RULE NO.: R161-21.27
POSTING DATE: October 6, 2021

NOTICE OF PROPOSED RULE

The Director of Watershed Protection Department proposes to adopt the following rule on or after November 8, 2021.

Comments on the proposed rule are requested from the public. Comments should be submitted to Kelly Strickler, at kelly.strickler@austintexas.gov or (512) 974-1845. To be considered, comments must be submitted before November 8, 2021, the 33rd day after the date this notice is posted. A summary of the written comments received will be included in the notice of rule adoption that must be posted for the rule to become effective.

An affordability impact statement regarding the proposed rule has been obtained and is available by contacting Kelly Stricker at kelly.stricker@austintexas.gov or (512) 974-1845.

EFFECTIVE DATE OF PROPOSED RULE

A rule proposed in this notice may not become effective before the effective date established by a separate notice of rule adoption. A notice of rule adoption may not be posted before November 8, 2021 (the 33rd day after the date of this notice) or not after December 15, 2021 (the 70th day after the date of this notice).

If a proposed rule is not adopted on or before December 15, 2021, it is automatically withdrawn and cannot be adopted without first posting a new notice of a proposed rule

TEXT OF PROPOSED RULE

The text of the proposed rule, indicating changes from the current text, is attached to this notice. Additionally, a copy of the complete text of the proposed rule is available for public inspection and copying at the following location: Office of the City Clerk, 301 W. 2nd Street, Austin, Texas.

BRIEF EXPLANATION OF PROPOSED RULE

R161-21.27: Modifies the Standard Specifications Manual to align with the Environmental Criteria Manual 1.6.4(A) as follows:

Standard Specifications Manual: SERIES 500 - PIPE AND APPURTENANCES.

- ITEM NO. 551 - Pipe Underdrains, Section 551.2(1) – *Materials*
    - Changes to the standard specifications for underdrain pipe systems and materials to conform to commonly available materials and match ECM standards. The proposed changes are intended to address issues that arise in the field during construction.
    - Change of diameter of perforation (1/2 in. to 3/8 in.) and spacing requirements (5 in. to 6 in.) to match requirements in ECM 1.6.5(A)(4).
    - Change of type and size range of gravel required for underdrain backfilling material to match requirements in ECM 1.6.5(A)(4).
    - Change fabric specification to match geotextile fabric requirement in ECM 1.6.5(A)(4) ("High Flow Filter Fabric").

AUTHORITY FOR ADOPTION OF PROPOSED RULE

The authority and procedure for the adoption of a rule to assist in the implementation, administration, or enforcement of a provision of the City Code is established in Chapter 1-2 of the City Code. The authority to regulate water quality is established in Chapter 25-8 of the City Code.

CERTIFICATION BY CITY ATTORNEY

By signing this Notice of Proposed Rule (R161-21.27), the City Attorney certifies the City Attorney has reviewed the rule and finds that adoption of the rule is a valid exercise of the Director's administrative authority.

REVIEWED AND APPROVED

J. Morales

Date: 09/28/2021

Jorge L. Morales, P.E., CFM, Director
Watershed Protection Department

Deborah Thomas for

Date: 10/4/2021

Anne L. Morgan
City Attorney

Standard Specifications Manual: SERIES 500 - PIPE AND APPURTENANCES

551.2 - Materials

(1) Pipe

The following materials will be permitted as alternates unless type is indicated. Size indicated shall be inside diameter. Pipe shall meet the following requirements:

Type 1 Vitrified Clay or Concrete Pipe

Pipe may be either thoroughly and perfectly burned or glazed vitrified clay or nonreinforced concrete conforming to ASTM C 14. Vitrified clay pipe shall be of first quality hub and spigot style, sound, without warps or cracks or other imperfections and shall be sufficiently tough so that it may be cut with a chisel and hammer.

Type 2 Clay Drain Tile

Standard clay drain tile shall conform to specifications of AASHTO M 179.

Type 3 Concrete Drain Tile

Butt end concrete drain tile shall conform to ASTM C 412. Tongue and groove concrete drain tile shall conform to ASTM C 118.

