# APPENDIX F
# SUDS MANAGEMENT PLAN

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# PROPOSED RESIDENTIAL DEVELOPMENT AT LONG MILE ROAD, DUBLIN 12, CO. DUBLIN

## SuDS Management Plan

March 2025

ROD
ROUGHAN & O'DONOVAN

# Proposed Residential Development at Long Mile Road, Dublin 12, Co. Dublin

## SuDS Management Plan

**Made:** ..... Ciaran McGee (CMG)

**Checked:**..... Eoin Ó Catháin (EOC)

**Approved:**..... Eoin Ó Catháin (EOC)

| Revision | Description | Made | Checked | Approved | Date |
|---|---|---|---|---|---|
| P01 | Issued for Planning | CMG | EOC | EOC | 13/03/2025 |

# Proposed Residential Development at Long Mile Road, Dublin 12, Co. Dublin

## SuDS Management Plan

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# 1. INTRODUCTION

This document provides an overview of the SuDS development proposals and associated operation and maintenance requirements for a proposed residential development at Long Mile Road, Dublin 12.

The development will comprise a Large-Scale Residential Development (LRD) on a site at Parkmore Industrial Estate, Long Mile Rd, Robinhood, Dublin, 12. The proposed development will comprise the demolition of existing industrial units, and construction of a mixed use, residential-led development within 4 no. blocks ranging in height from 06 to 10 storeys over semi-basement. The development will comprise the following: 436 no. apartments (studios; 1 beds; 2 beds and 3 beds) with commercial/employment units, creche, café and library. Provision of car, cycle and motorbike parking. Vehicular accesses from Parkmore Estate Road and additional pedestrian/cyclist accesses from the Long Mile Road and Robinhood Road. Upgrade works to the estate road and surrounding road network. All associated site development works and services provision, open spaces, ESB substations, plant areas, waste management areas, landscaping and boundary treatments.

# 2. PROPOSED SUDS MEASURES

Sustainable Drainage Systems (SuDS) are approaches to manage surface water runoff from development that take account of water quantity (flooding), water quality (pollution), biodiversity (wildlife and plants) and amenity. SuDS mimic nature and typically manage rainfall close to where it falls. SuDS are designed to transport (convey) surface water, slow runoff down (attenuate) before it enters watercourses, they provide areas to store water in natural contours and can be used to allow water to soak (infiltrate) into the ground or evaporated from surface water and lost or transpired from vegetation (known as evapotranspiration).

As part of the development, a number of different SuDS measures are proposed to minimise the impact on water quality and water quantity of the runoff and maximise the amenity and biodiversity opportunities within the site. The proposed SuDS measures will include Source Control measures as part of a Management Train whereby the surface water is managed locally in small sub-catchments rather than being conveyed to and managed in large systems further down the catchment. The combination of the SuDS measures listed below will maximise the potential for surface water attenuation and treatment, reducing the impact on the existing surface water drainage network downstream. The proposed techniques will offer high level of treatment processes and nutrient removal of the runoff, particularly during the ‘first flush’. Finally, the various measures will offer significant amenity and biodiversity opportunities compared to other drainage systems. The SuDS measures have been designed to consider the effects of climate change, to ensure that they are adaptable to future climate conditions.

The following SuDS measures are to be incorporated as part of the development:

- Blue/green roof systems to all building blocks and areas above basements
- Rain Gardens to manage runoff from the central pathway through the site
- Vegetated swales
- Flow control devices to limit discharge

# 3. OPERATION AND MAINTENANCE PLAN

The SuDS operation and maintenance plan outlined below should be read in conjunction with the SuDS Layout Plan in Appendix A. All recommended operations are to be carried out as required/ needed.

**Table 3.1 SuDS Operation and Maintenance Requirements: Blue / Green Roof**

| Maintenance Schedule | Operation Maintenance Activities | Frequency |
|---|---|---|
| Regular Inspections | Inspection of all components including soil substrate, vegetation, drains, membranes and roof structure for proper operation, integrity of waterproofing and structural stability | Annually and after severe storms |
| | Inspect soil substrate for evidence of erosion channels and identify any sediment sources | Annually and after severe storms |
| | Inspect drain inlets to ensure unrestricted runoff from the drainage layer to the conveyance or roof drain system | Annually and after severe storms |
| | Inspect underside of roof for evidence of leakage | Annually and after severe storms |
| | Inspect all outlets / overflows, checking the flow restrictor has not been tampered with, damaged or removed. | Annually and after severe storms |
| | Ensure there is no openings that might allow leaves and debris into the blue roof system | Annually and after severe storms |
| Regular Maintenance | Remove debris and litter to prevent clogging of inlet / outlet / overflow drains and interference with plant growth | Six monthly and annually or as required |
| | During establishment (ie year one), replace dead plants as required | Monthly |
| | Post establishment, replace dead plants as required (where > 5% of coverage) | Annually (in autumn) |
| | Remove fallen leaves and debris from deciduous plant foliage | Six monthly or as required |
| | Remove nuisance and invasive vegetation, including weeds | Six monthly or as required |
| | Mow grasses, prune shrubs and manage other planting (if appropriate) as required – clippings should be removed and not allowed to accumulate | Six monthly or as required |
| Remedial Actions | If erosion channels are evident, these should be stabilised with extra soil substrate similar to the original material, and sources of erosion damage should be identified and controlled | As Required |
| | If drain inlet / outlet / overflow has settled, cracked or moved, investigate and repair as appropriate | As Required |

