

Preliminary Engineering Assessment Report

Proposed Part 8 Residential Development Site at Beechgrove,
Rathangan, Co. Kildare

03/07/2017

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Preliminary Engineering Assessment Report

Project Number: 16-124r.001

Document Reference: 16-124

Client Name: Kildare County Council.
Document Reference: 16-124r.001
Project Number: 16-124

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with Waterman Group’s IMS (BS EN ISO 9001: 2008, BS EN ISO 14001: 2004 and BS OHSAS 18001:2007)

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Comments

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- 16-124-P-001 Site Location**
- 16-124-P-002 Proposed Watermain and Road Layout**
- 16-124-P-003 Proposed Drainage Layout**
- 16-124-P-004 Auto-track Layout**

1. Introduction

1.1 Site Location

The proposed Part 8 residential development is located adjacent The Meadows, south of the Kildare Road (R401), in Beechgrove, Rathangan, Co. Kildare. The site is bounded by existing residential developments to the north and east, and by greenfield lands to the south and west. The exact site location is shown on Waterman Moylan Drawing No. 16-124-P001 attached in Appendix A.

1.2 Site Description

The site area is approximately 2.13 hectares. The lands are presently not in use and are generally flat with a gentle slope from south to north. The site is accessed from The Meadows residential development which is south of Kildare Road (R401). There is some partly constructed roads and services traversing the site. The subject site is zoned as "C New Residential" in the Rathangan Small Town Plan within the Kildare County Development Plan 2017-2023 Volume 2.

1.3 Background of Report and Summary

This report investigates the availability of existing engineering infrastructure that would be required to facilitate a medium density residential development on the subject site. It details the options available for the disposal of storm water, disposal of foul water, water supply and road access from the developed site.

2. Surface Water Drainage

2.1 General

There are existing surface water sewers at the southern boundary of the subject site which drain the adjacent road and residential units. These drain to the existing 225 mm diameter surface water sewer network at The Meadows. The surface water ultimately drains to the 300 mm sewer on Kildare Road which outfalls to the Grand Canal, north west of the subject site.

Additional 225 to 300 mm diameter surface water sewers will be installed as part of the proposed development.

The quantity of surface water discharged from the proposed development to the existing system will be restricted to the equivalent of agricultural runoff, 2.36 l/s/Ha, based on the recommendations of the Greater Dublin Strategic Drainage Study. This flow restriction is achieved by means of a Hydro-brake, installed at the outfall manhole of the development. Excess surface water will be stored in an underground 240 m³ Stormtech attenuation system. The attenuation system has been conservatively designed on the basis of no infiltration. The design of the attenuation system will be updated to accommodate groundwater recharge if the requested site investigation reveals suitable percolation is present in the soil.

It is proposed to construct the private driveways of the residential units with permeable pavement to encourage the infiltration of surface water runoff. Roof runoff will drain via a down pipe into the permeable pavement allowing additional filtration. Each residential unit has been designed with individual surface water collector drains in the back garden.

Waterman Moylan Drawing No's 16-124-P003 in Appendix A shows the surface water network for the subject site.

3. Foul Water Drainage

3.1 General

There are existing 150 mm diameter foul sewer pipes on to the subject site to cater for the adjacent residential units. These pipes drain via gravity to the local foul sewer network in The Meadows, which outfalls to the existing 150 mm sewer on Kildare Road to the north of the subject site.

Additional 150 mm diameter surface water sewers will be installed to service the additional residential units as part of the proposed development.

Waterman Moylan Drawing No's 16-124-P003 in Appendix A show the foul sewer network within the subject site.

4. Water Supply

4.1 Water Supply – General

There is an existing 100 mm diameter watermain on to the subject site to cater for the adjacent residential units.

Additional 100 mm diameter watermain will be installed as required to service the additional residential units as part of the proposed development.

Waterman Moylan Drawing No. 16-124-P002 in Appendix A shows the watermain layout within the subject site.

5. Transport

5.1 Site Access

It is proposed to have access via the existing road within The Meadows residential development, which is accessed off the Kildare Road (R401).

Waterman Moylan Drawing No. 16-124-P004 in Appendix A shows the auto track layout for a refuse vehicle within the subject site.

Appendices

A. Drawings

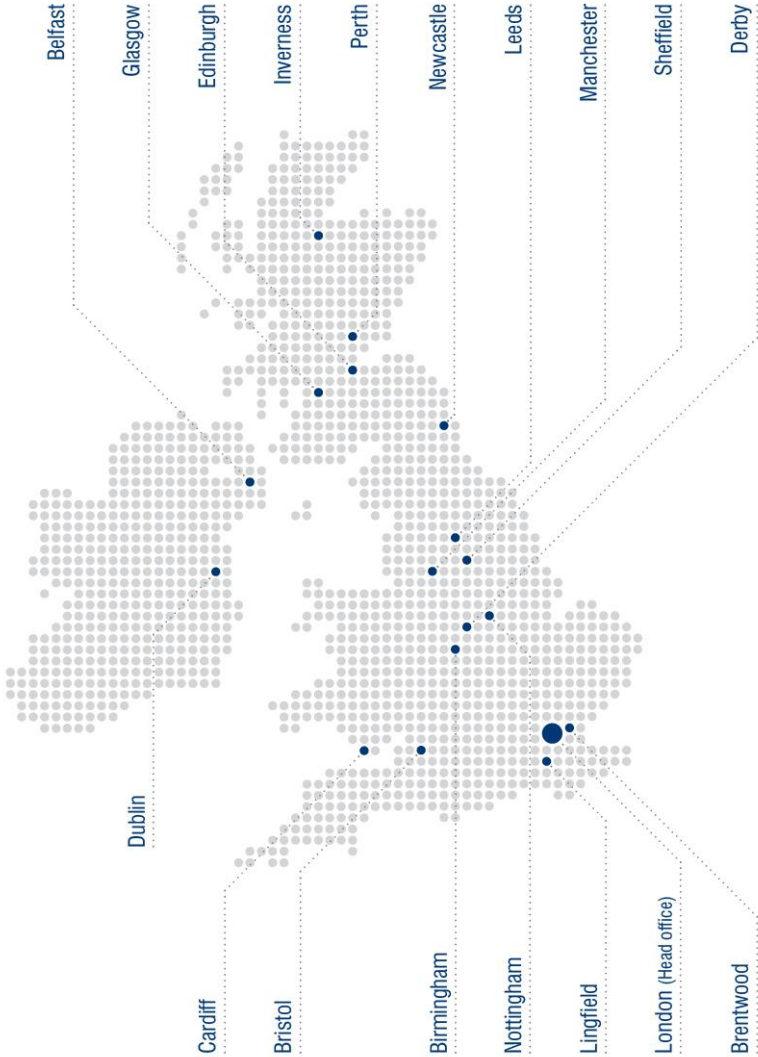
16-124-P-001 Site Location

16-124-P-002 Existing and Proposed Services

16-124-P-003 Proposed Drainage Layout

16-124-P-004 Auto-track Layout

UK and Ireland Office Locations



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