

Preliminary Construction and Waste Management Plan (Issue 2)

Proposed Residential Development at Rathmullan, Drogheda, Co.
Meath

August 2019

Waterman Moylan Consulting Engineers Limited

Block S, East Point Business Park, Alfie Byrne Road, Dublin D03 H3F4
www.waterman-moylan.ie



Client Name: Trailford Ltd.
Document Reference: 18-014.r004 (Issue 2)
Project Number: 18-014

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)

Issue	Date	Prepared by	Checked by	Approved by
1	Nov. 18	Livia Sa	B. Warren	J. Gibbons
2	Aug. 19	B. Warren	J. Gbbons	J. Gibbons

Comments

Disclaimer

This report has been prepared by Waterman Moylan, with all reasonable skill, care and diligence within the terms of the Contract with the Client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the Client.

We disclaim any responsibility to the Client and others in respect of any matters outside the scope of the above.

This report is confidential to the Client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at its own risk.

Content

- 1. Introduction2
- 2. The Site and Surrounding Environs3
- 3. The Proposed Development4
- 4. General Site Set Up And Pre-Commencement Measures5
- 5. Site Security and Hoarding Lines6
- 6. Construction Waste Management.....7
- 7. Deliveries and Access.....13
- 8. Parking and Storage.....14
- 9. Dust and Dirt Control15
- 10. Water17
- 11. Noise Control18
- 12. Proposed Construction Phasing and Programme19

Appendices

- A. Indicative Construction Stage Surface Water Runoff Management Strategy

1. Introduction

- 1.0. Waterman Moylan in conjunction with the Developer have prepared the following preliminary Construction and Waste Management Plan for the implementation of the construction phase of the proposed 661 residential units, a crèche and a retail unit at Rathmullan Road in Drogheda, Co. Meath.
- 1.1. The plan sets out typical arrangements and measures which may be undertaken during the construction phase of the project in order to mitigate and minimise disruption / disturbance to the area around the site. The purpose of this report is to summarise the possible impacts and measures to be implemented and to guide the Contractor who will be required to develop and implement the Construction and Waste Management Plan on site.
- 1.2. This preliminary Construction and Waste Management Plan is indicative only and should not be construed as representing the exact method or sequence in which the construction works shall be carried out.

As is normal practice, the Main Contractor for the project is responsible for the method in which the demolition and construction works are carried out and to ensure that best practices and all legal obligations including Local Authority requirements and Health and Safety legislation are complied with. The main contractor is also responsible for the design and installation of all temporary works required to complete the permanent works. The plan can be used by the Main Contractor to develop their final construction management plan. The Applicant reserves the right to deviate from the contents of this Report, while still complying with all relevant Local Authority requirements and legislation.

2. The Site and Surrounding Environs

- 2.1. The site is located at Rathmullan Road in Drogheda, Co. Meath, approximately 2.5 km west of the Drogheda town centre.
- 2.2. It is bounded to the north by the River Boyne, to the east by existing residential and agricultural areas, to the south by agricultural lands, and to the west by the M1 Dublin to Belfast Motorway. The exact site location is shown on Waterman Moylan Drawing No. 18-014-P001.
- 2.3. The site slopes from south-west to north-east towards the River Boyne with existing ground levels of between 38.0 m and 3.5 m OD Malin.
- 2.4. The existing road network surrounding the site is as follows:-
The site is currently accessed from the Rathmullan Road to the east of the site.
- 2.5. The existing uses adjoining / adjacent the site include:-
 - Residential and agricultural

3. The Proposed Development

The proposed development includes, in broad terms, the following;-

- Site clearance and infrastructure,
- Provision of road upgrades and pedestrian links,
- Construction of 661 No. residential units, a crèche and a retail unit.

4. General Site Set Up And Pre-Commencement Measures

- 4.1.** Detailed condition surveys (including photographs) may be carried out on certain adjacent / adjoining third party buildings or boundaries prior to any work being carried out on the site. The purpose of the survey would be to record the condition of the properties before the works commence. Copies of these survey reports would be provided to the third party owners.
- 4.2.** A detailed condition survey (including photographs) may be carried out on the roads and footpaths surrounding the site. The purpose of the survey would be to record the condition of the streets and footpaths around the site prior to the works commencing.
- 4.3.** A site compound(s) including offices and welfare facilities will be set up by the main contractor in locations to be decided.
- 4.4.** Prior to any site works commencing, the main contractor will investigate / identify the exact location of and tag all existing services and utilities around and through the site with the assistance of the relevant Meath County Council technical divisions and utility companies.
- 4.5.** Typical working hours for the site would be 08.00 to 19.00 Monday to Friday and 08.00 to 14.00 Saturday. No Sunday work will generally be permitted. The above working hours are typical, however, special construction operations may need to be carried out outside these hours in order to minimise disruption to the surrounding area.
- 4.6.** Prior to any site works commencing, any trees or hedgerows identified to be retained will be protected in accordance with the recommendations of the project landscape architect.
- 4.7.** The contractor will excavate a number of temporary cut off trenches along the northern development boundary in advance of stripping topsoil. These cut off trenches will be connected to a temporary settlement pond. Straw bales will be placed within the cut off trenches at strategic locations and at the outfall from the settlement pond. Indicative details are attached in Appendix A.

5. Site Security and Hoarding Lines

5.1. Hoarding lines and site security will be set up within the development site as required.

Hoarding and security fencing will be required on the public roads during the construction works and for construction of the new entrance to the site. A detailed construction traffic management plan will be prepared by the Contractor and agreed with Meath County Council as the Road Authority prior to commencing works on the public road.

6. Construction Waste Management

6.1. These preliminary Construction Waste Management guidelines will be incorporated into the requirements for the Contractor and the Plan will be developed by the Contractor as the construction progresses.

6.2. Policy and Legislation

The principles and objectives to deliver sustainable waste management for this project have been incorporated in the preparation of this report and are based on the following strategic objectives:-

- National Policy: The Waste Management Acts 1996 to 2019
- Local Policy: Waste Management Plan for the Dublin Region 2005 – 2019, November 2005.

This Waste Management Plan is also in accordance with the following guidance note published by the Department of the Environment, Heritage and Local Government in July 2006:-

- Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition (C&D) Projects.

The hierarchy of waste management sets out the guiding principles in order of importance as follows:-

1. Reduction of the amount of waste generated by the construction process.
2. Segregation of waste is a key concept that will be implemented during the course of the construction phase of the development to enable ease in re-use and recycling, wherever appropriate.
3. Recycle waste material where feasible, including the use of excess excavations as fill material, recycling of various waste fractions such as metals, packaging etc.

6.3. Typical construction waste which will be generated by the development is as follows:-

- General site clearance waste
- Excavated material
- Surface water runoff
- Packaging and waste construction materials generated during the course of the construction activities

6.4. On site Waste Management

An estimate of the quantities of surplus construction waste and materials which will arise during the course of the construction phase is not confirmed at the time of writing. Construction waste will be categorised as outlined in Table 6.1 below.

The Purchasing Manager shall ensure that materials are ordered so that the quantity delivered, the timing of the delivery and the storage is not conducive to the creation of unnecessary waste.

Table 6.1: Estimated C&D Waste Arising on Site

C & D Waste Material	Quantity (tonnes)
Clay and stones	<i>TBC</i>
Concrete	<i>TBC</i>
Masonry	<i>TBC</i>
Wood	<i>TBC</i>
Packaging	<i>TBC</i>
Hazardous Materials	<i>TBC</i>
Other Waste Materials	<i>TBC</i>
TOTAL ARISING	<i>TBC</i>

6.5. Off Site Waste Management Licensing/Permitting

All waste materials (where necessary, after in-situ reuse and recycling options have been fully considered) shall be disposed offsite, under the appropriate Duty of Care and subject to approvals/consents from the relevant statutory bodies. It is the responsibility of the Main Contractor to ensure that any company to whom waste is transferred is legally permitted to do so and that the facility they bring the waste to is licensed to handle that type of waste as outlined in the Waste Management Acts 1996-2019. The Waste Collection Permit Register, in accordance with the Waste Management (Collection Permit) Regulations 2001 will be consulted to ensure that waste carriers hold the appropriate permit.

It is anticipated that there is the possibility that waste materials will have to be moved off site. It is the intention to engage specialist waste service contractors, who will possess the requisite authorisations, for the collection and movement of waste off-site, and to transport the material to a facility which currently holds a Waste Licence, Waste Permit, or Certificate of Registration. Details of waste service contractors and demolitions are not confirmed at the time of writing. The following waste authorisations will be arranged specifically for the project:

Table 6.2.: Specific Waste Authorisations Necessary for the Scheme

Authorisation Type	Specific Need for Project (Yes / No?)
Waste Licence	Yes
Waste Permit	Yes
Waste Collection Permit	Yes
Transfrontier Shipment Notification	No
Movement of Hazardous Waste Form	No

Any wastes that have to be disposed/recycled off site will be transported to the nearest appropriate facility in order to comply with the proximity principle and reduce the associated emissions from the transportation of waste. The Environmental Protection Agency holds details of waste facilities; which will be consulted where necessary.

An inspection of the site shall be made by the Main Contractor for hazardous substances, gas cylinders and the like. If such substances are encountered during the course of construction, then works must be halted. The project supervisor for the construction stage (PSCS) and the responsible Statutory Authority shall be informed immediately.

The Main Contractor shall prepare a detailed inventory of construction based hazardous waste generated, such as tars, adhesives, sealants and other dangerous substances, and these will be kept segregated from other non-hazardous waste to prevent possible contamination. Arrangements shall be made for such substances for disposal in a safe manner to an authorized disposal site or by means acceptable to the relevant Authority.

The Contractor shall ensure that the excavation works are carried out in accordance with best standard practice and excavation materials are well segregated to minimize any potential cross-contamination.

The Contractor shall carry out appropriate environmental chemistry testing in order to determine the waste classification of the soils that are to be excavated from areas where contamination is likely and that shall include Waste Acceptance Criteria testing. The test regime shall be agreed with the receiving landfill operator and the testing shall be carried out by an accredited laboratory.

Should excavation materials be assessed to be hazardous, the Contractor shall carry out pretreatment of the waste soils to a methodology that is agreed with the receiving landfill operator and in accordance with Environmental Protection Agency guidance.

The Main Contractor is encouraged to reuse and recycle any waste materials as far as is reasonably practicable.

In respect of any liquid Disposal including underground water, The Contractor shall carry out appropriate environmental chemistry testing in order to determine whether the liquid is contaminated or not. The test regime shall be agreed with the receiving disposal facility and the testing shall be carried out by an accredited laboratory.

The Main Contractor shall manage and carry out the works in accordance with best environmental practice and in accordance with the requirements of Local Authority, EPA and all requirements as specified in this document.

6.6. Appointment of Construction Waste Manager

A Construction Waste Manager shall be appointed from the Contractor's Staff and have overall responsibility for the implementation of the project Waste Management Plan (WMP) during the construction phase. The Construction Waste Manager will be appropriately trained, and assigned the authority to instruct all site personnel to comply with the specific provisions of the WMP. At the operational level, a designated person from the main contractor and from each sub-contractor on the site shall be assigned the direct responsibility to ensure that the operations stated in the WMP are performed on an on-going basis.

Copies of the Waste Management Plan will be made available to all relevant personnel on site. All site personnel and sub-contractors will be instructed about the objectives of the Waste Management Plan and informed of the responsibilities which fall upon them as a consequence of its provisions. Where source segregation, selective demolition and material reuse techniques apply, each member of staff will be given instructions on how to comply with the Waste Management Plan. Posters will be designed to reinforce the key messages within the Waste Management Plan and will be displayed prominently for the benefit of site staff.

6.7. Construction Record Keeping

Details of all arisings, movement and treatment of construction waste shall be recorded as part of the Waste Auditing regime.

It is the duty of the Construction Waste Manager to ensure that necessary licenses have been obtained as needed. Each consignment of construction waste taken from the site will be subject to documentation which will conform with Table 6.3 along with Transportation Dockets to ensure full traceability of the material to its final destination.

Table 6.3.: Details of materials taken from site

Detail	Particulars
Project of Origin	Rathmullan Road in Drogheda, Co. Meath
Material being Transported	Demolition, Soil, Construction waste etc.
Quantity of Material	<i>TBC</i>
Date of Material Movement	<i>TBC</i>
Name of Carrier	<i>TBC</i>
Destination of Material	<i>TBC</i>
Proposed Use	<i>TBC</i>

6.8 Topsoil

In the case of topsoil careful planning and on-site storage can ensure that this resource is reused on-site as much as possible. Any surplus of soil not reused on site can be sold. However, topsoil is quite sensitive and can be rendered useless if not stored and cared for properly.

- It is important that topsoil is kept completely separate from all other construction waste as any cross-contamination of the topsoil can render it useless for reuse.
- It is important to ensure that topsoil is protected from all kinds of vehicle damage and kept away from site-track, delivery vehicle turning areas and site plant and vehicle storage areas.

If topsoil is stored in piles of greater than two metres in height the soil matrix (internal structure) can be damaged beyond repair. It should also be kept as dry as possible and used as soon as possible to reduce any deterioration through lengthy storage and excess moving around the site.

Records of topsoil storage, movements and transfer from site should be kept by the Construction Waste Manager.

6.9. Earthworks – Cut and Fill Policy

Earthworks for road and structures foundation forms a major part of the quantity of waste that will be generated by the construction phase of this project. In order to optimise the impact of the generation of surplus material due to excavation the following principles will be considered during the detail design and construction phase:-

- The quantity of excavated materials to be removed from or imported in to the site can be greatly reduced, by establishing levels of the proposed buildings which optimise the volume of cut and fill.
- Careful separation of builder's rubble packaging and contaminated waste from re-usable material will result in the minimisation of the disposal of material to landfill.
- Surplus subsoil excavated from the site will be reviewed for possible reuse as engineering fill on adjoining or other construction sites within the region.
- Surplus unsuitable sub-soils generated by excavations on site will be reviewed for reuse as landscaping or non-engineering fills on adjoining or other construction sites within the region.

7. Deliveries and Access

- 7.1. Deliveries and access to the construction site will typically be made via Rathmullan Road. Construction traffic will not be permitted to use the River Road to the north of the site or the local Road to the south of the site as these would be considered unsuitable for construction traffic. Roadways for construction traffic purposes will generally be 6.0 m wide and will be constructed using 300 mm min. capping layer material (clean broken stone).
- 7.2. In the event that large concrete pours are required which may result in congestion at the entrance to the site the deliveries will be organised such that concrete trucks will queue at a pre-determined staging point (such that they do not cause an obstruction to general traffic in the area) and will then be called in by radio as appropriate to the site, via a pre-determined route and to the required access gate.

Set procedures and designated wash-out areas will be provided, or alternatively vehicle wash-out will be prohibited if a suitable wash-out area is not identified.
- 7.3. All delivery vehicles will be co-ordinated as required at the relevant access point.

8. Parking and Storage

- 8.1.** There is adequate space to accommodate parking on site during the initial construction programme. In the event that at a later stage during the construction programme adequate parking is not available on site off-site parking and shared car arrangements will be organised by site management.

- 8.2.** The main contractor will be required to schedule delivery of materials on a daily basis. The main contractor will be required to provide a site compound on the site for the secure storage of materials.

9. Dust and Dirt Control

- 9.1.** Nuisance dust emissions from construction activities are a common and well recognised problem. Fine particles from these sources are recognised as a potential significant cause of pollution.

The main contractor will be required to demonstrate that both nuisance dust and fine particle emissions from the site are adequately controlled and are within acceptable limits.

- 9.2.** Dust and fine particle generation from construction and demolition activities on the site can be substantially reduced through carefully selected mitigation techniques and effective management. Once particles are airborne it is very difficult to prevent them from dispersing into the surrounding area. The most effective technique is to control dust at source and prevent it from becoming air borne, since suppression is virtually impossible once it has become air borne.

- 9.3.** The following are techniques and methods which are widely used currently throughout the construction industry and which may be used in the proposed development.

- The roads around the site are all surfaced and no dust is anticipated arising from unsealed surfaces.
- A regime of 'wet' road sweeping can be set up to ensure the roads around the immediate site are as clean and free from dirt / dust arising from the site, as is reasonably practicable. This cleaning will be carried out by approved mechanical sweepers.
- Footpaths immediately around the site can be cleaned by hand regularly, with damping as necessary.
- High level walkways and surfaces such as scaffolding can be cleaned regularly using safe 'wet' methods, as opposed to dry methods.
- Vehicle waiting areas or hard standings can be regularly inspected and kept clean by brushing or vacuum sweeping and will be regularly sprayed to keep moist, if necessary.
- