



**CITY OF CORTLAND, NY**  
**CLINTON AVENUE PUBLIC IMPROVEMENTS PROJECT**

**ADDENDUM #3**

**October 7, 2020**

*This addendum is hereby made part of the Contract Documents as though it were originally included therein and must be acknowledged by the bidder in the proper place on the bid form.*

**Bid Addenda:**

1. Clarifications and corrections to water line separation mitigation requirements:
  - a. Proximity of water mains and sanitary and storm sewers shall be in accordance with Recommended Standards for Water Works, Chapter 8.
  - b. Water mains shall be laid at least 10 feet horizontally from any existing or proposed gravity sanitary or storm sewer, septic tank, or subsoil treatment system. The distance shall be measured edge to edge.
  - c. In cases where field conditions reveal it is not practical to maintain a 10-foot separation, notify Engineer in writing and obtain guidance from Engineer before proceeding with installation.
  - d. Water mains crossing sewers shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer with preference to the water main located above the sewer.
  - e. At crossings, one full length of water pipe shall be located so both joints will be as far from the sewer as possible. Special structural support for the water and sewer pipes may be required.
  - f. In cases where field conditions reveal it is not practical to maintain 18-inch vertical and 10-ft horizontal separation, notify Engineer in writing and obtain guidance from Engineer before proceeding with installation.
  - g. No water pipe shall pass through or come in contact with any part of a sewer manhole. Water main should be located at least 10 feet from sewer manholes.
  - h. **Sheets U-1 to U-10**. The note referencing sheet U-14 for separation detail: **CHANGE FROM: "U-14" TO: U-11 and U-15"**.

- i. **Sheets U-1 to U-15. ADD:** note: “Water mains crossing sewers shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer with preference to the water main located above the sewer.”
  - j. **NYSDOT Standard Sheet 663-04.** Minimum horizontal separation between outside of water mains and either sanitary or stormwater structures is **10-ft**, not 1-ft as indicated in detail.
2. Clarifications and corrections to water main testing and disinfection requirements.
  - a. Hydrostatic testing of water mains shall be in accordance with AWWA C600-17, effective date 7/1/2017 (or most current revision). Requirements of AWWA C600-17 shall override and supersede any information in the Contract Documents that conflicts with AWWA C600-17.
  - b. Disinfection of water mains shall be in accordance with AWWA C651-14, effective date 2/21/2015 (or most current revision). Requirements of AWWA C651-14 shall override and supersede any information in the Contract Documents that conflicts with AWWA C651-14.
  - c. **Sheet U-15. Note 3.2.3: CHANGE:** “sec. 5.2” to “Section 4.4”.
  - d. **Sheet U-15. Note 3.2.4: REPLACE:** note in entirety with “The continuous-feed method consists of completely filling the main with potable water, removing air pockets, then flushing the completed main to remove particulates, and refilling the main with potable water that has been chlorinated to **25 mg/L**. After a **24-hr** holding period in the main there shall be a free chlorine residual of not less than **10 mg/L**.”
3. Connection of new water main to existing water main: if existing main cannot be isolated, tapping sleeve and valve may be utilized and paid for under DOT item 663.16xyy
4. **Sheet G-1. DELETE:** Note 27 regarding restrained joints.
5. Clarification: Field loc gaskets are NOT required on ALL water main joints. ALL fittings shall be restrained.
6. Clarifications and corrections to sewer testing requirements:
  - a. Televising is not an acceptable alternative to pressure testing. The specification provided for PVC sewer covers the appropriate method for leakage tests and follows Ten State Standards Section 33.93. The sewer should be tested prior to connecting service connections and laterals. It is expected that bypass pumping will be necessary while the new sewer is installed and tested.



