Exhibit 2

Sewer Rehabilitation Design Guidance

DeKalb County Department of Watershed Management (DWM)

DeKalb County
GEORGIA

WATER Matters

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Sewer Rehabilitation Design Guidance Document provides requirements for the design of sewer rehabilitation projects. These requirements are provided to encourage consistency in the design approach used by all of Design-Builders. While the purpose of these requirements is to assure uniformity, it is not intended to stifle the Design-Builder's creativity, design innovation, and ingenuity. Design-Builder shall review these requirements and adopt them for design of the facilities for which they are responsible. Design-Builder is ultimately responsible for their designs, and this responsibility is in no way diluted or absolved by these guidelines.

Contents

Introduction

Sewer rehabilitation methods are utilized to restore or replace aging or failing sewer systems. If implemented properly, rehabilitation methods have the potential to restore sewer systems to operate for decades beyond their intended lifespan. This document provides guidance principles for the design of sewer rehabilitation projects associated with the DeKalb County Department of Watershed Management's (DWM) various sewer system programs. This document is intended to serve as a guidance tool for Design Build (DB) Engineers involved in DWM's sanitary sewer rehabilitation design projects. The design guidelines are applicable to gravity sewers and their appurtenances. In addition, all applicable DWM standards and specifications and local, state, and federal rules and regulations shall be followed.

DWM has made preliminary rehabilitation recommendations on what technology appeared appropriate based on the finding of one or more common condition assessment technologies (that included CCTV) to arrive at each recommendation. DWM will provide the DB Engineer access to these assessment results and separately may provide additional instructions on performing predesign investigations at specific locations that may be recommended or required of the DB Engineer.

The DB Engineer shall confirm whether DWM's preliminary recommended rehab methodology is appropriate if after the DB Engineer has reviewed the condition assessment information provided by DWM and after any additional field assessments or investigations performed by the DB Engineer. In either instance, the DB Engineer is encouraged to use initiative, professional engineering judgment, and professional experience for each design project.

The DB Engineer shall consider the methods and materials stated in the guidance principles and documents as minimal design requirements. Where the DB Engineer accepts DWM's recommendations and guidance requirements, the DB Engineer implies that due-diligence and engineering practice has been exercised by the DB Engineer to supports the DB Engineer's design decisions.

1.Sewer Rehabilitation and Repair

The following guidance is intended to aid the DB Engineer review criteria for selecting the appropriate rehabilitation (includes replacement) methodology. The DB Engineer should, however, review the project rehabilitation methodology selection process holistically and select a methodology for a segment(s) that could exceed the quality and life cycle expectation of the majority of the adjoining selected rehab methodologies; e.g. particularly when the selection results in rehabilitation consistency and expediency.

Preliminary rehabilitation recommendations developed by the County were developed from program logic built within Innovyze InfoMaster. The DB Engineer is not required to acquire or use the software to complete the rehabilitation design effort. However, the DB Engineer may find the software beneficial for viewing and analyzing CCTV data sets. For reference, the County currently operates with InfoMaster Version 7.

Sewer Cured In Place Pipe (CIPP) Implementation

CIPP shall not be used if major infiltration/inflow is observed in the pipe.

CIPP shall be considered when there is only light infiltration (seepage) into the pipe. CIPP shall be considered where offset pipe joints are generally 1 inch or less.

CIPP shall be considered where longitudinal or circumferential cracking in the pipe has caused minimal structural deformation.

CIPP shall only be used where light to medium roots exist through the pipe joints and can be removed by interior cutting.

CIPP shall be used where sags in the pipe are less than 60% percent of the pipe diameter. When considering sags within the range between 30% and 60%, the sag shall be repaired if it is in the proximity of a recorded overflow or significantly impacting the overall capacity of the sewer system and is deemed by the Engineer to be contributing to the overflow.

CIPP shall be used only where debris can be removed from the pipe.

CIPP shall not be used where holes in the pipe have large visible voids (i.e., no soil visible outside the hole) unless the CIPP thickness is designed for fully deteriorated conditions. Larger holes allow CIPP liners to deform and weaken near the edges of the hole.

CIPP shall be used only where all protruding service laterals have been properly repaired prior to CIPP installation.

CIPP shall not be used on non-porous pipe materials such as PVC and HDPE. CIPP shall be used only where existing point repairs are in good condition with minimum settlement, flow restriction, offsets, and structural deformations.

