CONSTRUCTION CODES

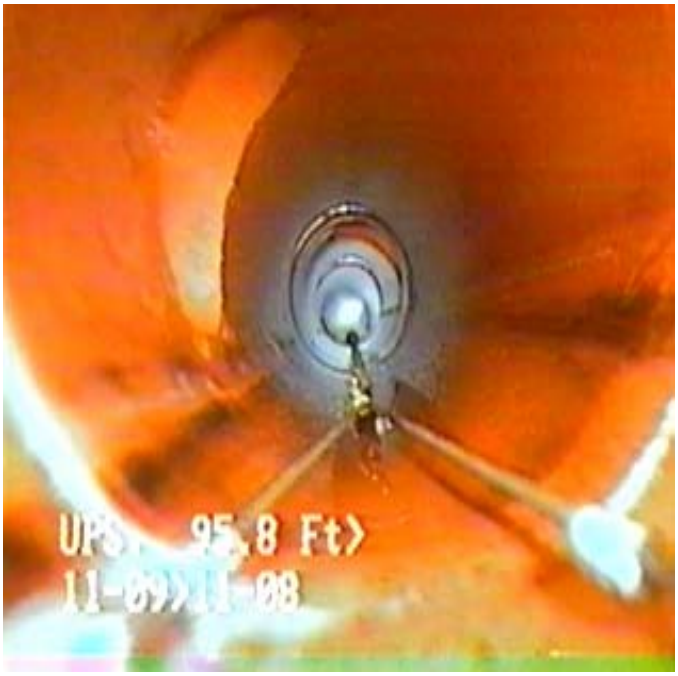
Use construction codes to identify features associated with the installation of the sewer. The codes provided here will be used to identify encountered, pre-existing construction features such as connections, manholes, etc., as well as defective connections, linings, and so forth.

Connection Factory

Use this code when a service lateral pipe intersects the sewer main with a factory fitting. Enter the clock hour reference to locate the service lateral. Enter the lateral diameter, in inches, and also, enter "Plugged" if applicable in the comments section.

CNF = Connection Factory at … o'clock, diameter … in "Plugged" (if applicable).

The connection factory code refers to a factory installed opening for connection to a service lateral.



CNF

Connection (Plumber's) O.K

Use this code when a plumber's connection does not protrude enough to obstruct flow or camera travel in the main. The field cut or "break-in" in the main for the lateral must also not be excessively oversized. If soil is visible where the lateral enters the main, a "Connection Defective" code should be used instead. Enter the clock hour reference to locate the service lateral. Enter the lateral diameter, in inches.

CNO = Connection (Plumber's) O.K. at … o'clock; diameter … in

CNO

Connection (Plumber's) Protruding

Use this code when a plumber's connection protrudes into the sewer line. Enter the clock hour reference. Enter the length of the protrusion.

CNP = Connection protruding at … o'clock, diameter… in, protrusion … in (*Still Image Required only if camera will not pass or if protrusion is obstructing normal pipe flow)*

CNP

Defective Connection

The connection has become damaged during or after construction or reduces the flow capacity because of intrusion into the sewer line. The specific defect, the connection type (factory or plumber's tap), the service lateral material (clay, PVC, etc.), and "Plugged" if applicable, must be noted in the comments section.

CNX = Connection defective at … o'clock, diameter … in, specific defect, connection type, lateral material, "Plugged" (if applicable) (*Still Image Required)*

The defective connection code indicates a connection that is no longer properly connected to the sewer line.

CNX

Lining Defect

Use the lining defect code to indicate that there is a defect in the lining of the sewer. It may appear as a bulge, missing section, or separation from the sewer wall. Enter the clock hour reference. Enter details of the defect in the comments section.

LN = Lining defect from … to … o'clock, details of defect (*Still Image Required)*

LN

Manhole

Enter the full manhole reference number in the comments section.

MH = Manhole, Manhole number

Manhole Unmapped

MHU = Manhole unmapped, new manhole number

If a manhole is discovered during the TV inspection which is not shown on the District's mapping, a District representative shall be notified to assign a new MH number to the found manhole.

MISCELLANEOUS CODES

Use these codes to define items that are not defects or features.

