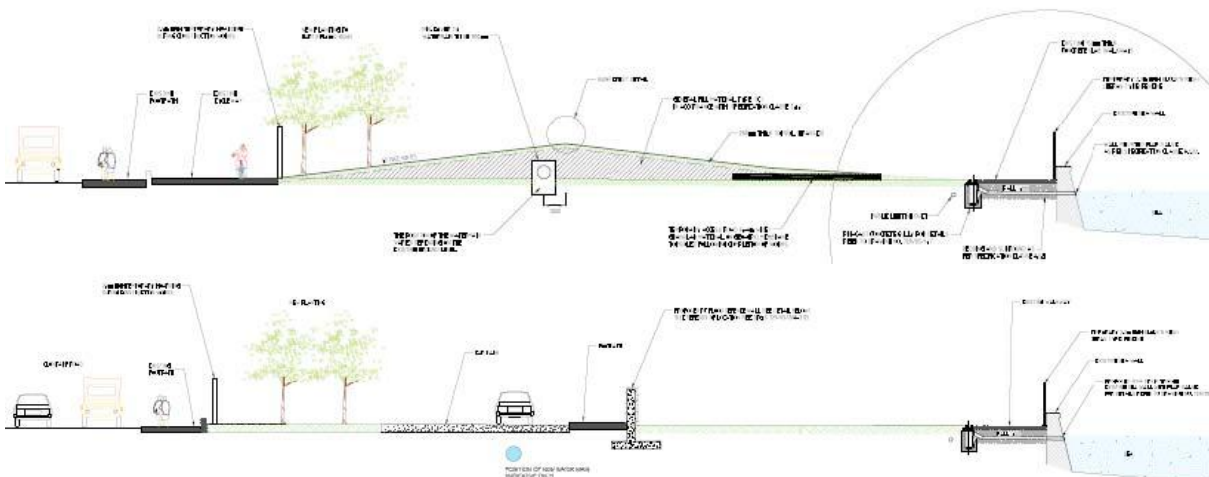
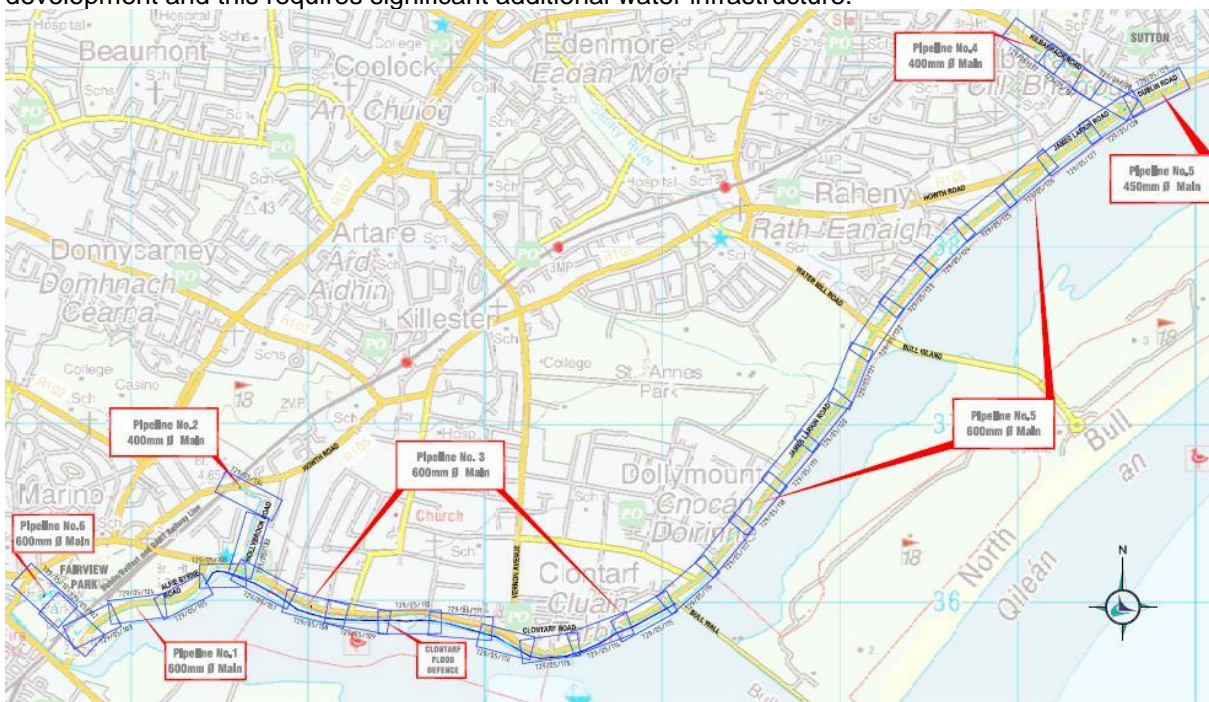


# North Fringe Water Supply Scheme



## Background

The North and North-Eastern areas of Dublin, together with South Fingal, Baldoyle, Sutton and Howth, had experienced a declining water service for many years. In addition, there has been a significant increase in development and this requires significant additional water infrastructure.