**Table 3.2 SuDS Operation and Maintenance Requirements: Rain Gardens**

| Maintenance Schedule | Operation Maintenance Activities | Frequency |
|---|---|---|
| Regular Inspections | Inspect infiltration surfaces for silting and ponding, record de-watering time of the facility and assess standing water levels in underdrain (if appropriate) to determine if maintenance is necessary | Quarterly |
| | Check operation of underdrains by inspection of flows after rain | Annually |
| | Assess plants for disease infection, poor growth, invasive species etc and replace as necessary | Quarterly |
| | Inspect inlets and outlets for blockage | Quarterly |
| Regular Maintenance | Remove litter and surface debris and weeds | Quarterly (or more frequently for tidiness or aesthetic reasons) |
| | Replace any plants, to maintain planting density | As required |
| | Remove sediment, litter and debris build-up from around inlets or from forebays | Quarterly to biannually |
| Occasional Maintenance | Infill any holes or scour in the filter medium, improve erosion protection if required | As required |
| | Repair minor accumulations of silt by raking away surface mulch, scarifying surface of medium and replacing mulch | As required |
| Remedial Actions | Remove and replace filter medium and vegetation above | As required but likely to be > 20 years |

**Table 3.3 SuDS Operation and Maintenance Requirements: Vegetated Swales**

| Maintenance Schedule | Operation Maintenance Activities | Frequency |
|---|---|---|
| Regular Maintenance | Remove litter and debris | Monthly or as required |
| | Cut grass – to retain grass height within specified design range | Monthly (during growing season), or as required |
| | Manage other vegetation and remove nuisance plants | Monthly at start, then as required |
| | Inspect inlets, outlets and overflows for blockages, and clear if required | Monthly |
| | Inspect infiltration surfaces for ponding, compaction, silt accumulation, record areas where water is ponding for > 48 hours | Monthly, or when required |
| | Inspect vegetation coverage | Monthly for 6 months, quarterly for 2 years, then half yearly |
| | Inspect inlets and facility surface for silt accumulation, establish appropriate silt removal frequencies | Half yearly |
| Occasional Maintenance | Reseed areas of poor vegetation growth, alter plant types to better suit conditions, if required | As required or if bare soil is exposed over 10% or more of the swale treatment area |
| Remedial Actions | Repair erosion or other damage by re-turfing or reseeding | As required |
| | Relevel uneven surfaces and reinstate design levels | As required |
| | Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface | As required |
| | Remove build-up of sediment on upstream gravel trench, flow spreader or at top of filter strip | As required |
| | Remove and dispose of oils or petrol residues using safe standard practices | As required |

**Table 3.4 SuDS Operation and Maintenance Requirements: Surface Water Drainage General**

| Maintenance Schedule | Operation Maintenance Activities | Frequency |
|---|---|---|
| Blockages | Inspect inlets, outlets and overflows for evidence of blockages and clear if required. | Monthly or as required |
| Inlet & Outlets | Inspect inlet / outlet structures and pipes for evidence of physical damage. | Monthly |
| Blockages / Structural Damage | Inspect SuDS surfaces, inlet/outlet pipework and control systems for blockages, clogging, standing water and structural damage. | Monthly |
| Tree Roots | Remove or control tree roots where they are encroaching the sides of the drainage pipe network, using recommended methods (e.g., NJUG, 2007 or BS 3998:2010). | As required |

# 4. WASTE MANAGEMENT

Waste obtained from undertaking the operation and maintenance procedures as outlined in Section 3 of this SuDS Management Plan may include; sediment, litter, green waste (vegetation) and other structural materials. All waste materials arising from operation, maintenance and remedial activities shall be classified as “controlled wastes” and their removal and disposal shall be in accordance with the latest waste management legislations and guidance and the protocols outlined in the CIRIA SuDS Manual C753 Chapters 32 and 33.