CIPP shall not be used when four or more point repairs are necessary prior to installation. Refer to the Point Repair Implementation Criteria section.

CIPP shall be used when the host pipe has severely exposed surface aggregate.

All laterals shall receive a top hat CIPP lateral lining when the mainline is CIPP lined, unless the lateral is to be replaced due to a required repair. Laterals which have a diameter change within the first 3 feet from the connection to the mainline or offset joint shall be replaced before a top hat can be installed.

Point Repair Implementation

Sewer point repairs are defined as the actual length of pipe replaced, up to and including 15 feet in length.

The Engineer shall carefully consider all point repair recommendations. Point repairs are subject to future settlement and infiltration migration (i.e., migration to an adjacent defect[s]). Therefore, careful engineering judgment is necessary when recommending point repairs.

Pipe defect types and severity that warrant a point repair have been identified in the InfoMaster Defect Code table. The DB Engineer shall adhere to the InfoMaster defect type and severity thresholds when selecting point repairs for the final rehabilitation design.

All necessary point repairs shall be completed prior to CIPP installations.

All necessary point repairs for sags shall be completed prior to either CIPP or pipe burst installations.

Full pipe replacement shall be required when four or more point repairs are required for a pipe segment.

If a point repair is conducted at a lateral connection, the service lateral shall be replaced to the public/private property line. A cleanout shall also be installed at the public/private property line.

Pipe Replacement (Open Cut Method)

The DB Engineer shall adhere to the decision criteria included within InfoMaster when selecting pipe replacement for the final rehabilitation design.

Ductile iron pipe shall be required for all replacement pipe via open-cut construction.

Pipe replacement shall be considered where a portion of the existing pipe is collapsed unless a point repair is appropriate.

Pipe replacement shall be required where the pipe is structurally deformed and the profile of the pipe is lost unless a point repair is appropriate (see Point Repair Implementation).

Pipe replacement shall be considered where heavy roots through pipe joints cannot be removed by interior cutting or by a point repair (see Point Repair Implementation).

Replacement shall also be considered where heavy roots have compromised the structural integrity of the pipe.

Pipe replacement shall be considered where sags are greater than 60% percent of the pipe diameter. When considering sags within the range between 30% and 60%, the sag shall be repaired if it is in the proximity of a recorded overflow or significantly impacting the overall capacity of the sewer system and is deemed by the Engineer to be contributing to the overflow.

Pipe replacement shall be considered where sinkholes are above or within close proximity of the pipe.

Pipe replacement shall be considered where holes with visible voids (i.e., no soil visible outside the hole) exist unless a point repair is appropriate (see Point Repair Implementation).

Pipe replacement shall be required where a storm sewer is connected directly to the sewer system unless a point repair is appropriate (see Point Repair Implementation).

Where a pipe segment is replaced, service laterals shall also be replaced up to the property line and reconnected to the sanitary sewer main. A cleanout shall also be installed at the property line on all laterals being replaced. It shall be the DB Contractor's responsibility to identify active service lateral connections through measures including, but not limited to, CCTV inspection or review of existing CCTV information where available. The DB Contractor shall coordinate with the Owner to identify inactive service lateral connections and to further determine whether such connections should be included for reinstatement.

Pipe Bursting Implementation

Pipe bursting may be implemented when cost effective or extenuating circumstances limits pipe replacement (open cut) as a viable alternative (i.e., heavily traveled roadways, narrow servitudes, etc.).

Pipe bursting is most feasible in clay soil with unconfined compression strengths less than 2 tons per square foot and above the groundwater table. Pipe bursting is less feasible in rock trenches.

Pipe bursting shall not be implemented under railroads, buildings, or structures.

Pipe bursting is routinely used for pipe sizes less than or equal to 12-inches in diameter, up to 12 feet in depth, burst lengths up to 350 feet, and for up to two pipe diameter up-sizes. Sewer depths up to 18 feet, pipe sizes up to 18-inches in diameter, greater than one pipe diameter up-size, or up to 450 feet in burst length can cause moderate difficulty. Pipe bursting is generally not allowed for sewers deeper than 18 feet, more than 24-inches in diameter, more than two pipe diameter up-sizes, and burst lengths greater than 450 feet.

Pipe bursting shall not be used when the existing pipe has sags greater than 20% or has sags that continue in length for more than 8 feet. Sags create the potential for ground heaving and increase the potential for utility damage.

