



Civil Engineering Design Statement

Project:

Kilwoghan Woods,
Crodaun, Celbridge,
Co. Kildare

DOCUMENT CONTROL

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1. INTRODUCTION

1.1 PROPOSED DEVELOPMENT

Barrett Mahony Consulting Engineers (BMCE) have been appointed as Civil and Structural Engineers by Seattle Construction Ltd for this development.

The applicant is proposing an amendment to the previously approved planning application Reg Ref: 25/60988, on lands at Kilwoghan Woods, Maynooth Road, Celbridge, Co. Kildare.

The previous phase 2 grant of permission included 76no. houses, 86no. duplexes, and 76no. apartments, bringing the phase 2 total to 239no. units.

These proposed amendments relate to permitted Duplex Blocks D, E & G as follows:

- Each of these 3 blocks as granted had 2no. 1-bed (2 person) apartments at first and second floors in the central core cluster (12no. 1-bed apartments over the 3 blocks), this has been changed now to a 2no. 3-bed (5 person) duplexes over first and second floors (6no. 3-bed duplexes over the 3 blocks). Reduction of balconies from 6 to 4 per block.
- Changes to the plans of Duplex Blocks D,E, & G resulted in a net reduction from 239no. units to 233no. units.
- The most southern of these blocks (Block G) has been rotated to provide more passive surveillance along the stream view.

Due to the rotation of Block G, the surrounding southern open space and communal open space were modified.

The Temporary Pump Station is now omitted.

1.2 SCOPE OF THIS REPORT

This report describes the proposed changes to the civil engineering infrastructure for the development for the planning amendment. In particular, changes to the Foul and Surface Water Drainage and Water Supply are considered. No changes to the access and road layout are proposed.

This report should be read in conjunction with the drawings listed in Section 1.3. The following reports have not been revised in respect of this planning amendment as the proposed changes do not present significant changes which impact these reports.

- KWW-BMCE-ZZ-ZZ-RP-C-02: Site Specific Flood Risk Assessment
- KWW-BMCE-ZZ-ZZ-RP-C-03: Outline Construction & Environmental Management Plan
- KWW-BMCE-ZZ-ZZ-RP-C-04: Traffic Assessment of Critical 4-Arm Signalised Access Junction

1.3 DRAWINGS SUBMITTED

KWW-BMCE-00-XX-DR-C-13000	Civil General Notes
KWW-BMCE-00-XX-DR-C-13210	Drainage and Watermain Layout Main Plan
KWW-BMCE-00-XX-DR-C-13300	Roads and Surface Layout
KWW-BMCE-00-XX-DR-C-13301	Road and Surface Tile 1 of 2
KWW -BMCE-00-XX-DR-C-13302	Road and Surface Tile 2 of 2
KWW -BMCE-00-XX-DR-C-13305	SuDS Strategy
KWW -BMCE-00-XX-DR-C-13350	Road Width & Radii, Kerb Detail, & Road Signage Drawing
KWW -BMCE-00-XX-DR-C-13600	Visibility Splays and Sightlines
KWW -BMCE-00-XX-DR-C-13610	Visibility Splays and Sightlines – Sheet 1
KWW -BMCE-00-XX-DR-C-13620	Visibility Splays and Sightlines – Sheet 2
KWW -BMCE-00-XX-DR-C-14100	Roads Standard Details – Sheet 1
KWW -BMCE-00-XX-DR-C-14101	Roads Standard Details – Sheet 2
KWW -BMCE-00-XX-DR-C-14110	Footpath Standard Details – Sheet 1
KWW -BMCE-00-XX-DR-C-14111	Footpath Standard Details – Sheet 2
KWW -BMCE-00-XX-DR-C-14310	SuDS Details Permeable Paving and Green Roof
KWW -BMCE-00-XX-DR-C-14320	SuDS Details Bio-Retention, Tree Pits & Hydrobrake

2. ACCESS AND ROAD LAYOUT

BMCE have reviewed the proposed amendments to the permitted LRD scheme and note there are no material alterations to the overall access and roads layouts of significance.

It is highlighted that to facilitate the existence of an ESB cable, duplex unit G was rotated to accommodate the underground cabling. However, it should be noted that although this rotation of duplex unit G has not led to an increase in the overall hardstanding material of the site, it has led to a relocation of a section of surface water attenuation to allow for the new location of the duplex unit previously granted in Reg. Ref. 25/60988. See drawing KWW-BMD-00-XX-DR-C-13300 for updated layout.

