

SUPPLEMENTAL SPECIFICATIONS
TO STANDARD SPECIFICATIONS FOR
SANITARY SEWER AND STORM SEWER INSTALLATION
NO. 2621

Sanitary sewer installation shall be in accordance with the Standard Utilities Specifications published by the City Engineers Association of Minnesota, 2013 Edition, Specification No. 2621, except as modified herein:

2621.2 MATERIALS

The Contractor shall submit at the preconstruction conference for Engineer's approval prior to any utility work:

- List of materials and suppliers
- Certificate of Compliance

A5. Polyvinyl Chloride Pipe and Fittings

Sanitary sewer service wyes, pipes and fittings shall be SDR26.

B. Metal Sewer Castings

Metal casting shall be Class 35 or better.

(6) Covers for manhole castings shall have no positioning lugs.

C. Precast Concrete Manhole and Catch Basin Sections

(7) Manhole and catch basins shall be constructed with no steps and in accordance with 2506 MnDOT Specification.

(8) Unless otherwise specified, cone sections for manholes shall be eccentric cones.

(9) Sanitary sewer manhole/frame internal chimney seals will not be installed on new or existing manholes.

D. Mortar

Mortar shall be packaged, dry, non-shrink, rapid-hardening cementitious material for concrete, formulated to stop leaks in all types of concrete or masonry surfaces; and is particularly designed to instantly stop the flow of running water.

Mortar shall be by a manufacturer from MnDOT Approved/Qualified Products list.

2621.3 CONSTRUCTION REQUIREMENTS

A. Installation of Pipe and Fittings

The Contractor shall maintain the flows and pump the sewage in the existing sewer mains from manhole to manhole during construction at no additional cost to the Owner.

The Contractor shall maintain service to all current sewer service hookups during the entire construction by providing temporary mains or other approved methods. No direct compensation will be made for maintaining sewer service.

C. Sewer Service Installations

Unless otherwise designated by the Engineer, where the depth of cover over the main sewer invert is greater than 12 feet, the service connection shall be extended upward by means of a service riser section in accordance with City of St. Cloud Standards.

Whenever possible, sewer service lines shall be installed so that there will be 10 feet of cover at the property line and a minimum of 7 feet of cover in the street. Service lines not meeting this condition will be staked by the Engineer before installation.

D. Manhole and Catch Basin Structures

Brick or block construction shall be plastered with mortar mixture on the outside surfaces, and to 4 inches past the junction of the precast section, if precast concrete and block construction is used.

External Joint Sealing of Structure Barrel Joints

Each sanitary manhole barrel joint falling below the water table shall be sealed with a 6" wide external rubber sleeve similar to the Infi-Shield Gator Wrap as manufactured by Sealing Systems, Inc., or approved equal. The seal shall be a single continuous rubber band installed on a clean surface to prevent leakage of water through the joint sections of a manhole.

All cost for this work shall be per Contract bid item, "External Joint Sealing of Structure," measured per each structure sealed. No additional compensation will be made therefor.

H. **Televising**

The Contractor shall televise all sanitary sewers installed under this Contract. All televising will be from respective center of manhole to center of manhole inclusive of where sewer stubs are installed. The Engineer may require that downstream pipe segment(s) (from manhole to manhole) be televised to inspect for construction debris and/or sediments needing to be removed by the Contractor (removal of construction debris or sediments is incidental). Any video that does not clearly and accurately show the pipe condition and service connections will be rejected.

The City Engineer/Authorized City Representative shall have access to view the monitor throughout televising. Prior to televising the lines, the Contractor shall clean the lines and remove all debris and sediments from the sanitary sewer system using sewer jet cleaning equipment.

Perform all CCTV Inspection in accordance with NASSCO's Pipeline Assessment Certification Program (PACP). CCTV inspection will be conducted entirely in digital format.

Preliminary CCTV Inspection Footage: The Contractor shall notify City staff a minimum forty-eight (48) hours prior to televising the sanitary sewer lines. The City will place sewer dye from the upstream structure prior to the beginning of the CCTV inspection. City staff may be present during televising to provide QA/QC of CCTV inspection. A copy of CCTV inspection footage shall be submitted on a USB flash drive to the Engineer or the Engineer's representative on the same day the televising is completed. This preliminary submittal does not replace requirements for final submittals.