7. All sanitary sewer mains and laterals shall be PVC SDR-26 or PVC C-900 (DR-21, 200 p.s.i. rated) as shown on drawings or as directed by Engineer. Paid for under items 603.98xx0007 PVC Sewer Pipe and Fittings and 603.98xx0005 PVC Pressure Pipe for Sewer
8. Clarifications and corrections to sanitary sewer laterals.
  - a. Per the local plumbing code, the City will not issue a permit for building water or sewer connections unless the constructor is a registered licensed plumber holding a certificate of competency from the City of Cortland or the holder of a Type B License.
  - b. Acceptable coupling for existing clay laterals: Fernco RC1002 series or equal. Shall be AIS compliant. Payment included in item 660.35030008
  - c. Sanitary sewer laterals shall be 6-inch diameter PVC SDR-26. Contractor shall provide fittings as required (e.g.: reducers, and couplings if required) to complete connection to existing sanitary sewer lateral. Payment included in item 660.35030008
  - d. Wye fittings shall be utilized to connect laterals to main. Payment included in item 660.35030008. Saddles shall not be utilized.
9. Bypass pumping – **ADD:** bypass pumping specification [Attachment A to this Addendum.] Payment included in item 660.70000004. This specification is in addition to any associated requirements in the Contract Documents.
10. **Sheet U-12:** Length of sending pit may be up to 40-ft.
11. Questions from Bidders:
  - a. **Q:** Is the 8" Yard Drain pipe (vertical) paid under item 603.9808? **A:** Yes.
  - b. **Q:** Are any drop manholes required? **A:** No drop manholes are anticipated.
  - c. **Q:** Item 655.00100003 8" Cast Iron Drain Dome – the model specified is a Zurn ZC100-8NH which is a 15" roof drain with an 8" no hub outlet. Is the intent to place this in the bell end of an 8" PVC pipe? **A:** The intent is to install the no-hub fitting on the spigot (male-end) of the 8-inch HDPE, double wall, smooth interior, corrugated exterior pipe.
  - d. **Q:** Who is to provide and pay for test lab services? **A:** Contractor pays for all testing.
  - e. **Q:** Is there a trench/backfill detail for sewer laterals? **A:** NYSDOT standard detail 664-01 shall apply to laterals.
  - f. **Q:** Is there a cleanout on sanitary laterals? **A:** Yes. Refer to detail on Sheet U-11.

Submitted,

  
Jan Salzman P.E.

Project Engineer

END



ATTACHMENT A  
BYPASS PUMPING SPECIFICATION  
(6 PAGES)



## SECTION 33

### BYPASS PUMPING

#### PART 1 - GENERAL

##### 1.01 SUMMARY

- A. Contractor shall determine where bypass pumping is required. The Contractor shall maintain sewer flows through the existing system at all times during construction. Sewage shall not be allowed to back up and surcharge within the system. To accomplish this, bypass pumping of sewage may be required by the Contractor. The requirements of this action shall apply if bypass pumping is required.
  - 1. Design, furnish, install, operate, maintain, and remove all temporary bypass pumping and piping system(s) necessary for the construction of structures and piping as shown on the drawings.
- B. The Contractor shall be responsible for any and all violation notices, fines and remediation measures as a result of wastewater spillage or discharge associated with bypass pumping and piping activities and/or modifications and removal of existing structures and piping. The Contractor shall be responsible for all jobsite, motor vehicle traffic, and general public safety and protection during all work.
- C. The Contractor shall provide all trained and experienced labor and supervision for operating and maintaining the pumping and piping systems during the entire bypass pumping operation.
- D. The actual duration of bypass pumping and piping times depends on the Contractor's time required to perform the necessary pipe and structure removals, replacements, testing and connections. The actual bypass times may vary depending on the Contractor's plan of work. The Contractor will not be granted additional monies for bypasses which extend beyond the approved plan of work time frame. The ENGINEER makes no estimations of the time required or need to bypass pump and provide temporary bypass piping.
- E. It is the intent for the bypass pumping system to operate and be controlled by a series of wastewater floats to automatically start and stop pumps, depending on water levels in the manhole(s). The system shall include an autodialer to alert and alarm the CONTRACTOR's and Owner's designated staff by cell phone communication of potential failures and prior to any high-water alarms. The Contractor shall be



responsible for ensuring proper operation and maintenance of the bypass pumping system.

- F. Any required Maintenance of Traffic Plan (MOT) to conduct the bypass pumping and piping work shall be approved by the Owner, Engineer and NYS Department of Transportation (if required) and installed and maintained by the Contractor.
- G. The location and security of the bypass pumps and piping shall be provided by the Contractor. Secured fencing, as a minimum, shall be provided around the pumping system.
- H. Should the existing manhole frame and cover, or top riser sections of the suction and/or discharge manholes need modification to install said piping, the CONTRACTOR shall include this work in its bid. All repairs after the work is complete shall be performed in accordance with latest standards.

