



# Addendum Addresses Standard of Care for Plastic Pipe

A sanitary sewer project was released for tender by the City of London in early 2013. The sanitary sewer was designed using reinforced concrete pipe. However, the contract also included a trial section of 65 metres of 900mm polypropylene plastic pipe. The plastic pipe in question was offered free of charge by the Ohio based producer of this pipe.

There are major differences between reinforced concrete pipe and plastic pipe. Drainage systems and sewer systems constructed from concrete pipe and plastic pipe have to be designed differently and installed differently. The consulting engineer for the City of London project recognized those differences and issued a comprehensive addendum to address the design and installation of a relatively large plastic pipe.

#### **The key points of the Addendum included:**

- **Certification Letter from contractor – includes shop drawings, calculations, and installation procedures.**
- **Design calculations stamped by a professional engineer registered in the Province of Ontario**
- **Trench box detail stamped by a professional engineer registered in the Province of Ontario addressing the potential conflict between ASTM D2321 and Occupational Health and Safety Act**
- **Shop drawings for connection to manholes**
- **Deflection testing at completion of construction and again at one year before the expiration of the warranty period.**
- **Manufacturer's representative on-site during construction**

Design engineers and municipal engineers involved with drainage systems and sewer systems across Ontario should take note of the wording of the Addendum as follows:

*“For the Pipe Trial Section pipe materials, the Contractor shall submit shop drawings.*

*The shop drawing submission shall include a Certification Letter from the pipe manufacturer that the pipe material and installation procedures will meet or exceed City of London Standard Specifications, these Special Provisions and the installation conditions shown on the drawings and*

*as otherwise identified in the Contract Documents. The Contractor (or pipe supplier) shall provide the structural design calculations for this pipe installation, stamped by a professional Engineer licensed in Province of Ontario.*

*The Contractor shall submit drawings for the trench box use stamped by a Professional Engineer licensed in the Province of Ontario which meets the requirements of both ASTM D2321 -Standard Practise for Underground Installation of Thermoplastic for Sewers and Other Gravity- Flow Applications and Occupational Health and Safety Act and Regulations for Construction Projects.*

*The Certification Letter shall be supported by detailed pipe class selection calculations and shall be sealed by an Ontario Professional Engineer, specifically for this project.*

*The Contractor shall provide a shop drawing identifying the two manhole connections. A cored hole shall be drilled to accommodate the manufacturers' connection boot.*

*Sanitary sewers are to be installed as per manufacturer's specification. The Contractor shall have on-site at the commencement of construction, a manufacturer representative to advise on the recommended construction procedure for the installation of sanitary sewer. The Contractor shall maintain liaison with the manufacturer throughout the installation of the sanitary sewer trial section for advice and guidance as required. In addition, the Contractor shall ensure that a representative of the manufacturer makes daily site visits during construction and after completion, if required. The representative of the manufacturer should alert the Contractor in writing of any variance to their recommended material and construction procedures. Copies of all correspondence shall be given to the Contract Administrator.*

*Where the trial pipe section is used, the Contractor shall perform a mandrel test, upon completion of construction, to ensure that pipe deflection does not exceed a 5% deflection. Prior to the end of the one year warranty period, the Contractor shall perform another mandrel test, to the satisfaction of the Contract Administrator.”*

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