Camera Under Water

Use this code to note that the CCTV camera has become submerged. Enter the code and distance readings when the camera becomes submerged and when it is no longer under water.

CU = Camera under water

Dimension Change

Use this code when the diameter of a circular pipe or the dimensions of a non-circular pipe changes. The new diameter/dimensions, in inches, should be entered.

DC = Dimension of sewer changes, new dimension … in (*Still Image Required)*

DC

General Observation

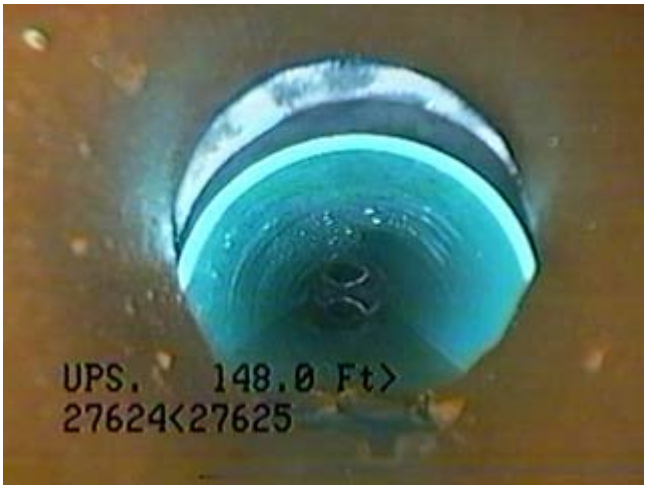
Use this code to document an observation only when another more specific code is not applicable. Enter a description of the observation in the comments section.

GO = General Observation, description

Material Change

Used in instances where the material of the sewer line has changed. Details of the change (e.g., new material type) should be provided in the comments section.

MC = Material of sewer changes at this point, new material type



MC

Survey Abandoned

Use this code to note that the survey could not be continued due to a blockage in the line, collapse of the line, or an excessively high water level. Use this code only after using a specific defect code such as "collapsed pipe". Use this code at the same distance from the start manhole as the specific defect code. The reason for abandoning the survey **shall be entered** in the comments section, if not fully documented by the specific defect code.

SA = Survey Abandoned, reason inspection abandoned.

Water Level

Enter this code at the beginning of the survey length as well as at any points at which the water level noticeably changes.

WL = Water Level from … o'clock to … o'clock

SERVICE CODES

Use service codes to address the pipe's ability to meet its service requirements. These codes indicate any loss of flow capacity (not related to structural defects), infiltration, or obstructions in the line.

When using these codes, make a note in the comments section if the defect occurs only at a joint. If the defect occurs more than 1 foot from the joint or if the defect continues from joint to joint along the length of the pipe the joint comment should not be entered.

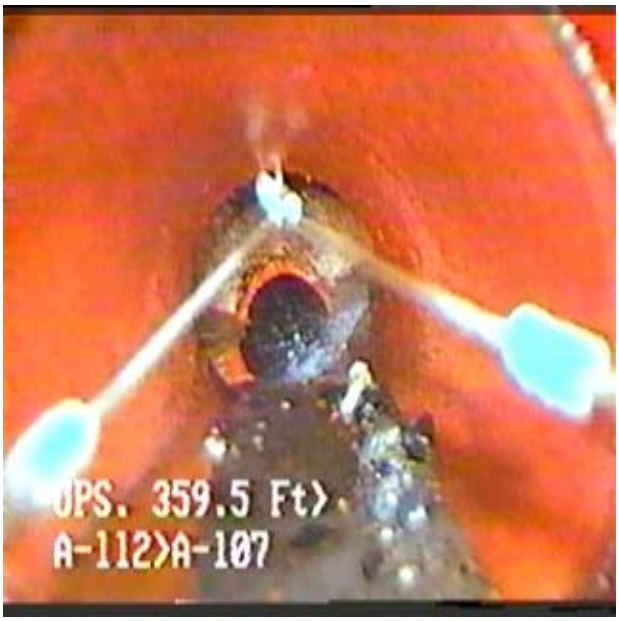
Debris

Use the debris codes when pipe materials or other objects that can cause more turbulent flow and/or a reduction in flow capacity are in the line. The material may be either organic or inorganic. Debris is classified into three categories: Silt (silty material, normally found in the pipe invert); Grease (grease deposits normally found above the flow line); Non-silt/grease (materials often found as a result of construction).

