

DUDLEY CHARLESTOWN WASTEWATER PROJECT

OIL/GAS | SEWER | STORMWATER | POWER | WATER | TELCO

LOCATION	Elizabeth Street, Carrington NSW
CLIENT	Hunter Water
PIPE	500mm SDR 11 polyethylene
GEOLOGY	Sandstone, clay, coal and conglomerate
LENGTH	510 metres
TECHNIQUE	HDD



PROJECT OVERVIEW

The Dudley Charlestown Wastewater system transports wastewater from the Dudley Charlestown catchment to the Burwood Beach Treatment Works. The existing system includes the Kahibah pump station, which pumps flow over the hills in the Glenrock State Recreation Area and discharges into a gravity carrier that flows to Burwood Beach Treatment Works.

DESIGN

The new sewer has enabled the removal of the Kahibah 1 pump station and reduced the wet weather overflow impacts on the environment. The bore was difficult due to site constraints of the state recreation area, limited access to the exit pit and bore line and exacting grade tolerances of -2% with no zero or positive grade allowable. Grade complexity was further compounded by the varying geology comprising of conglomerate sandstone, siltstone, mudstone and a fractured 2.5 metre thick un-worked coal seam intersecting the bore path for 65 metres.

CONSTRUCTION

Once physical constraints were determined, works began to secure approval from the National Parks and Wildlife Service to allow for land clearing for the rig setup and excavation of the 4 metre square x 5 metre deep exit pit. Site preparation works began with the clearing of bushland to allow UEA's maxi rig spread to be mobilised. Detailed survey works were undertaken to enable accurate tracking of the bore using the Vector Magnetics steering tool.

Due to the fractured coal seam and concerns over fluid loss the team back reamed the bore straight to size. PDC reamers enabled steady progression through the varying ground conditions, and a clear distinction between ground conditions was evident when pure black coal chips came off of the shaker screens. Once the bore hole was complete, conditioned pipe installation began. Due to the limited access to the exit pit, close proximity to Flagg Creek and being within a popular National Park, pipe installation was undertaken in a weld and push operation.