SECTION SS-3

BYPASS PUMPING/FLOW CONTROL

PART 1 GENERAL

1.01 SUMMARY

A. The Contractor shall provide all labor, materials and equipment necessary to reduce/control or eliminate flows via bypass pumping, chases, fluming or other appropriate methods through a segment or segments of pipe, or structure designated for inspection and/or rehabilitation. The Contractor shall be solely responsible for controlling and maintaining all sewage flows within the system while conducting work. Plugging of any sewer line shall not be permitted without bypass pumping.

B. Related Sections:
1. SS-6, Chemical Grouting
2. SS-7, Cementitious Grouting
3. SS-10, Manhole Rehabilitation
4. SS-12, Cured-In-Place Pipe
5. SS-14, Shotcrete Pipe Rehabilitation

1.02 REFERENCES (Not Used)
1.03 DEFINITIONS (Not Used)
1.04 SYSTEM DESCRIPTION (Not Used)
1.05 SUBMITTALS

A. The Contractor shall provide, for the Engineer's Record a method of reducing/controlling the sewage flow that will include but is not limited to:

1. A recommended sequence of operations.
2. Sketches or drawings showing locations of the bypass sewer and construction procedures for crossing streets, excavations for benching along with support methods, all required permit information, applications, fees, etc., to obtain access to the streets when required by the bypass method selected by the Contractor.
3. Key operational factors, (i.e. maximum flow elevations upstream of dams, pump sizes and flow rates.)
4. Locations of manholes from which sewage is to be pumped, locations of receiving manholes, and new manholes.
5. A contingency plan to prevent damage during high flows.
6. Method of handling traffic where streets are to be excavated.

B. The Contractor shall submit a copy of all property owner/resident notifications to the Engineer prior to notification distribution per section 3.03.B.

1.06	QUALITY ASSURANCE	(Not Used)
1.07	DELIVERY, STORAGE AND HANDLING	(Not Used)
1.08	PROJECT/SITE CONDITIONS	(Not Used)
1.09	SEQUENCING	(Not Used)
1.10	SCHEDULE	(Not Used)
1.11	WARRANTY	(Not Used)
1.12	SYSTEM STARTUP	(Not Used)
1.13	INSTRUCTION OF OWNER'S PERSONNEL	(Not Used)
1.14	COMMISSIONING	(Not Used)
1.15	MAINTENANCE	(Not Used)

PART 2 PRODUCTS

2.01	MANUFACTURERS	(Not Used)
2.02	EXISTING PRODUCTS	(Not Used)
2.03	MATERIALS	(Not Used)
2.04	MANUFACTURED UNITS	(Not Used)
2.05	EQUIPMENT	(Not Used)
2.06	COMPONENTS	(Not Used)
2.07	ACCESSORIES	(Not Used)
2.08	MIXES	(Not Used)
2.09	FABRICATION	(Not Used)
2.10	FINISHES	(Not Used)
2.11	SOURCE QUALITY CONTROL	(Not Used)

PART 3 EXECUTION

3.01	ACCEPTABLE INSTALLERS	(Not Used)
3.02	EXAMINATION	(Not Used)
3.03	PREPARATION	

A. Right of Entry. When private property must be crossed for bypass pumping the Contractor shall obtain written Right of Entry (ROE) signed by the property owner. The ROE shall describe the extent of work, items to be restored, warranty and schedule. A signed copy of the ROE shall be provided to the Engineer prior to commencing work. The cost for obtaining the Right of Entry and associated restoration work shall be included in the unit bid prices for bypass pumping. Necessary tree removal shall be paid for

under bid Item 201, Clearing and Grubbing or Item 201 Tree Removal.

B. The Contractor shall provide 48-hour prior written notification to all property owners and or residents whose sewer lateral will be affected by the diversion of flow in the sewer. The notice shall clearly state the approximate time when sewage cannot be received as well as when the sewer will be available again for receiving sewage, and the purpose of the work. It shall also advise all affected customers against water usage until the sewer line is placed back in service, and shall clearly state the potential consequences of the use of residential wastewater generating facilities during the time when the building sewer service will be out of service (i.e. sewer back-up).

C. A door hanger reminder shall be placed 24 hours (excluding weekends and holidays) prior to reducing the sanitary service.