DE = Debris (non-silt/grease) from … o'clock to … o'clock
DEG = Debris grease from … o'clock to … o'clock
DES = Debris silt from … o'clock to … o'clock

DE

DEG



DES

Encrustation and Scale

Use the encrustation and scale code to indicate a mineral deposit or build-up on the pipe walls. Enter "occurs at joint only" in the comments section if deposits occur only at the joint. Enter "EL or EH begins" or "EL or EH ends" in the comments section.

EL = Encrustation and Scale light from … o'clock to … o'clock
EH = Encrustation and Scale heavy from … o'clock to … o'clock

EL

EH

Infiltration

Use the infiltration codes when ground water from outside the pipe is leaking into the pipe through defects in the line or connections. Three codes are used to describe this defect; each code depends on the amount of water leaking in.

Seeper - Water flowing slowly through a defect or faulty joint, or signs or stains of past infiltration
Dripper - Water dripping in through defects in the line or joints
Gusher - Water gushing in through a defect or faulty joint.

IS = Infiltration seeper from … o'clock
ID = Infiltration dripper from … o'clock (*Still Image Required)*
IG = Infiltration gusher from … o'clock (*Still Image Required)*

IS

ID

IG

Line Deviation

Use the line deviation codes when a constructed visible deviation in the direction of the sewer line occurs. If the line deviates due to a factory bend but the survey is continued through the bend, note the degree of bend in the comments section. If the survey cannot be continued through the bend, use the "Survey Abandoned" code and note the degree of bend in the comments section.

LD =	Sewer line deviates down	*(Still Image Required)*
LL =	Sewer line deviates left	*(Still Image Required)*
LR =	Sewer line deviates right	*(Still Image Required)*
LU =	Sewer line deviates up	*(Still Image Required)*

LD

Line Sags

Use the line sags codes when there is a visible localized sag. Care must be taken not to confuse the sag code with a line deviating down by construction. Line sags are many times identified by a localized increase in water level.

DS = DIP/SAG Start
DF = DIP/SAG Finish

Obstruction

Use the obstruction code when large objects are found in the line. Typically, obstructions will be objects that will considerably reduce the flow capacity of the sewer and may also force the survey to be abandoned. The obstruction code also requires a percent of cross-sectional area lost entry. Enter the type of obstruction in the comments section.

OB = Obstruction…, .% cross sectional area lost; type of obstruction (*Still Image Required).*

OB

Obstruction Utility

Use the obstructing utility code when other utilities are found in the line. Typically, utilities will considerably reduce the flow capacity of the sewer and may also force the survey to be abandoned. The obstruction utility code also requires a percent of cross-sectional area lost entry. If the obstruction is a recognized utility, enter the utility type in the comments section. If the utility type is not recognized, enter utility type "unknown" in the comments section.

OBU = Obstruction Utility…, % cross sectional area lost; type of utility (*Still Image Required).*

OBU

Roots

Use the roots codes when roots have intruded through defects in the line, joints, connections, or manholes. The root code has two degrees of severity (fine or heavy) depending on the amount of root intrusion. The roots heavy code also requires a percentage of cross-sectional area lost entry.

Fine roots are defined as stringy, thin roots intruding into the pipe material or at the joint. Heavy roots can best be described as large singular roots that are capable of creating an obstruction in the sewer line or a root mass that reduces the pipes carrying capacity.

RF = Roots fine from … o'clock to … o'clock
RH = Roots heavy from … o'clock to … o'clock …% cross-sectional area lost (*Still Image Required)*

RF

RH

STRUCTURAL CODES

Use structural codes to denote defects that relate to the physical condition of the pipe. Deformation, displaced joints, etc., are codes that designate the structural integrity of the pipe.

Collapsed Pipe

Use the collapsed pipe code to indicate that over 50% of the cross-sectional area of the pipe has been lost. When using the collapsed pipe code, only enter the collapse code along with the percentage of the cross-sectional area lost.

