

SECTION 816
DYE-WATER FLOODING

816-1 SCOPE OF WORK: Dye-water flooding will be used to perform leak investigations, test manhole connections and locate cross connections between sanitary and storm sewer systems. Dye-water flooding will be accomplished by flooding the ground surface or a pipe segment with color-dyed water to simulate a storm water runoff condition. Dye-water flooding may or may not be performed in conjunction with CCTV inspection. It will be at the discretion of the Engineer to determine which lines will be dye-water flooded and televised.

816-2 PRODUCTS:

- a. Introduction of dye shall be in the method and amounts recommended by the manufacturer.
- b. Dye products shall be non-toxic and biodegradable designed for plumbing testing. Water used to dilute the dye shall be clean and clear to develop a brilliant color mixture.
- c. Contractor shall maintain multiple copies of the MSDS sheets of the dye products on site to respond to all inquiries for information.

816-3 EXECUTION:

- a. Public notification and coordination with the City's Police and Fire Departments shall be accomplished according to the following:
 1. Seven days prior to the test of any line segment and prior to beginning the testing, the Contractor shall go door-to-door to distribute an Owner approved Homeowner Notification Door Knockers describing dye testing.
 2. On the day of test, prior to commencing operations, Contractor shall knock on the doors of all structures potentially impacted by the testing to personally notify occupants. Also Contractor shall notify the appropriate authorities prior to the beginning of any dye testing and will be responsible for maintaining close coordination with the local Police and Fire Departments regarding the dye tests.
 3. Contractor shall maintain multiple copies of the MSDS sheets of dye products on site for to respond to all inquiries.
- b. Introduce dye treated water into the containment structure and visually observe or video leaks of dye into areas of interest.
- c. The results of the observations of dye-water flooding and testing shall be recorded in an electronic "Dye Flood Testing Field Form" provided by the Engineer. A copy shall be printed and certified by signature of the Contractor that the results are correct. The information recorded on this form shall include the upstream manhole number, location of the manhole or line flooding, lines plugged, location(s) flooded along line, locations of leaks observed in sanitary sewer pipe, and any other pertinent information regarding the test results which would affect a sewer rehabilitation decision.
- d. Photographs shall be taken of the dye-water flooding in progress and, when possible, photographs shall be made of leaks located. An electronic database will be provided by the Owner for this purpose.

816-4 MEASUREMENT: Measurement for dye water flooding when used to locate cross connections shall be the actual count of each set-up where dye water flooding with or without television inspection. If a segment or section of pipe is to be inspected, the dye water flooding is to be measured by the actual linear feet of flooded section.

816-5 PAYMENT: Payment of the amount bid for dye water flooding for cross connection identification will be made based on the quantity as measured which shall be full compensation for dye products, sewer flow control, equipment set-up, cleanup, electronic and hard copy reports in accordance with the specifications, and all else incidental thereto for which separate payment is not provided under other items. If required for inspection, separate payment will be made for CCTV inspection in accordance with the Section 815.

816-6 PAY ITEMS:

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
8160001	Dye-Water Flooding for Line Segment Defect Identification (Manhole to Manhole)	Linear Foot
8160002	Local Spot Dye-Water Flooding	Each