Type 4 Porous Concrete Pipe

Porous concrete pipe shall conform to AASHTO M 176.

Type 5 Perforated Clay Pipe

Perforated clay pipe shall conform to specifications for standard strength perforated clay pipe of AASHTO M 65 except that extra strength clay pipe may be substituted for standard strength clay pipe.

Type 6 Perforated Corrugated Metal Pipe

Perforated helically corrugated metal pipe shall be fabricated from corrugated galvanized sheets and shall conform to AASHTO M 36 or corrugated aluminum alloy sheets and shall comply with AASHTO M 196.

Type 7 Perforated Corrugated Metal Pipe (Bituminous Coated)

Pipe shall conform in all particulars to requirements specified above for perforated corrugated metal pipe. Steel pipe shall be uniformly coated inside and out with a bituminous coating to a minimum thickness of 0.05 inch.

Bituminous material used to coat pipe shall meet the following requirements when tested in accordance with TxDOT Test Method Tex-522-C:

Solubility, % by wt. in	
Trichloroethylene	99.5 minimum
Brittleness Test	Pass
Flow, inches	0.25 maximum

Type 8 Perforated Concrete Pipe

Perforated concrete pipe shall conform to ASTM C 444, "Standard Strength Perforated Nonreinforced Concrete Underdrain Pipe", except that "Extra Strength Perforated Nonreinforced Concrete Underdrain Pipe" may be substituted for standard strength pipe.

Type 9 ABS Perforated Pipe

ABS pipe shall be extruded and fittings molded from virgin ABS plastic material conforming to ASTM D 1788, Type 4, except that minimum heat deflection temperature is 180F. Contractor shall furnish certified test reports as evidence that material used for project meets ASTM requirements. Dimensions of ABS pipe shall be as shown in Table I. Fittings shall conform to manufacturer's standard for particular size of pipe required.

TABLE I

Nominal Size, Inches	Inside Diameter Inches, Minimum	Thickness of Barrel Inches, Minimum
4	3.82	0.19
6	5.70	0.28

Perforations shall conform to requirements for Type 5 pipe underdrains. Crushing strength of ASB pipe shall meet or exceed minimum values in Table II when tested in accordance with flat-plate loading method as outlined in ASTM Designation: D 2412.

TABLE II

Nominal Size, Inch	Minimum Strength lb. Inch
4	179
6	604

Pipe shall withstand at least 35 percent vertical deflection without rupture of pipe wall and stiffness shall equal or exceed valves at 5 percent deflection. Vertical deflection shall be computed as follows:

$$\text{Percent Deflection} = \frac{\text{Reduction Vert. I.D.}}{\text{Nominal I.D.}} \times 100$$

Ends of ABS pipe, couplings and fittings shall be perpendicular or square to longitudinal axis of main body within a maximum angle of 3 degrees. Outer and inner surface of pipe shall be free from blisters, voids and discontinuities.

Type 10 Preformed Corrugated Polyethylene Plastic Tubing

Tubing shall comply with AASHTO M 252.

Type 11 Perforated Polyvinyl Chloride Pipe

Pipe shall be Schedule 40 and conform to ASTM D 1785. Unless otherwise specified, the perforated pipe shall have two rows of holes ~~13 mm (½ in.)~~9.4 mm (3/8 in.) in diameter on ~~125 mm (5 in.)~~ 150 mm (6 in.) centers, with allowable tolerances of ± 1 mm (1/16 in.) on the diameter and + 6, -0 mm (+¼, -0 in.) on the spacing, and the rows shall be parallel to the axis of the pipe and 120 ± 5° apart.

(2) Filter Material

(a) Aggregate

Filter material for use in backfilling trenches under, around and over underdrains shall consist of hard, durable, clean, washed, ~~gravel~~rounded, river gravel ~~or crushed stone~~, ranging in size from ~~5/8 to 1 inch~~ one-half (0.5) to one and one-half (1.5) inch and shall be free from organic matter, clay balls or other deleterious matter.

(b) Geotextile

Geotextile shall conform to Item No. 620 – Table 2, "High Flow Filter Fabric".