

Section 2724

Engineered Surface Drainage Products

GENERAL

PVC surface drainage inlets shall be of the road and highway structure type as indicated on the contract drawings and referenced within the contract specifications. The **ductile iron frame and grate** for each of these structures is to be considered an integral part of the surface drainage inlet and shall be furnished by the same manufacturer. The road and highway structure shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc. or prior approved equal.


MATERIALS

The road and highway structure required for this contract shall be manufactured from PVC pipe stock, utilizing a thermo-molding process to reform the pipe stock to the specified configuration. The drainage pipe connection stubs shall be manufactured from PVC pipe stock and formed to provide a watertight connection with the specified pipe system. This joint tightness shall conform to ASTM D3212 for joints for drain and sewer plastic pipe using flexible elastomeric seals. The flexible elastomeric seals shall conform to ASTM F477. The pipe bell spigot shall be joined to the main body of the structure. The raw material used to manufacture the pipe stock that is used to manufacture the main body and pipe stubs of the surface drainage inlets shall conform to ASTM D1784 cell class 12454.

The grate and frame for all road and highway structures shall be ductile iron and shall be made specifically for each so as to provide a round bottom flange that closely matches the diameter of the PVC basin body. The grate and frame shall be capable of supporting H-20 wheel loading for traffic areas. The metal used in the manufacture of the castings shall conform to ASTM A536 grade 70-50-05 for ductile iron.

INSTALLATION

The specified PVC road and highway structure shall be installed using conventional flexible pipe backfill materials and procedures. The backfill material shall be crushed stone or other granular material meeting the requirements of class 1, class 2, or class 3 material as defined in ASTM D2321. Bedding and backfill for the road and highway structure shall be placed and compacted uniformly in accordance with ASTM D2321. The road and highway structure body will be cut at the time of the final grade. No brick, stone or concrete block will be required to set the grate to the final grade height. For H-20 load rated installations, a concrete ring will be poured under and around the grate and frame. The concrete slab must be designed taking into consideration local soil conditions, traffic loading, and other applicable design factors. For other installation considerations such as migration of fines, ground water, and soft foundations refer to ASTM D2321 guidelines.

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	DATE 11-13-13	PROJECT NO./NAME		TITLE
	REVISED BY NMH	DATE 03-16-16	SCALE 1:1 SHEET 1 OF 1	2 FT X 2 FT & 2 FT X 3 FT ROAD & HIGHWAY STRUCTURE SPECIFICATIONS
	DWG SIZE A	DWG NO. 7001-110-077	REV F	