Pipe bursting is commonly used on clay, non-reinforced concrete, PVC, cast iron, and asbestos-cement pipe. Plastic, steel, and ductile iron pipes require cutting blades. Inter- seam process shall not be allowed.

Pipe bursting replacement pipe shall be high-density polyethylene (HDPE), fusible polyvinyl chloride (FPVC), or ductile iron (DI). Petroleum based material pipe joints shall be fused and cooled prior to bursting.

Minimum cover of the new pipe shall be:

- 10 times the burst displacement
- 3 times the new pipe diameter
- 4 feet below the ground surface
- 3 feet clear from the nearest utility

Pipe bursting shall be used only where it is economically feasible and/or limits the impact of the project on the public. The location and size of the pit(s) shall also be considered.

If pipe bursting is a consideration, the location of potentially "conflicting" waterlines shall be investigated diligently. This may require test pitting to verify clearances between sewer and "conflicting" waterlines.

"Conflicting" natural gas or petro-chemical lines shall be avoided using pipe bursting. A minimum 3 foot clearance shall be required in additional to the approval of the conflicting utility Owner.

Wastewater services shall be excavated, plugged, and pumped prior to pipe bursting and continuously pumped until the services are reconnected.

Pipes encased in concrete shall not be burst. If the encasement has a limited length, excavating and demolishing the encasement and then using the excavation as a launching pit may be considered.

The minimum relaxation period shall be 24 hours. As sewer depth, pipe size, degree of pipe up-sizing and burst lengths increase, the relaxation period shall increase.

Open cut replacement shall be considered when a line to be pipe bursted has 4 laterals every 200 feet.

Slip Lining Implementation

Slip lining shall be used only in special situations with the approval of the DWM or their authorized representative.

Slip lining shall only be used on pipe sizes greater than or equal to 24-inches in diameter.

2.Manhole Rehabilitation and Repair

Manhole Rehabilitation (with Cementitious Lining)

The following guidance is intended to guide the DB Engineer with the implementation of manhole rehabilitation methods in existing sanitary sewer manholes. Manhole rehabilitation shall restore the overall manhole condition by eliminating infiltration, exfiltration, root intrusions, and significant structural defects. Manholes with solely minor defects and no evidence of infiltration beyond normal seepage shall be left as is.

The success of manhole repairs and lining/coating installations are highly dependent on the installer following the recommendations of the product manufacturer regarding activities such as surface preparation, application, and post application testing. Therefore, regardless of the type of manhole rehab approach, the necessary installation qualifications and installation QA/QC procedures must be followed.

In general, the following guidance shall be considered when rehabilitating sanitary sewer manholes.

Brick / Masonry Manholes

Manhole is in good structural condition.

Manhole is relatively shallow (depths generally less than 10 to15 feet). Manhole is a minimum of 4-feet in diameter.

Manhole has a well-defined bench with positive grade.

Manhole does not have active infiltration (seepage only).

Manhole only has minor defects relating to light infiltration (seepage only) and/or slight to moderate defects such as deterioration of bricks and mortar and minor cracks.

All existing steps shall be cut off, flush, and removed. Steps shall not be replaced.

An internal chimney sealant shall be used in all manholes located in streets.

Pneumatic spray applied cementitious lining shall be used when rehabilitation is necessary.

Concrete Manholes

Manhole is in good structural condition.

Manhole does not have any offset joints greater than 1 inch. Manhole is a minimum of 4 feet in diameter.

Manhole has a well-defined bench with positive grade.

Manhole does not have active infiltration (seepage only).

Manhole only has minor defects relating to light infiltration (seepage only) and/or slight to moderate defects relating to the deterioration of the concrete sidewalls and joints, and cracks and offset joints.

All existing steps shall be cut off, flush, and removed. Steps shall not be replaced. An internal chimney sealant shall be used in all manholes located in streets.

Pneumatic spray applied cementitious lining shall be used when rehabilitation is necessary. Membrane linings shall not be used to repair existing concrete manholes.

In existing concrete manholes with brick cones, the brick cones shall be replaced with pre-cast concrete cone sections, if replacement is required.

Concrete Manholes with Brick/Masonry Cones

This type of manhole shall be evaluated per the Concrete Manhole Criteria above.

Manholes with Interior Drops

If a manhole to be rehabbed has an interior drop, the interior drop shall be removed prior to rehab and then replaced back within the manhole after it is rehabbed. The interior drop pipe supports shall remain in place during rehabilitation.