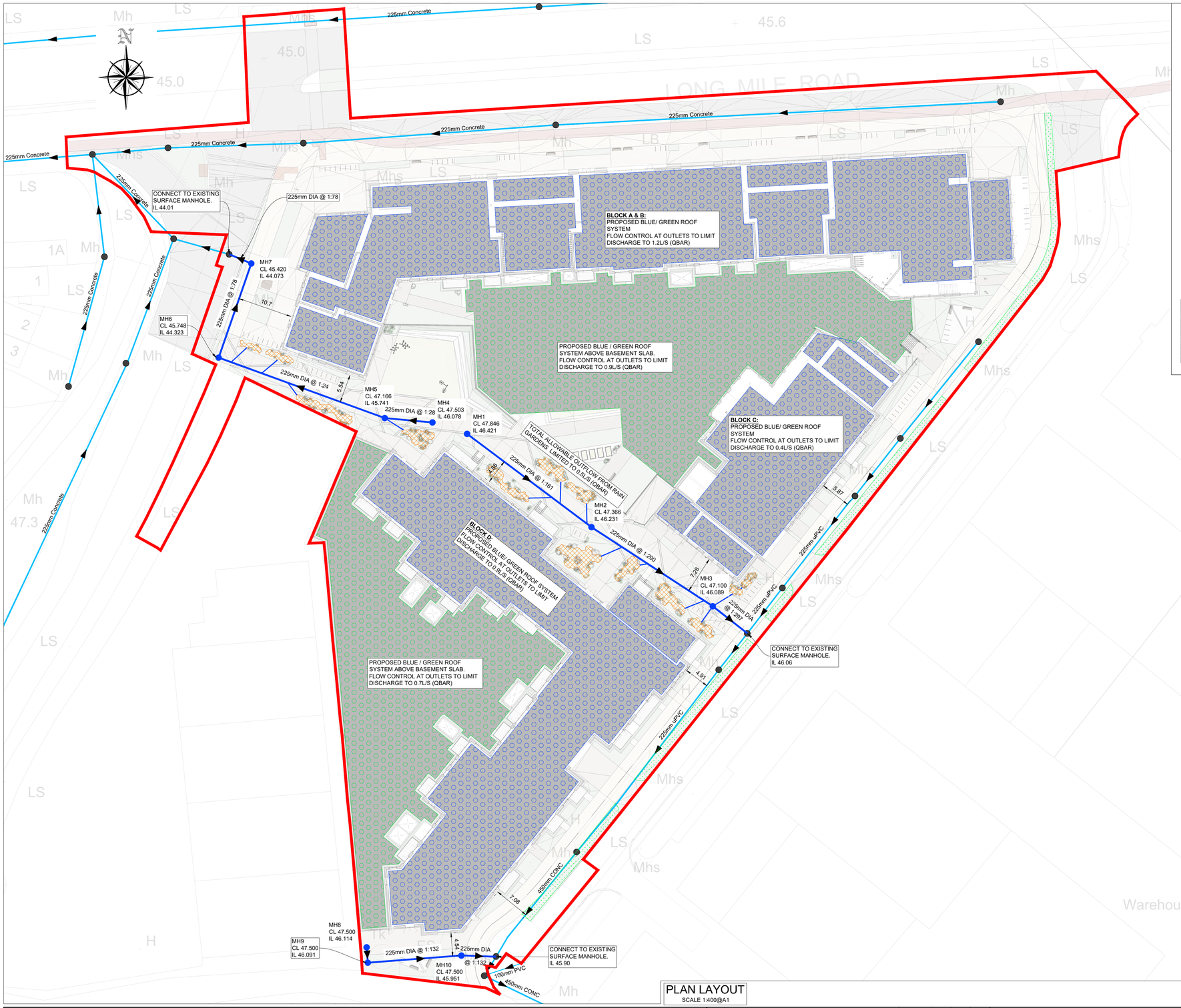
# 5. PRICING SCHEDULE FOR MAINTENANCE CONTRACTOR

As per the guidance set out in the South Dublin Sustainable Drainage Explanatory Design & Evaluation Guide 2022, a pricing schedule has been developed that can be adapted for the future maintenance operation of the proposed SuDS Measures. A typical pricing schedule is outlined below in Table 5.1.

