personnel.** It is the Contractor's sole responsibility to determine if additional efforts are necessary. If pumping is required on a 24-hour basis, all engines shall be equipped in a manner to keep the pump noise at a minimum **regardless of location.**

Where pump discharge lines cross streets or alleys, they shall be covered with Owner approved wooden or metal ramps designed and installed in such manner that they do not unreasonably impair vehicular traffic traveling said streets and alleys. All "pumping" or "bypassing" work, the arrangement or layout of the pumping and bypassing facilities, and the manholes and sewer lines to be utilized in such work must be approved by the Owner's representative prior to the time said "pumping" and "bypassing" work is started. **Refer to submittal section below.**

Whenever possible, the Contractor and the Owner's representative shall discuss and resolve the use of and arrangement of any "pumping" and "bypassing" facilities well in advance of the time of the need for such work and facilities is anticipated. **Refer to submittal section below.**

The Contractor shall inspect the various sewer lines to determine for himself the quantity and depth of sewage flow in said lines, and shall determine therefrom the size of and the number of pumps and related pumping facilities will need to adequately perform the "pumping" and "bypassing" work. No direct payment will be made for pumping and bypassing unless specifically stated otherwise.

B. SUBMITTALS

The Contractor shall submit to the Engineer or Owner a schedule to complete the Work prior to beginning Work. All submittal/plan documentation shall be submitted to the Owner/Engineer for review a minimum of five (5) working days prior to starting bypass operations. It will include the sequencing and coordination of connections to existing sewers, type of work proposed i.e., pipeline inspection, trenchless rehabilitation and testing of existing sewers, etc.... and the handling of wastewater flow during construction or rehabilitation.

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

The Contractor shall prepare a specific, detailed description of the proposed pumping system (Bypass Pumping Plan). The Bypass Pumping Plan shall be submitted for review and approved prior to the mobilization of any of the equipment included in the Bypass Pumping Plan. The Bypass Pumping Plan shall outline all provisions and precautions to be taken by the Contractor regarding handling of existing wastewater flows. This Bypass Pumping Plan must be specific and complete, including such items as schedules, locations, elevations, capacities of equipment, materials, and all other incidental items necessary and/or required to ensure proper protection of the facilities, including protection of the access and bypass pumping locations for damage due to the discharge flows, and compliance with the requirements and permit conditions specified herein. No work shall begin until all provisions and requirements have been reviewed and accepted by the Owner/Engineer. The plan shall include but not limited to the following details:

1. Staging areas for pumps.
2. Sewer plugging method and types of plugs.
3. Size and location of manholes or access points for suction and discharge hose or piping.
4. Size of pipeline or conveyance system to be bypassed.
5. Number, size, material, location and method of installation of suction piping.
6. Number, size, material, location and method of installation of discharge piping.
7. Bypass pump sizes, capacities, and number of each size to be provided onsite including all primary, secondary, and spare pumping units.
8. Calculations of static lift, friction losses, and flow velocity (pump curves showing pump, operating range shall be submitted).
9. Downstream discharge plan.
10. Method of protecting discharge manholes or structures from erosion and damage.
11. Thrust and restraint block sizes and locations. Provide the details necessary to demonstrate the integrity of all suction and discharge piping including piping and fittings associated with all primary and secondary pumping units.
12. Sections showing suction and discharge pipe depth, embedment, select fill and special backfill.
13. Method of noise control for each pump and any additional equipment that is included in the Bypass Pumping Plan.
14. Any temporary pipe supports and anchoring requirements.
15. Access plans to all bypass pumping locations indicated on the drawings.
16. Calculations for selection of bypass pumping pipe size.

17. Schedule for installation of and maintenance of bypass pumping lines.
18. Plan indicating location of bypass pumping pipe locations.
19. Emergency plan for adverse weather and flooding for various phases of the work.
20. Contractors plan for providing continuous monitoring of the bypass pumping operation as well as the monitoring persons' qualifications.

DIVISION III CONSTRUCTION SPECIFICATIONS – SECTION 3 – SANITARY SEWER MAINS

3.06 PRECAST MANHOLES- This section and all other applicable section in Division II Design Criteria shall be amended to include the following:

All new developments shall purchase and have installed a minimum of one Manhole Monitored by Mission. If a development will be constructed in phases, each phase will be required to purchase and install one manhole monitor. The location of the manhole monitor will typically be installed in the lowest manhole rim along the hydraulic profile as determined by the design engineer of the proposed sewer system and discussed with Daphne Utilities. Based on the layout of the proposed sewer system and location to nearby sensitive areas, additional monitors may be required a Daphne Utilities' discretion.

DIVISION III CONSTRUCTION SPECIFICATIONS – SECTION 6 – SEWAGE PUMPING STATIONS - This section and all other applicable sections shall be amended to include the following:

6.02 Materials – PVC pipe for 3" diameter and greater shall no longer be permitted in wet wells at lift station sites. Only ductile iron or stainless-steel pipe shall be permitted.

6.15 Remote Monitoring System. This section shall be amended as follows: All new remote monitoring systems for lift stations shall be a Mission Model M800 in lieu of a Mission Model M110.