Composite Manholes

Certain areas of the sewer system will require additional material protection such as the areas subjected to hydrogen sulfide build-up and release into the sewer air space. For instance, flow turbulence in the invert or from steep change of direction in the hydraulic grade lines could release the hydrogen sulfide gas and deteriorate the manhole cementitious components. Composite materials, resistant to hydrogen sulfide attack should be evaluated for these corrosive areas as an option to epoxy lining.

Manhole Rehabilitation (with Epoxy Lining)

Epoxy linings shall be considered where corrosive environments exist. Corrosive environments may be detected during the manhole inspection phase by the detection of hydrogen sulfide gas. Severely deteriorated concrete sidewalls, brick sidewalls, manhole frames, manhole covers, and manhole steps are indicators of a corrosive environment. The same evaluation

criteria used for cementitious lining above shall be used for epoxy liners also. Epoxy liners shall be used, at a minimum, in the two manholes downstream and upstream of the manhole with the force main discharge or in corrosive environments.

Manhole Rehabilitation (Patching)

If a manhole has a localized area(s) requiring repair but the majority of the manhole is in good condition, the area(s) of defect may be patched. However, the Engineer shall consider the condition of the entire manhole when considering patching in lieu of complete manhole rehabilitation.

A trough shall be built or repaired for manholes which do not have a trough or have a defective trough.

Manhole Cleaning

Manhole cleaning shall only be recommended to remove large debris, such as large rocks, concrete, construction debris, other heavy/bulky debris, etc. Cleaning shall not be recommended for manholes with minor dirt/debris on the bench or in the trough.

3.Manhole Replacement

Manhole Replacement

The following guidance is intended to aid the DB Engineer in determining when manhole replacement is necessary. Replacement shall be considered when rehabilitation methods are not applicable due to the overall condition of the manhole or if sewers are replaced.

Brick / Masonry Manholes

Manhole has structural failure or in generally poor condition.

Manhole is relatively deep (depths generally greater than 10 to 15 feet). Manhole is less than 4 feet in diameter.

Manhole has undefined bench or has a negative grade.

Manhole has moderate to severe infiltration (more than seepage).

Manhole is located in a drainage path or subject to high groundwater conditions.

Manhole has previously been rehabilitated and the rehabilitation has failed. Manhole has service laterals requiring repair or replacement.

Manhole has a connecting mainline requiring replacement. Manhole has tap or heavy roots.

Concrete Manholes

Manhole has structural failure or in generally poor condition. Manhole is less than 4 feet in diameter.

Manhole has undefined bench or has a negative grade.

Manhole has moderate to severe infiltration (more than seepage).

Manhole has previously been rehabilitated and the rehabilitation has failed.

Manhole is located in the drainage path and has evidence of moderate to severe infiltration.

Manhole has a connecting mainline requiring replacement unless a suitable and proper boot connection can made between the manhole and pipe.

Manhole has tap or heavy roots.

Concrete Manholes with Brick / Masonry Cones/Risers

This type of manhole shall be evaluated per the aforementioned Concrete Manhole Criteria. Brick cones or risers shall be replaced under the following conditions:

- Brick cone or riser has active infiltration.
- Manhole is located in a drainage path.
- Brick cone or riser has structural failure.

4.Lateral Rehabilitation/ Replacement

Lateral Rehabilitation/Replacement

The following criteria are intended to aid the Engineer in determining when lateral rehabilitation or replacement is necessary. This section describes other design considerations as they relate to cleanouts and service lines tied into services line.

Lateral Replacement

Laterals shall be replaced to the property line if any of the conditions are present as described in Section 2: Pipe Replacement (Open Cut Method).

A pipe shall be upsized to 8 inches and a new manhole installed at the upstream end of a 6- inch line which has other services tied into it.

Lateral Rehabilitation

Lateral lining or pipe bursting may be considered if conditions exist which prevent open cut installation. The appropriate criteria described in Section 2: Sewer Cured In Place Pipe (CIPP) Implementation and Section 2: Pipe Bursting Implementation shall be met if either of these installation methods are chosen.

The service connection shall be recut for services tied to main lines which have been lined with CIPP and the previous service was incomplete.

Cleanouts

A manhole in public property shall be installed at the end of a line which is 8 inches in diameter or greater and has a cleanout at the end of the line.

A cleanout shall be installed on a 6-inch line if there is no cleanout at the end of the line.