The North Fringe Water Supply Scheme involves the construction of 36km of watermains from Cappagh Cross to Baldoyle and a major ground level reservoir and high-level water tower at Sillogue. The scheme will also create a new trunk 'Ring Main' connecting the network from different sources. This scheme will improve the water supply and water pressure in the North City and South Fingal areas.

Construction of the North Fringe Water Supply Scheme commenced in 2004.

The North Fringe Water Supply Scheme is estimated to cost in the region of €55 million and is funded by the National Development Plan, Dublin City Council and Fingal County Council.

### **Infrastructure**

Infrastructure to be delivered under the North Fringe Water Supply Scheme includes:

- Contract 3** Pipeline from Cappagh Cross to Santry Demesne, including connection to city network Mobhi Road.
- Contract 5** North City Arterial Watermain, Pipeline from Baldoyle to Fairview.
- Contract 6** Water tower, pumping station and ground level reservoir at Sillogue, adjacent to the M50.
- Contract 7** Pipeline from Santry Demesne to Baldoyle.

Overview of the North Fringe Water Supply Scheme

### **Contract 3**

Pipeline from Cappagh Cross to Santry Demesne, including connection to city network Mobhi Road.

Construction commenced in 2004 and was completed in 2006.

The Cappagh Cross to Santry Demesne pipeline ranges in diameter from 450mm to 800mm.

Consultant:  
McCarthy Hyder Consulting Engineers

Contractor:  
Coffey Construction Ltd.

Contact:  
Adrian Conway  
Senior Engineer  
Project Management Office  
Ph. 01 222 2410  
[adrian.conway@dublincity.ie](mailto:adrian.conway@dublincity.ie)

### **Contract 5**

North City Arterial Watermain, Pipeline from Baldoyle to Fairview.

The North City Arterial Watermain is routed through Fairview Park, along Alfie Byrne Road, Clontarf Promenade, Clontarf Road, James Larkin Road, and Howth Road. Spur mains will be constructed along Hollybrook Road and Hollybrook Park between Howth Road and Clontarf Promenade and along Kilbarrack Road between Alden Road and Howth Road. The total length is circa 9.7km.

The Clontarf Flood Defence project comprises a series of flood bunds and walls along Clontarf Promenade between Alfie Byrne Road and the Bull Wall to protect nearby roads and properties from coastal flooding. The total length is circa 3km. Due to the synergies and common location of the North City Arterial Watermain and the Clontarf Flood Defences it was decided to combine the two projects.

Planning approval, subject to conditions, was received on 25<sup>th</sup> July 2008. Design of the combined North City Arterial Watermain and Clontarf Flood Defence project is now complete and the contractor procurement process is underway. It is anticipated that construction will commence in spring 2010 and be completed in 2012.

The North City Arterial Watermain is 600mm in diameter with the spur mains being 400mm to 450mm in diameter.

Overview of the North City Arterial Watermain

## Typical Cross Section of Clontarf Flood Defence Bund

## Typical Cross Section of Clontarf Flood Defence Wall

Consultant:  
McCarthy Hyder Consulting Engineers

Contractor:  
Not yet appointed.

### **Contract 6**

Water tower, pumping station and ground level reservoir at Sillogue, adjacent to the M50.

The facility has three main components:

- 30,000 cubic metre low-level reinforced concrete reservoir
- High lift pumping station
- 5,000 cubic metre reinforced concrete elevated water tower

Other elements include an emergency overflow and surface water attenuation lagoon, access roads and on site pipe work and chambers.

The low level reservoir acts as site storage and as a pump sump for the installation. It consists of two independent 15,000 cubic metre compartments. Each compartment is of rectangular shape with plan dimensions of approximately 65 x 45 x 5.2m depth. The two reservoir compartments are at the same level and approximately 60% of the structure is built above natural ground level.

The high lift pumping station is a reinforced concrete structure situated at the front of the low-level storage reservoir. The station consists of a below ground pump well and an above ground office, storeroom, MCC room, ESB room, standby generator room, chlorine monitoring room and WC facilities. The pumping well houses four high-lift pumps that pump water to the elevated water tower. A standby generator is provided inside the facility to ensure a reliable supply of water even during periods of power outages.

The elevated water tower provides the necessary hydraulic level necessary to supply water to its distribution area. It is approximately 39m high with a capacity of 5,000 cubic metres and is constructed from reinforced concrete. All inlet and outlet pipe work is internal to the tower. The high lift pumps operate on network demand as detected by falling and rising levels in the water tower.

Construction commenced in August 2005 and was completed in 2007.

## Sillogue Water Tower and Pumping Station

Consultant:  
McCarthy Hyder Consulting Engineers

Contractor:  
Civil – John Craddock Ltd.  
M&E – Earth Tech Ireland Ltd

### **Contract 7**

Pipeline from Santry Demesne to Baldoyle.

Construction commenced in 2004 and was completed in 2006.

The Santry Demesne to Baldoyle pipeline ranges in diameter from 200mm to 600mm.

Consultant:  
McCarthy Hyder Consulting Engineers

Contractor:

Ward & Burke Construction Ltd.

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