SECTION 818

POINT REPAIR BY EXCAVATION

I. GENERAL

1.1 DESCRIPTION OF WORK

A. Pipe sections which are not in continuous alignment with the remainder of the sewer main, or sections which are obstructed (after mechanical or hydraulic cleaning has been attempted) preventing liner insertion shall be repaired, as directed by the Owner.

B. The Work in this section describes point repair by excavation and shall include furnishing and installing pipe and fittings, couplings, excavation, sheeting/shoring, backfill, dewatering, testing, bypass pumping, removal and disposal of existing pipe and structures (where required) connection of existing laterals, pavement removal and disposal, temporary and permanent pavement replacement and other miscellaneous Work required to complete a watertight point repair.

C. All point repairs shall be approved by the Owner.

D. Pertinent information required prior to a point repair includes the main line size, material and approximate location, depth and length of defect.

E. Products shall conform to Section 200.

F. The Contractor shall perform all required permanent landscape restoration of disturbed areas on private property and within locality or VDOT right-of-way upon completion of the point repair to the satisfaction of the Owner.

1.2 SUBMITTALS

Submittals shall be made by the Contractor in accordance with the procedures set forth in Section 105 – Control of Work, and as described below.

After notification of a specific project, the Contractor shall submit the following information for review and approval.

A. A report outlining the point repair process. The report shall also include information specific to the job, such as coordination issues, access, timing, and bypass pumping.

B. All measurements made by the Contractor to verify length and diameter of pipe prior to ordering of material.

II. EXECUTION

2.1 GENERAL

A. Sections of sewer mains not suitable for rehabilitation shall be replaced with new sections, in accordance with the Contract Documents and as directed by the Owner.

B. Pertinent information required for the main line sewer such as line size, approximate depth at manholes, description of the line location, the number of points to be repaired, and the location of each point will be listed and shown in the Contract Documents. The depths shown do not necessarily reflect the excavation depth required to make the repair but is for reference only.

C. The Contractor, when required, shall provide for the transfer of flow, through or around section or sections of pipe that are to be repaired. The proposed bypassing system shall be in accordance with Section 812 – Bypass Pumping, and be acceptable in advance by the Owner. The acceptance of the bypassing system in advance by the Owner shall in no way relieve the Contractor of his responsibility and/or public liability. .

2.2 INSTALLATION

A. Excavate repair pit as detailed on the Contract Documents and uncover the main line sewer a minimum of one foot clearance all around at the damaged section or as directed by the Owner, and remove damaged pipe by power saw cutting to a flat vertical surface.

B. New sanitary sewer pipe to be used in the replacement shall be power saw cut to a flat vertical surface.

C. Reshape and compact the bottom of the trench with #57 stone as required so that the grade for the new pipe will match that of the existing main line sewer.

D. Repair and replace a minimum of the length of pipe specified in the Contract Documents with new pipe of the same inside diameter.

E. Connect newly installed sewer main pipe to existing sewer main pipe, to provide a watertight connection. When applicable, the main line sewer shall be served so that a smooth plain-end spigot exists at both ends of the trench and reconnected by means of a coupling, Fernco Strong Back RC, or approved equal. All mated pipe ends shall be flush to each other across the face with no gaps or offsets and matched inverts on inside diameter. The Contractor must use extreme care when bedding and backfilling the pipe to satisfy these requirements.

F. New sanitary sewer pipe shall be joined to existing sewer pipe by means of flexible couplings. The appropriate series of couplers shall be selected and installed per the manufacturer's recommendations.

G. Where more than one pipe section is to be replaced consecutively, the conventional bell and spigot joint will be utilized with a rubber gasket on the interior pipe sections. The entire replacement length will then be joined to the existing line by means of couplings, Fernco Strong Back RC, or approved equal.

H. The finished installation shall be free from visual defects, damage, deflection, holes, etc. There shall be no visual infiltration.

2.3 PAVEMENT REPLACEMENT

A. The Contractor shall provide permanent pavement replacement in accordance with the Contract Documents for all areas disturbed by insertion/winching pits and during replacement and/or installation of sanitary sewer mains and service laterals.

B. The depths shown on the Contract Documents for pavement restoration are minimum thicknesses. The depth of asphalt surface to be laid will be the greater of the minimum thickness or the depth required to match the existing.

C. All pavement replacement shall be done by a licensed and qualified paving contractor approved by the Owner and VDOT (if applicable).

D. Where the point repair is located in a paved area, the Contractor shall saw-cut pavement on both sides of trench prior to removal. Permanent pavement shall be laid as detailed in the Contract Documents, without exception. The Contractor may be required to re-cut pavement after pavement removal if edges of existing pavement are not straight.

E. All open trenches shall be backfilled with compacted material and paved at the completion of Work for each day, unless otherwise directed by the Owner. Pavement patches shall be in accordance with Section 317.

2.4 SIDEWALKS/DRIVEWAYS/CURB AND GUTTER

The Contractor shall replace all curb/curb and gutter, sidewalk and driveway sections (section defined as joint to joint) directly over areas where point repairs have taken place.

III. MEASUREMENT FOR PAYMENT

3.1 GENERAL

A. Measurement will made on the basis of completion of the Work in accordance with the Contract Documents and this section.

B. Measurement of quantities will be made by the Contractor in the presence of the Owner.

3.2 MEASUREMENT OF QUANTITIES

A. Measurement for payment for completion of point repairs will be based upon the actual length of repairs at the specified depth completed, all in accordance with the Contract Documents.

B. Measurement of the gravity sewer pipe will be made along the centerline of the pipeline, based upon the linear footage and depth of each size pipe repaired and satisfactorily tested.

C. Pipe depths shall be measured to pipe invert.

D. Measurement shall be made at the following depth classifications: 0-6, 6-8, 8-10, 10-12, 12-14, 14-16, 16-18, 18-20, and greater than 20 feet.

E. Excavation and backfill shall be provided in accordance with Section 303.

F. Payment shall consist of all costs for furnishing and installing new sections of sanitary sewer mains per linear feet (in the horizontal plane and excluding manhole diameter) of pipe installed, of each size pipe as identified on the Bid form.

Payment will include the cost of the following:

1. Backfill and Bedding,
2. Bypass pumping (up to 2 mgd),
3. Clearing,
4. Compaction,
5. Connection of existing laterals, manhole connections or drop connections,
6. Dewatering,
7. Erosion and sediment control,
8. Excavation,
9. Grading,
10. Grubbing,
11. Inlet shaping at existing manholes or drop manholes,
12. Landscaping and right-of-way restoration,
13. Pavement marking replacement,
14. Pavement removal and disposal,
15. Post- installation video inspection (internal pipeline inspection after sewers have been placed into service),
16. Protection of existing utilities,
17. Removal and disposal and joint-to-joint replacement of curbs, curb and gutters, driveways, and sidewalks,
18. Removal and disposal of existing pipe and structures (where required),
19. Repairing damaged traffic loop detectors,
20. Sheeting/shoring,
21. Temporary and permanent pavement replacement,
22. Testing,
23. Traffic control,
24. Tree protection, and
25. All other costs pertaining to these items.

End of Section