3.04 ERECTION (Not Used)

3.05 INSTALLATION

A. Bypass pumping shall be established prior to sewer video taping and inspection and CIPP lining. *Note to Engineer: Insert anticipated flows from flow monitor data and modeling.* Because of the high flows possible in this sewer, the contractor shall have a contingency plan to prevent damage during high flows. The City will not be responsible for any damages due to high flows.

The contractor should also be aware that adjacent sewers may not be available for bypass discharge due to surcharged conditions in those sewers during heavy rains.

B. The bypass shall be made by plugging an existing upstream manhole, if necessary, and pumping the sewage into a downstream manhole or adjacent system approved by the Engineer. When required, the Contractor shall also bypass laterals by pumping from a cleanout. If a new cleanout is required it shall be installed per Standard Drawing AA-S161. All pumps and temporary bypass sewer piping shall be of adequate capacity and size to handle the peak flow and any necessary dewatering. *Note to Engineer: Insert type of pipe to be used for the bypass, if required*. The bypass pumping shall not prohibit access when crossing private access drives or public streets and shall either have temporary pavement or be securely plated. The bypass sewer may be laid over ground in all other instances. The bypass shall be a header for all bypass and dewatering pumping. Check valves shall be placed ahead of all pumping connections.

C. The Contractor may suggest alternate routing or methods of controlling the sewage, but, shall submit their recommendations to the Engineer in writing complete with sketches or drawings showing locations of the bypass sewer and construction procedures for crossing streets, excavations for benching along with support methods, all required permit information, applications, fees, etc. The Contractor may request the shape file, location and flow information for flow monitors in adjacent systems by contacting Matt Panko at (614) 645-8396. The Engineer will review the proposed alterations to ensure that the receiving sewers can accept the flow and that no access or street interference is created. Neither the City nor the Engineer will be responsible for damages due to high flows.

D. All commercial establishments shall be provided with temporary sewer service. The means and methods shall be coordinated with the managers and the affected residents. *Note to Engineer: If the rehabilitation process (curing and reinstatement) will take in excess of 12 hours insert information on providing additional temporary service, etc. for all affected properties.*

E. Under no circumstances will the dumping of raw sewage on private property, streets and roads be allowed nor will surcharging of the sewers be allowed due to insufficient pumping.

3.06 APPLICATION (Not Used)
3.07 CONSTRUCTION (Not Used)
3.08 REPAIR/RESTORATION

A. Site Restoration. The Contractor shall be aware of the conditions at each site. This shall include but not be limited to trees, shrubbery, landscaping, structures, fences, mail boxes, driveways, curbs, sidewalks, pavements, etc. The Contractor shall videotape all ROE areas prior to use. All pre-construction conditions shall be fully restored as close to its original condition as practicable.

When working on private property, the Contractor shall obtain Acknowledgement-of-Completion (AOC) from the property owner that work was completed in accordance with the Right of Entry (ROE) agreement. No payment for this work will be made until the copy of AOC is submitted to the Engineer.

3.09 RE-INSTALLATION (Not Used)
3.10 FIELD QUALITY CONTROL

A. Record Only Permits. When a new cleanout or other additions to a private lateral are required for bypass pumping, the Inspector shall complete a record only permit for that lateral which shall document all changes or additions.

3.11 ADJUSTING (Not Used)

3.12 CLEANING

A. Purging. After all construction operations have been completed the Contractor shall purge the bypass sewer system of all sewage before disconnecting the pumps and piping with water. All water used for purging the bypass system shall either be collected and disposed of offsite or routed into the sanitary sewer. Under no circumstances will the dumping of raw sewage on private property, streets and roads be allowed due to purging the system.

3.13 DEMONSTRATION (Not Used)

3.14 PROTECTION

A. Precautions shall be taken to ensure that bypass pumping and flow control operations shall not cause flooding or damage to public or private properties. In the event flooding or damage occurs, the Contractor shall make provisions to correct such damage at no additional cost to the City. The Contractor shall be responsible for any damages to public or private property, overflows from the sewer system and violations resulting in fines as a result of the dewatering/bypass operation.

3.15 SCHEDULES

A. Payment. This item shall be paid at the unit price bid per lump sum for the bypass pumping necessary to meet all project requirements.

ITEM	UNIT	DESCRIPTION
SS-3	LS	Bypass Pumping

END OF SECTION