

## CASE STUDY

# HP Storm, N-12<sup>®</sup> Deliver on Time for New Barstow Bridge

## Barstow, CA

### OWNER

San Bernardino County Transportation Authority (SBCTA), CA

### ENGINEER

City of Barstow, CA

### CONTRACTOR

Skanska, Riverside, CA

### INSTALLATION DATE

February 2023

### PRODUCTS

1,460' (445 m) of 18"-30" (450-750 mm) HP Storm  
400' (122 m) of 18" (450 mm) N-12<sup>®</sup> Dual Wall Pipe

### CHALLENGE

Built around 1930, Barstow's North First Avenue Bridge, which spanned the BNSF Rail Yard, had become structurally deficient and no longer met modern transportation needs. In response, the City of Barstow, leveraging a combination of federal, state, and local funding, constructed a new two-lane bridge designed to span 11 BNSF rail lines, along with new approach roadways to improve traffic flow.

### SOLUTION

Originally, reinforced concrete pipe (RCP) was specified for both bridge and roadway drainage. However, Skanska, the project's contractor, proposed switching to thermoplastic drainage solutions from Advanced Drainage Systems to reduce both material and installation costs. Because HP Storm polypropylene pipe and N-12 Dual Wall Pipe, manufactured from high-density polyethylene, were already approved by the City of Barstow, the substitution was accepted for the project.



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Although ADS was not provided site plans, the HP Storm and N-12 pipes were delivered on schedule, whereas the RCP could not be guaranteed to arrive on time due to material shortages. The lightweight nature of the thermoplastic pipes proved critical, enabling crews to install the system more quickly, work more efficiently, and improve overall jobsite safety.

### PRODUCT DESCRIPTIONS

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.

N-12 dual wall pipe has a corrugated exterior and smooth interior wall that provide exceptional strength and hydraulics. The inert HDPE material is resistant to the effects of chemicals, abrasions and hot soils. N-12 is available in 4"-60" (100-1500 mm) diameters and in 20' (6 m) lengths. The inline bell design allows for pipe ends to be pushed together for easy installation. N-12 ASTM pipe meets the requirements of ASTM F2648, while the fittings conform to ASTM F2306.



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