X = Collapsed Pipe …% cross-sectional area lost (*Still Image Required)*

X

Corrosion

Use the corrosion code to indicate that there is evidence of corrosion in a pipe. Enter "COL or COM or COH begins" or "COL or COM or COH ends" in the comments section.

COL = Corrosion light – surface of pipe has been damaged from …o'clock to … o'clock

COM = Corrosion medium – exposed aggregate in concrete; use only for concrete pipe from …o'clock to …o'clock (*Still Image Required).*

COH = Corrosion heavy – exposed reinforcement in concrete; or heavy pitting or scaling in iron from … o'clock to … o'clock (*Still Image Required)*

COH

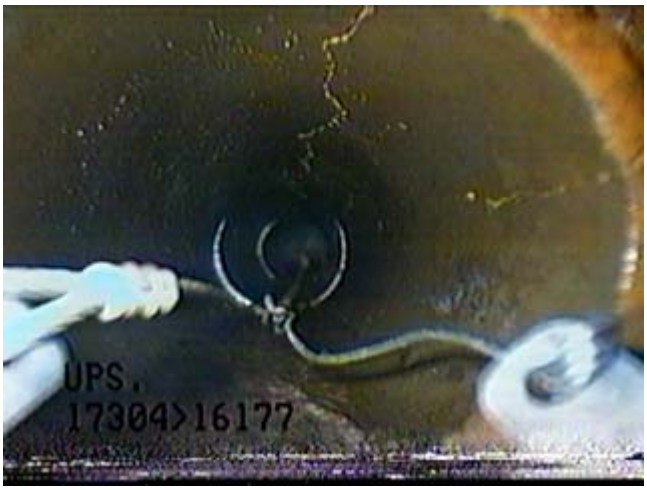
Cracks

Cracks are visible on the inside surface of the pipe but the pipe material is still intact. The two types of cracks are longitudinal, running along the length of the pipe, and circumferential, running around the diameter of the pipe. Another category, multiple cracks, can be a combination of longitudinal and circumferential cracks or multiple occurrences of the same type of crack too numerous to enter as individual defects.

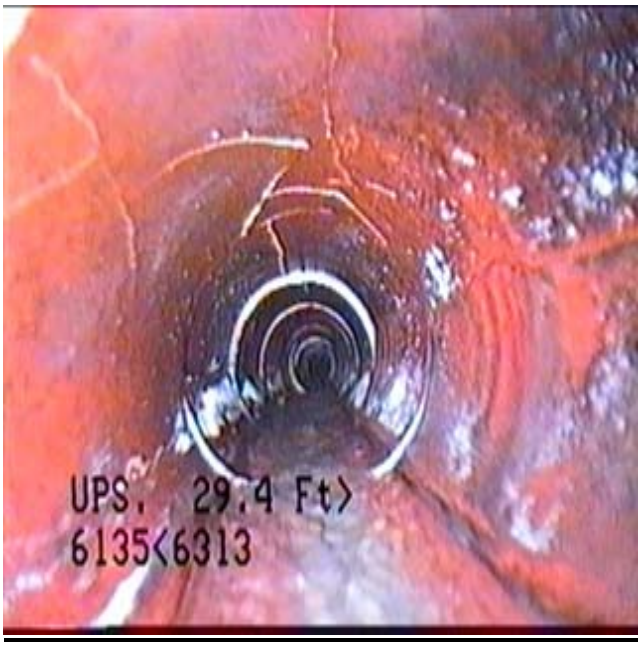
Use the clock hour reference to provide the location of the crack(s).

CC = Circumferential Crack from … o'clock to … o'clock.
CL = Longitudinal Crack at … o'clock
CM = Multiple Cracks from … o'clock to … o'clock (*Still Image Required).*

CC



CL



CM

Deformed

Use the deformed pipe code for line segments with an altered original cross-section. In flexible pipes, PVC or Polyethylene for example, deformation without loss of structural integrity is possible. The percentage of deformity in relation to the original pipe diameter should be provided as a percentage in increments of 5% up to a 50% deformity. Pipes deformed greater than 50% must be coded as a collapsed pipe.