**Table 5.1 Typical SuDS Maintenance Pricing Schedule**

| **SuDS Maintenance Pricing Schedule Residential Development Long Mile Road, Dublin 12** | | | | |
|---|---|---|---|---|
| **Maintenance Period:** | | | | |
| **Item Ref** | **Item Description** | **Unit** | **Quantity** | **Amount €** |
| 1 | SuDS Maintenance Requirements – Blue / Green Roof Requirements as set out in Table 1 and the SuDS Layout Plan | item | - | |
| 2 | SuDS Maintenance Requirements – Raid Garden Requirements as set out in Table 2 and the SuDS Layout Plan | item | - | |
| 3 | SuDS Maintenance Requirements – Vegetated Swale Requirements as set out in Table 3 and the SuDS Layout Plan | item | - | |
| 4 | SuDS Maintenance Requirements – Surface Water Drainage General Requirements as set out in Table 4 and the SuDS Layout Plan | item | - | |
| 5 | Waste Management as a result of Completion of Items 1 to 4 above and in accordance with Section 4 of the SuDS Management Plan | item | - | |
| | | | | |
| | **Total Amount (exclusive of VAT)** | | | **€** |
| | | | | |
| **Signature:**<br><br>**Contractors Name and Address:**<br><br>**Date:** | | | | |

# APPENDIX A
# SUDS LAYOUT PLAN




## LEGEND:

- Redline Boundary
- Proposed Blue / Green Roof (Building Blocks) - 250mm Thick Water Storage Layer
- Proposed Blue / Green Roof (Above Basements) - 250mm Thick Water Storage Layer
- Proposed Rain Garden with Flow Control Outlet - Refer to Landscape Architects Drawings for Further Details
- Proposed Roadside Surface Water Conveyance Swale - Refer to Landscape Architects Drawings for Further Details
- Proposed Surface Water Carrier Pipe
- Existing Surface Water Carrier Pipe
- Proposed Surface Water Manhole
- Existing Surface Water Manhole
- Proposed Surface Water Fin Drain

## NOTES:

1. This drawing is to be read in conjunction with the Engineering Services Report.
2. All drainage to be constructed in accordance with the Greater Dublin Regional Code of Practice for Drainage Works and Local Authority Requirements.
3. Building block connections (omitted for clarity) shall comprise 150mm dia. (min) pipes discharging to the adjacent Surface Water Sewer.
4. Surface water attenuation and SuDS proposals shall comprise of Blue / Green Roofs, Rain Gardens, Conveyance Swales and Flow Controls.
5. Proposed Conveyance Swales to discharge to existing surface water drainage network.
6. Runoff from the proposed development shall be restricted to 3.73l/s/ha (QBAR) which equates to 4.6l/s.
7. Attenuated runoff from development to discharge to existing public network.

## ATTENUATION VOLUME REQUIREMENTS:

| Location | Attenuation Measure | Attenuation Volume Required ($m^3$) | Attenuation Volume Provided ($m^3$) | Max. Permitted Discharge Flow Rate (l/s) |
|---|---|---|---|---|
| Roof Block A & B | Blue / Green Roof | 290.1 | 568.1 | 1.2 |
| Roof Block C | Blue / Green Roof | 104.4 | 195.5 | 0.4 |
| Roof Block D | Blue / Green Roof | 222.6 | 464.4 | 0.9 |
| Podium Above Block A, B, C Car Park | Blue / Green Roof | 226.3 | 431.5 | 0.9 |
| Podium Above Block D Car Park | Blue / Green Roof | 168.3 | 392 | 0.7 |
| Central Public Open Space | Rain Gardens | 95.1 | 122.4 | 0.5 |
| Total | | 1107.8 | 2168.9 | 4.6 |

PLAN LAYOUT
SCALE 1:400@A1

| No. | Revision | Date | By | Chk'd | App'd |
|---|---|---|---|---|---|
| P01 | ISSUED FOR REVIEW & COMMENT | 16/08/2024 | CMG | CMG | EOC |
| P02 | ISSUED FOR REVIEW & COMMENT | 09/09/2024 | CMG | CMG | EOC |
| P03 | SITE LAYOUT AND REDLINE BOUNDARY UPDATED | 10/10/2024 | CMG | CMG | EOC |
| P04 | ISSUED FOR PLANNING | 19/02/2025 | CMG | CMG | EOC |
| P05 | ISSUED FOR PLANNING | 07/03/2025 | CMG | CMG | EOC |

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| Drawn | Designed | Checked | Approved | Suitability Code - Description |
|---|---|---|---|---|
| MA | CMG | EOC | EOC | S4 - Stage Approval |

Project Stage: PLANNING

Project Title: PROPOSED RESIDENTIAL DEVELOPMENT, PARKMORE INDUSTRIAL ESTATE

Drawing Title: Proposed Surface Water Drainage Layout

Drawing Number: Project | Originator | Volume | Location | Type | Role | Number
PIE - ROD - HDG - SW_AE - DR - CD - 30050

Scale (A1): 1:400 | Date: JUNE 2024 | Job No: 23.111 | Rev: P05



07 March 2025 10:44:46 J:\2023\23111\23111-02_WIP\08 MODELS\01 CAD\01 DWG\01 PLANNING\PIE-ROD-HDG-SW_AE-DR-CD-30050 (PROPOSED SURFACE WATER DRAINAGE LAYOUT).DWG

DO NOT SCALE USE FIGURED DIMENSIONS ONLY