MILTON BURN FLOOD PREVENTION SCHEME, DUNOON

This project was the 2nd phase of the overall Milton Burn flood prevention scheme in the Argyllshire town of Dunoon and provided an overflow culvert from the burn to alleviate the flooding risk to the surrounding residential area which also included the town’s main supermarket.

The main elements of work included the installation of 133m of 1.4m diameter overflow culvert, 130m of new pipelines ranging in diameter from 300mm to 525mm installed at depths over 4m and which included 7 new deep manholes and a reinforced concrete outfall structure. Replacement kerbing and surfacing reinstatement completed the works.

With a high ground water table and running sand, the work was undertaken in very poor ground conditions which necessitated extensive piled excavation support and dewatering throughout the course of the construction works. Due to the close proximity of both residential & commercial properties to the deep excavations, 'dig & push' methodology was adopted for installing the trench support piling to reduce vibration levels with continuous vibration monitoring carried out. Monitoring of existing cracks was also carried out and a 40m stretch of the replacement sewer closest to a property in particularly poor structural condition was installed by the less intrusive directional drilling technique.

As might be expected in such a built-up area, extensive existing services were encountered and in the worst locations, excavations were undertaken by vacuum suction tanker to mitigate the risk of service strikes.

Construction of the concrete outfall works required to be carried out between tides.

KEY FEATURES
- Dig & Push piling installation
- Tidal working
- Directional drilling installation
- Vacuum suction tanker excavation
- Protection of existing services

CLIENT: Argyll & Bute Council
ENGINEER / DESIGNER: Argyll & Bute Council
CONDITIONS OF CONTRACT: ICE 5th Edition
DURATION OF WORKS: June 2011 – Feb 2012 (37 weeks)
CONTRACT VALUE: £785,000