## 1.02 SUBMITTALS

Submit the following:

1. List of equipment for bypass pumping and bypass plans. Separate bypass plans will be required for each proposed bypass setup.
  - a. Plans shall include, but not be limited to the following:
    - i. Verification of all bypass piping sizes.
    - ii. Location of bypass pumping system(s).
    - iii. Narrative on any MOT requirements.
    - iv. Methods for protecting and securing the piping.
2. List of equipment for spill containment and cleanup.
3. Contractor's emergency response plan.

## 1.03 QUALITY ASSURANCE

- A. The design, installation, operation, and maintenance of the temporary pumping and piping systems shall be the Contractor's responsibility. The Contractor shall employ the services of a vendor who can demonstrate to Owner and Engineer that it specializes in the design and operation of temporary raw sewage bypass pumping and piping systems. The vendor shall provide at least five (5) references of projects of a similar size and complexity as this project performed by this firm within the past three (3) years.
- B. The proposed bypass systems shall meet the requirements of all codes and regulatory agencies having jurisdiction.

- C. The bypass pumping and piping specialty vendor shall have been in business for a minimum of 10 years. They shall have a major service center within 150 miles of the project site, with on-call maintenance and service staff available to respond onsite within 2 hours of notification.

## **PART 2 - PRODUCTS**

### **2.01 BYPASS PUMP ASSEMBLY**

- A. Contractor shall maintain a minimum of two bypass pump assemblies for each pump location at the site in sound operating condition to ensure uninterrupted performance of the bypassing operation. Bypass pumps and equipment shall be mobilized to each work site as required for the sewer construction or reconstruction.
- B. Contractor shall provide a minimum of two trailer-mounted bypass pump assemblies for use during the Project. The assembly shall include the pump, engine drive, starters, battery starter, valving, suction hose and appurtenances, such that the equipment is fully functional and equipped for use as a bypass pump station. Muffler shall be hospital grade with regard to noise suppression. Equipment shall meet air quality exhaust criteria meeting all local, state and federal regulations/guidelines as applicable.
- C. Contractor shall submit a bypass pumping/piping plan and an emergency plan. The bypass pumping/piping plans are required for mainline bypass and shall include:
  - 1. A site plan showing dimensions and layout of equipment on each site and how the facilities will be protected from public access during use.
  - 2. Calculations showing the performance of pumps (where used) against friction and minor losses in each bypass system.
  - 3. Detailed description of each bypass system including connection, testing, operation, alarm and control functions, and disconnection. Contingency plans for power or equipment failure shall also be included where pumps are used.



4. Schematic Map showing route of discharge, discharge locations, areas to be fenced, and where and how discharge piping will be hardened to allow traffic access.
- D. The bypass operation shall include all necessary controls and instruments to operate the system in automatic mode, adjust the number of pumps and provide alarms.
- E. Bypass pumping system design including friction and minor losses and the appropriate size and number of pumps shall be determined by the bypass pumping contractor's **New York State licensed Professional Engineer** in order to achieve the required flows. Bypass pumping plan shall be stamped by the licensed Engineer upon submission for review by the Owner and Engineer.
- F. The bypass pumping vendor shall provide an onsite diesel fuel storage tank(s) and containment for the pumps. Contractor is responsible for providing fuel throughout the bypass pumping operations. The onsite fuel storage tank(s) shall be sized to store enough fuel for running the entire system (all pumps) for a minimum of 3 days continuously, under full load.
- G. It is essential to the operation of the existing sewer system that there will be no interruption in the flow of sewage throughout the duration of the project. The Contractor shall provide, maintain, and operate all temporary facilities such as dams, plugs, pumping equipment, conduits, all necessary power, and all other labor and equipment necessary to intercept the sewage flow before it reaches the point where it would interface with the work, carry it past the work and return it to the existing sewer downstream of the work without causing a spill or discharge of the sewage to the environment.
- H. The Contractor shall provide all necessary means to safely convey the sewage past the work area. The Contractor will not be permitted to stop or impede the main flows under any circumstances.
- I. The Contractor shall maintain sewer flow around the work area in a manner that will not cause surcharging of sewers, damage to sewers and that will protect public and private property from damage and flooding.
- J. The Contractor shall protect water resources, wetlands, and other natural resources.

## 2.01 PUMP SYSTEM



- 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. Equipment including pumps shall minimize noise disturbances and shall be “residential silenced” equipped. If necessary, to achieve this limitation, sound enclosures shall be provided. Work is within residential streets.
- B. Pump shall be capable of handling raw, unscreened, sanitary sewage containing solids and fibrous materials. Pumps shall be non-clog and shall be capable of passing 3-inch solids.
- C. All pumps used must be constructed to allow dry running for long periods of time to accommodate the cyclical nature of influent flows.
- D. Spare parts for the pumps and piping shall be kept on site as required. Adequate hoisting equipment for each pump and accessories shall be maintained on site.
- E. The vendor shall provide the necessary stop/start controls and alarms for each pump. Autodialers shall be used to alert of problems, if a header system is used to manifold the pumps, each pump shall include an autodialer.
- F. The total bypass pumping capability shall be a minimum as described above. All units shall be fully operational. Any unit which fails to operate at its rated capacity shall be repaired or replaced immediately. The Contractor is advised that the Owner and Engineer have no control over the maximum flows that will occur in the sewer.
- G. The maximum allowable water level in the local collection system manhole serving the temporary bypass pumping system suction lines shall not exceed 4.0 feet.

### **PART 3 - EXECUTION**

#### **3.01 BYPASS PUMPING/PIPING**

- A. Bypass pumping/piping may be required. Submittals under this section shall address all bypass pumping/piping.
- B. Anticipated flow in the existing sewers varies depending on upstream discharge, the time of day, the day of the week, and whether or not there has been recent rainfall. Flow rates in the sewers are affected by rainfall, and sewer bypass operations should be avoided whenever possible during and immediately following rainfall events. Connections that can be made in less than 8 hours can be coordinated with the City to

coincide with the lowest flows over a 24-hour period. Bypass sewer facilities that will remain in service over periods longer than 8 hours must be sized to handle the peak flow rate. The City will determine the anticipated peak flows once the Contractor advises the City where bypass is required. The anticipated dry weather peak hourly flow is approximately **300 gpm**.

C. The Contractor is responsible for the operation and maintenance of the bypass systems. These systems will operate 24-hours a day for 7 days a week for as long as bypassing is necessary.

1. The Contractor shall be responsible and liable for any wastewater spills and overflows resulting from improper operation or inadequacy of the bypass system, including reporting to regulatory agencies and paying the resulting fines and penalties.

D. Bypass Pumping:

1. Two pumps, at a minimum, are required, each of which will handle the entire anticipated peak hourly flow. Pumps will operate in lead-lag mode with both operating if flow greater than anticipated is encountered.
2. The Contractor shall construct and maintain all temporary piping and electrical connections. All temporary piping and electrical must be placed below ground.
3. All lateral connections will be treated in the same manner as mainline sewers. Each will have a temporary sump, pump and stand-by pump to transfer flows to a mainline manhole as necessary.

E. The Contractor shall perform all work associated with bypass pumping without causing damage to existing improvements to remain, and without causing a spill of sewage outside the sewer system. Any damage resulting from the Contractor's work shall be repaired or replaced to the satisfaction of the property owner at the Contractor's expense, and at no cost to the City. All fines, and cost associated with the cleanup of spills, shall be the responsibility of the Contractor.

F. The Contractor shall employ the services of a **New York State licensed Professional Engineer** to design the temporary piping, pumping and control systems. The design shall be submitted for approval. The temporary piping, pumping and control system plan and layout shall be approved by Owner and Engineer before bypassing may begin.

G. Approval of the design shall not relieve the Contractor from full responsibility for performance of the system.



- H. No debris of any type shall be allowed in the piping system. Protective barriers and covers shall be installed in this regard. Any debris inadvertently allowed into the system shall be immediately removed. Any damage caused to the temporary bypass system that may occur as a result of debris, or Contractor Operations, shall be the responsibility of the Contractor, and no additional costs will be incurred to the Owner.
  
- I. The Contractor shall be responsible for furnishing the necessary material, equipment, labor and supervision to set up and operate the pumping and bypass piping systems. The bypass piping and pumping systems shall be fully inspected at least three times a day by the Contractor to ensure that the system is working correctly. Daily inspection reports shall be kept on-site in a Contractor logbook to be furnished to Owner and Engineer upon project completion.
  
- J. The Contractor shall pressure & leakage test the piping prior to use.

- END OF SECTION -