

**KANSAS DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION TO THE  
STANDARD SPECIFICATIONS, EDITION 2015**

Delete SECTION 1908 and replace with the following:

**SECTION 1908**

**POLYETHYLENE (PE) PIPE**

**1908.1 DESCRIPTION**

This specification covers polyethylene (PE) pipe for storm sewers and culverts. See SECTION 1907 for the use of PE pipe in drain tile.

**1908.2 REQUIREMENTS**

**a. Polyethylene Pipe.** Provide PE pipe for storm sewers and culverts that complies with one of the following:

(1) AASHTO M 294 (Corrugated Pipe) with the following additions or exceptions:

- Only Type S is acceptable.
- Rotational Molded Pipe will not be accepted.

(2) ASTM F 894 (Ribbed, Profile) with the following additions or exceptions:

- AASHTO LRFD Bridge Design Specifications, SECTION 12, 50 year life requirements.
- Minimum Cell Class per ASTM D 3350 of 334433C or 335434C.
- Minimum section properties as noted in SECTION 12.

(3) ASTM F 714 (Smooth Wall) with the following additions or exceptions:

- A DR of 21 or less will be required.
- AASHTO LRFD Bridge Design Specification, SECTION 12, 50 year life requirements.
- Minimum Cell Class per ASTM D 3350 of 335434C.

**b. Joints.** To obtain soil tight joints, manufacture the pipe joints to comply with the following:

- Maximum opening is 1 inch.
- For non-cohesive backfills, provide an opening no greater than 3-1/3 times  $D_{85}$  for medium to fine sand and 5 times  $D_{85}$  and for uniform sand.  $D_{85}$  is the sieve size that 85% of the backfill material is smaller than.
- For openings over 1/8-inch, provide a channel length at least 4 times the size of the opening. Channel length is the length of the path that the soil must infiltrate.

**c. End Sections.** Provide only corrugated metal or precast concrete end sections that comply with the sizes and dimensions in the Contract Documents, and applicable SECTION 1902 or 1904. Connect the dissimilar materials using a soil-tight connection approved by the Engineer.

**d. Deflection.** Maximum deflection (reduction of the barrel base inside diameter) is 5%. Measurement will be made using a mandrel or other method as approved by the Engineer not less than 30 days following the installation. Deflections in excess of 5% may require the pipe to be removed and reinstalled, or replaced if permanently deformed or damaged in any way.

**1908.3 TEST METHODS**

Test materials in accordance with the AASHTO and ASTM standards cited in subsection 1908.2.

#### **1908.4 PREQUALIFICATION**

Follow the instructions on the AASHTO National Transportation Product Evaluation Program's (NTPEP) website to participate in the audit program for plants producing high density polyethylene plastic (HDPE) pipe.

Forward an official copy of the latest NTPEP certificate of compliance, final audit report, quality control plan, and split sample results report to the Bureau Chief of Construction and Materials for evaluation.

Producing plants that have successfully met the requirements of the NTPEP audit program and are listed on the NTPEP website as "compliant" will be prequalified.

In order to maintain prequalified status, send a copy of the annual NTPEP certificate of compliance, as well as the related audit report and split sample test results as soon as they are received or published. Plants that fail to achieve a yearly NTPEP Certificate of Compliance will be removed from prequalified status.

Plants that fail to provide the annual documents described above or repeatedly fail the deflection requirements of **subsection 1908.2d**, may be removed from prequalified status.

#### **1908.5 BASIS OF ACCEPTANCE**

Prequalification as specified in **subsection 1908.4**.

Receipt and approval of a Type C certification as specified in **DIVISION 2600**.

Visual inspection for condition and dimensional requirements.

Successful testing with a mandrel as outlined in **subsection 817.3b**.

7-21-16 C&M (CFN)

Dec-16 Letting