3. SURFACE WATER DRAINAGE

To accommodate the rotation of the Duplex Unit G, an amendment to a small section of the surface water attenuation is proposed. It is proposed to move a section of the permitted large attenuation system to the south of the development further north within Phase 2. See drawing KWW-BMCE-00-XX-DR-C-13210 for updated layout.

The overall volume of surface water attenuation within the site will remain the same and no change to the technical approach or attenuation system design is proposed.

4. FOUL DRAINAGE SYSTEM

The proposed amendment includes for a reduction in the number of units from 239no. to 233no. Therefore, there is no increase to the previously agreed foul water discharge volume into the public foul network.

The original planning application included for 467no. residential units and associated ancillary accommodation. The discharge from the site was shown to run to a public foul sewer on Maynooth Road in the public area into pipework taken in charge and under the ownership of Uisce Éireann.

Restrictions were imposed that limited the discharge rate and required it to be controlled to a limited rate, this was noted in the Connection Agreement that imposed a phased approach, excerpt from Connection Agreement CDS2000732301 as follows:

“Irish Water are progressing a wastewater network capital project in this area (Crodaun Sewer Project – the “Upgrade Works”) and the works are currently scheduled for completion in Q3 2024 (this may be subject to change). A temporary throttle pipe arrangement shall be installed for the 192no. residential units to be connected at the site discharge point. The purpose of the throttle, which is proposed to be a 100mm diameter pipe @ 1:80 grade with a maximum discharge capacity of 5.94l/s, is to control the discharge from the development in advance of the Irish Water Upgrade Works.”

Accordingly, a pump station was installed to achieve connection and serve as a practical means to control flow, rather than reduced pipes that would have been susceptible to blockages. This was agreed with Irish Water and installed to meet the full requirements of the Uisce Éireann specification, although only required on a temporary basis. This was to be maintained in place until such time as the Local Infrastructure and Improvement Works were completed.

The first Connection Agreement was for 192no. residential units in accordance with the above and covered Phase 1 A-C, and a subsequent application is in process for Phase 1D for 38no. units as the balance for Phase 1.

The pump has been installed on site and effectively used for the first occupation of Phase 1A only. The infrastructure works have advanced, including the new foul line along Maynooth Road, this line has now been commissioned by Uisce Éireann and through their contractor have provided the site with an upgraded gravity connection that will allow the decommissioning of the pump system and the direct flow by-passing the pump and out by gravity. This infrastructure work removes the condition and limitation previously proposed. The pump is due to be decommissioned in late September / Early October 2026, around the time of the lodgement of this application. The pump station, or any associated reconfiguration, will only be made with the agreement and assistance of Uisce Éireann as the main lines are considered taken in charge and are in the process of being adopted by Uisce Éireann.

The subsequent Phase 2 previously granted permission and now to be amended by this application will involve geometric reconfigurations to units with very minor alterations to drainage, this will connect to the site system and discharge by gravity, in the manner that was intended in the original granted application.

The current proposal is to reconfigure and does not constitute any notable change in flow rates and therefore there are no significant engineering changes associated with this submission.

Phase 2 will be subject to a separate Uisce Éireann Connection Application, utilising the now installed connection pipework, this connection application will be made in the normal manner post planning stage. Given that planning is already in place for a larger number of units a Pre-Connection Application is not appropriate.

4.1.1 Relevant Standards

The foul drainage network for the proposed development has been designed in accordance with the following guidelines:

- Uisce Éireann Code of Practice for Wastewater Infrastructure
- Department of the Environment's Recommendations for Site Development Works for Housing Areas
- Department of the Environment's Building Regulations "Technical Guidance Document Part H- Drainage and Waste -Water Disposal"
- BS EN 752: 2008 Drain and Sewer Systems Outside Buildings
- IS EN 12056: Part 2 (2000) Gravity Drainage Systems Inside Buildings

5. WATER SUPPLY

BMCE have reviewed the proposed amendments to the permitted LRD scheme and note there are no material alterations to the overall watermain layout of significance from the previously granted scheme Reg. Ref. 25/60988.

6. DMURS DESIGN STATEMENT

BMCE have reviewed the proposed amendments to the permitted LRD scheme and note there are no material alterations to the overall access and roads layouts of significance. This means that the DMURS design statement included within the previous planning application, Reg. Ref. 25/60988, remains valid for this application.

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