

## CASE STUDY

# Groundwater Recharge of the San Bernardino Basin Area Highland, CA

### PROJECT LEAD

San Bernardino Valley Municipal Water District  
Western Municipal Water District  
Riverside Public Utilities  
San Bernardino Valley Water Conservation District

### ENGINEER

Scheevel Engineering, Anaheim, CA

### CONTRACTOR

Bogh Engineering, Beaumont, CA

### INSTALLATION DATE

2023-2025

### PRODUCTS

5,080' (1,548 m) of 48" (1,200 mm) HP Storm  
100' (30 m) of 24" (600 mm) HP Storm  
100' (30 m) of 8" (200 mm) N-12® AASHTO

## CHALLENGE

When it rains it pours in California, so capturing stormwater during wet years makes it available for people during droughts. The San Bernardino Valley region recently invested in transforming a 600-acre site into 20 recharge basins to replenish the groundwater basin.

The Santa Ana River Enhanced Recharge Phase 1-B Project, completed in 2025, can recharge up to 26 billion gallons a year of stormwater to benefit 2 million people in the region. Located along the Santa Ana River the series of basins captures stormwater that flows through the Seven Oaks Dam.

## SOLUTION

To transfer water from one basin to the next, a series of channels and a pipe system were put into place. The basins will connect so as one basin fills, water flows into the next bed. Originally, reinforced concrete pipe (RCP) was specified for the project, but Advanced Drainage Systems proposed HP Storm, a polypropylene pipe, as an alternative.



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ADS was able to showcase HP Storm to the San Bernardino Valley Municipal Water District and showed the cost savings it could provide due to installation efficiencies (lightweight and easier to handle), impact resistance and no broken bells and waste.

Due to the site conditions being very rocky and uneven, HP Storm provided many benefits to the contractor as well. HP Storm is safer to handle and transport than RCP as it is much lighter in weight. HP Storm also comes with a watertight joint (in this case dual gaskets) to greatly reduce the chance of leakage.

ADS was able to produce engineering drawings to fit the project's needs. In addition, short sticks of HP Storm were made to fit the length needed in every aspect to prevent the need to field cut the pipe. Custom bends were manufactured to meet the ground contour for easy installation.

The project included over 5,000' (1,524 m) of 24" (600 mm) and 48" (1,200 mm) HP Storm and 100' (30 m) of 8" (200 mm) N-12 pipe.

## 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 meets or exceeds the standards specified in ASTM F2881 and AASHTO M330 and the extended bell and spigot meets ASTM D3212. Polypropylene is an inert material and is resistant to the effects of chemicals, abrasion, hot soils and effluent. The lightweight product is easy to deliver and is readily available in convenient locations across North America to service local projects.

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.



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