

SP-090145
(New)



Iowa Department of Transportation

**SPECIAL PROVISIONS
FOR
SANITARY AND STORM SEWER SYSTEMS**

Woodbury County

IM-29-7(51)149--13-97

Effective Date

July 19, 2011

**THE STANDARD SPECIFICATIONS, SERIES OF 2009, ARE AMENDED BY THE FOLLOWING
MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND SHALL PREVAIL
OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Construct sanitary sewer gravity and force mains.
- B. Construct or relocate building sanitary sewer services, stubs, and connections.
- C. Construct sanitary and storm sewer manholes to provide access to sewer systems for maintenance and cleaning purposes.
- D. Construct storm sewer intakes for collection of surface water and conveyance to the storm sewer system.
- E. Modify existing manholes and intakes as necessitated by other improvements adjacent to the manholes or intakes.

PART 2 PROCEDURE

2.01 VIDEO INSPECTION

- A. General:
 - 1. Conduct video inspection of all new and rehabilitated sanitary sewers after all backfill and compaction operations are completed, but prior to paving.
 - 2. Notify the Engineer the day prior to inspection so the Engineer may be present during the inspection.
 - 3. Low spots holding water in excess of 1 inch or 5 percent of the pipe diameter, whichever is less, will be considered unacceptable.
 - 4. If unacceptable low spots exist, as indicated by standing water during video inspection, remove and replace sewer as necessary and re-inspect.
- B. Inspection Procedure:
 - 1. Prior to video inspection, run sufficient water through the pipe to saturate potential low spots so they may be detected during inspection.
 - 2. Inspect each pipe segment between manholes or access points in a single, continuous run. Progress through the entire project in a uniform direction.
 - 3. Inspect all lateral connections and other observations at right angles utilizing the pan and tilt capabilities of the camera.
 - 4. Center the video camera in the pipe during the inspection.
 - 5. Do not exceed 30 feet of inspection per minute.
- C. Inspection Reporting:
 - 1. Provide a copy of the video inspection including on-screen continuous footage, pipe diameter, direction of viewing, and manhole and street location references in the recording. Affix labels to the recording media to include the name of the project, the date, and the location of the inspection.
 - 2. Provide a written report of the inspection. In the report, include true-to-scale drawings of all sewer defects and observation locations. Reference the time stamp on each line item entry on the written report.
- D. Notification:
 - 1. The contractor, in conjunction with the inspector, should contact Alex Zimmerman in Field

Services Utilities Division, (712) 279-6140, to arrange for video inspection of all new sanitary and storm sewers. Video inspection shall be completed no less than 7 days prior to paving activities.

2.02 MANHOLE / INTAKE MARKER

A. General:

1. Refer to Detail SC 6010.407 on Plan Sheet U.6.

2.03 PRECAST RISER JOINT SEALANT

A. Sanitary Sewers:

1. Rubber O-ring or Profile Gasket: Flexible joint, complying with ASTM C 443.
2. Joint Wrap: Apply a 9 inch Cretex wrap or approved equal to all exterior joints.

B. Storm Sewers:

1. Rubber O-ring or Profile Gasket: Flexible joint, complying with ASTM C 443.
2. Joint Wrap: Apply a 9 inch Cretex wrap or approved equal to all exterior joints.

2.04 Castings (Ring, Cover, Grate, and Extensions)

A. Gray Cast Iron: AASHTO M 306

1. Load Capacity: Standard duty unless otherwise shown on the casting figures. Refer to Detail SC 6010.401 on Plan Sheet U.6.
2. Standard Duty: Casting certified for 40,000 pound proof-load according to AASHTO M 306.
3. Light Duty: Casting certified according to requirements of AASHTO M 306 for a 16,000 pound proof-load (HS-20). 40,000 pound proof-load is not required.
4. Casting Types: All manhole castings shall be self-sealing. Use bolted cover when specified in the plans.
5. Approved manhole castings:
 - a. Neenah R-1642 Type A lid
 - b. Neenah R-1673-B (Floating)
 - c. East Jordan 1045 Type A lid
 - d. East Jordan 1510 (Floating)
 - e. Deeter 1247
 - f. Deeter 1187 (Floating)

B. Intakes:

1. Casting types for Half, Single Wing, and Double Wing Special intake shall be:
 - a. Neenah R-1695
 - b. East Jordan 3124
 - c. Deeter 1158
 - d. For alley drops
 - e. Neenah R-3577
 - f. East Jordan 7568

g. Deeter 2245

2. All inlets shall be labeled with "DUMP NO WASTE, DRAINS TO RIVER" or other wording approved by the engineer. For area intakes, alley drop inlets, or curb type inlets the label may be ordered as part of the grate or casting from the manufacturer. For concrete top inlets the label can be either on the manhole cover or by plates embedded into the concrete facing and near the street. Approved plates are:

a. Neenah R-3000-A

b. East Jordan 7001

C. Chimney Seals:

1. External Rubber Seal: These are not allowed in the City of Sioux City.
2. Internal Rubber Seal: Must be installed on all Manholes regardless of sewer type. Refer to Detail SC 6010.401 on Plan Sheet U.6.

a. Rubber Sleeve and Extension:

- i. Double pleated, minimum thickness 3/16 inch, according to ASTM C 923.
- ii. Minimum allowable vertical expansion of at least 2 inches.
- iii. Integrally formed expansion band recess top and bottom with multiple sealing fins.

b. Expansion Bands:

- i. One-piece band assembly to compress sleeve or extension against manhole and casting surfaces.
- ii. 16 gauge ASTM A 240, Type 304 stainless steel, minimum 1 3/4 inch width, minimum adjustment range of 2 inches more than the manhole inside diameter.
- iii. Stainless steel locking mechanism of studs and nuts complying with ASTM F 593 and ASTM F 594, Type 304.

PART 3 MEASUREMENT AND PAYMENT

3.01 METHOD OF MEASUREMENT

- A. No separate measurement will be made for Video Inspection.
- B. Manholes/intake Marker will be counted per Each.
- C. No separate measurement will be made for Joint Sealant.
- D. No separate measurement will be made for Castings.

3.02 BASIS OF PAYMENT

- A. Cleaning, inspecting, and testing sanitary sewers, storm sewers, pipe culverts, and rehabilitated pipes (excluding video inspection) are incidental to other project costs and will not be paid for separately. Video inspection will be performed by the City at no cost to the contractor unless the sewer line is not in a condition that it can be inspected. If it cannot be inspected the contractor will be charged for the subsequent times the video inspection crew has to come out to inspect the line.

- B. Payment will be at the unit price for each manholes/intake marker. Unit price includes, but is not limited to, utility marker with appropriate lettering, 1 1/4 inch bolt 6 inches long, and concrete footing.
- C. Joint sealant shall be considered incidental to each structure.
- D. Casting Items shall be considered incidental to each structure.

END OF SECTION