D = Deformed sewer …% (*Still Image Required).*

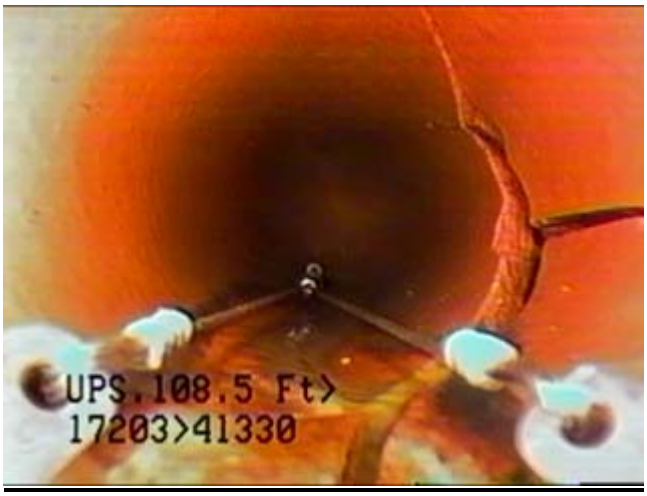
D

Fractures

Once the crack is visibly open on the pipe wall, it is coded as a fracture (e.g., the inner surfaces of the crack are visible). Like cracks, fractures can be described as longitudinal, circumferential, or multiple, as previously described for cracks.

Use the clock hour reference to provide the location of the fractures(s).

FC = Circumferential Fracture from … o'clock to … o'clock (*Still Image Required).*
FL = Longitudinal Fracture at … o'clock (*Still Image Required).*
FM = Multiple Fracture from … o'clock to … o'clock (*Still Image Required).*



FC

FL

FM

Hole Patched

Use the Hole Patched code when there is a visible hole in the wall of the pipe that has been patched or repaired. Enter the patch material and if soil outside the pipe is visible, in the comments section.

HP = Hole patched in sewer from … o'clock to … o'clock, patch material, visible soil

HP

Hole Large

Use this code when there is a visible large hole in the wall of the pipe.

HL = Hole Large, from … o'clock to … o'clock *(Still Image Required)*

HL

Hole Small

Use the Hole code when there is a visible small hole in the wall of the pipe.

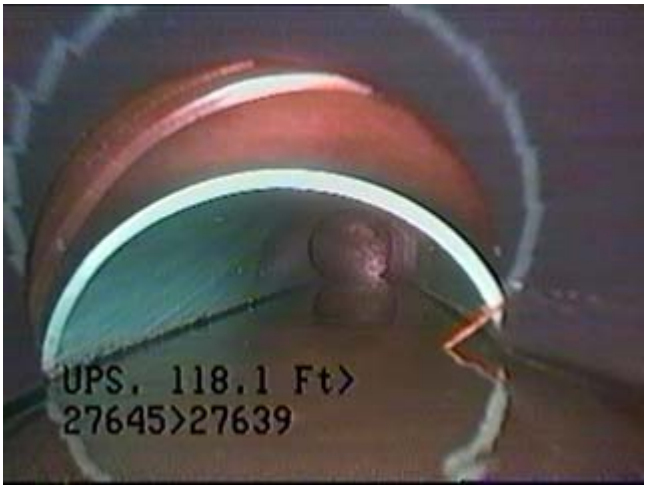
HS = Hole in sewer from … o'clock (*Still Image Required).*

Joint Displaced

Use the joint displaced code when the spigot of the pipe is not properly aligned with the adjacent pipe. When this occurs, the joint is considered to be displaced. This code is also known as offset joint. There are two grades of displaced joints.

JDM = Joint displaced medium (not greater than pipe wall thickness)
JDL = Joint displaced large (greater than pipe wall thickness) *(Still Image Required)*

JDM



JDL

Open Joint

Use the open joint code to indicate that the two pipes are displaced longitudinally from one another. Like displaced joints, there are two grades of open joints.

OJM = Open Joint Medium (less than pipe spigot offset; no soil outside the pipe is visible).

OJL = Open Joint Large (greater than pipe spigot offset where soil outside the pipe is visible). *(Still Image Required).*

OJM

OJL