

CASE STUDY

1st Street Improvements Utilize Open Throat Catch Basins

Aurora, NE

OWNER

City of Aurora, NE

ENGINEER

JEO Consulting Group, Inc., Grand Island, NE

CONTRACTOR

Mid Nebraska Land Developers, Aurora, NE

INSTALLATION DATE

August 2024-November 2025

PRODUCTS

1,300' (396 m) of 12" (300 mm) HP Storm
780' (238 m) of 18" (450 mm) HP Storm
360' (110 m) of 24" (600 mm) HP Storm
1,440' (439 m) of 30" (750 mm) HP Storm
460' (140 m) of 36" (900 mm) HP Storm
33 18" (450 mm) Nyloplast® Basins
1 24" (600 mm) Nyloplast Basin

CHALLENGE

The City of Aurora prioritized improvements to 1st Street due to significant pavement deterioration. The existing asphalt roadway was 22' (6.7 m) wide, while the reconstructed concrete street is 37' (11.3 m) wide and includes curb and gutter. The roadway profile was lowered by more than 2' (0.6 m) so adjacent properties could drain toward the roadway and improve overall drainage. The additional width will enhance traffic flow and increase safety along the 1st Street corridor.

SOLUTION

In order to improve the drainage and due to some complexities of a close watermain, JEO Consulting chose to specify Nyloplast because of the watertight joints, impermeability and ease of installation for the open throat inlets. It is the first large-scale installation of Nyloplast for an open throat application in Nebraska.



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ADS

A total of 34 Nyloplast basins were installed, including 33 18" (450 mm) basins and one 24" (600 mm) basin. The basins captured the stormwater and then it was conveyed by HP Storm pipe in diameters from 12"-36" (300-900 mm). Mid Nebraska Land Developers and JEO Consulting were familiar with Nyloplast products. Each had used Nyloplast in different aspects and liked the idea of utilizing the open throat basins, which was a new concept. ADS held a pre-construction meeting with the City of Aurora, JEO Consulting and Mid-Nebraska Land Developers to ensure everyone was in agreement on the basins' use and installation.

To convey the water away from the basins into the municipality's storm sewer system HP Storm was utilized. Over 4,300' (1,310 m) of the polypropylene pipe was used as laterals and part of the storm sewer main line.

PRODUCT DESCRIPTIONS

Nyloplast drain basins are custom built for each project. Nyloplast products are more durable and corrosion resistant than precast basins and combine a rugged PVC structure with ductile iron grates. The basins can be easily adjusted in the field to meet the final grade. The structures are shipped with rubber gaskets to ensure a watertight connection.

HP Storm polypropylene pipe provides superior pipe stiffness, longer bells and spigots and a premium joint performance for a longer service life. The smooth interior wall offers additional strength and high flow capacity. HP Storm pipe, available in diameters from 12"-60" (300-1500 mm) meets or exceeds the standards specified in ASTM F2881 and AASHTO M330 and the extended bell and spigot meets ASTM D3212. Polypropylene is resistant to the effects of chemicals, abrasion, hot soils and effluent.



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