Final Submittal: The Contractor will provide the City a USB flash drive of the televising, together with a detailed report, and a signed Letter of Review. For private development projects, both the Contractor and the Consultant/Engineer shall provide a signed Letter of Review. Said Letter of Review will state, at a minimum, the following: (1) That the Contractor has viewed said video; (2) Any and all irregularities, defects, etc.; (3) Proposed corrective action and schedule for any such corrective work; and (4) Whether or not the sewer system constructed conforms to the plans and specifications and that the sanitary sewer system will properly function.

This work must be completed and all requested information (USB flash drive, the report and signed Letter(s) of Review) shall be submitted to the Engineer for review and comment a minimum of ten (10) working days prior to the wear course being installed.

Televising work shall consist of a complete closed-circuit color television survey of the interior of the sewers. The video camera used for televising shall be self-propelled and be specifically designed and constructed for inspection of sewers. Lighting shall illuminate the entire periphery of the pipe. The camera shall provide a minimum of 720 x 480 resolution and be capable of operating in 100 percent humidity. The camera shall be advanced downstream at a speed of travel slow enough to inspect each pipe joint, tee connection, structural deterioration or defect, infiltration and inflow sources, and deposits; at a rate of no more than 30 feet per minute at any time. The camera must pan and tilt for 360-degree viewing. The Contractor shall provide a written detailed report of the inspection, documenting pipe run lengths from center of manhole to center of manhole and all wye connections within plus or minus 2 feet of the actual location. Said report will also indicate the location of all defects, irregularities, and blockages, as measured from the center of the upstream manhole. The Contractor will pump and bypass wastewater to downstream sanitary sewer manholes if wastewater flow in the sewer precludes adequate visual record.

The video shall display a recording for each foot of pipe viewed. Every section of sewer shall be identified by audio and alphanumeric on the video display and shall include; project name, municipality, street name, manhole number per project plans, inspector's name, and date of inspection. A table of contents of the video shall be provided indicating the name of the video file and identifying the location. Schematics of televised sewer sections on 8½" x 11" sheets shall accompany the table of contents. USB flash drive(s) that can be viewed on a computer system and that have each pipe run from respective manhole to manhole as a separate file are required. Each pipe run must have a separate file as an MPEG-4 file. All USB flash drive(s) and reports shall become the property of the City of St. Cloud.

The sewer will have failed internal inspection if any of the following are observed:

- Visible infiltration.
- Joints that are open in excess of ½" more than the width of the opening when the pipe joint is "home."
- Gasket(s) are not properly sealed.
- Improperly connected lateral or sewer service.
- Visible blockages, debris, and/or sediments are present.
- Cracked or broken pipe (beyond 0.01" for RCP).
- Noncompliance with the Plans and Specifications.

Payment for televising shall be incidental to the contract unit prices as listed on the Bid Form, which shall be full compensation for all costs associated with above televising work. No additional compensation shall be made.

The Contractor shall take all necessary action to bring the sewer system to conformance with the Plans and Specifications including the repair of failed sewers by removing and replacing defective pipe sections or by other means approved by the City Engineer/Authorized City Representative. Sewer sections requiring any corrective work will be re-televised; and the cost will be incidental with no additional compensation made by the City.

2621.4 METHOD OF MEASUREMENT

B. Manholes

No compensation shall be made for excess depth greater than eight feet (8') measured from top of manhole cover to invert elevation of lowest pipe, unless otherwise specified in Plans and Special Provisions.

C. Catch Basins

No compensation shall be made for excess depth greater than five feet (5') measured from top of grate cover (low point) to invert elevation of lowest pipe, unless otherwise specified in Plans and Special Provisions.

F. Service Pipe

Service Pipe and Service Riser Pipe will be measured by length in linear feet along the line of service pipe from the center of the wye to the end of the service pipe.

G. Special Pipe Fittings

No compensation will be given for bends, caps or plugs, reducers and sleeves used on main sewer or service installations.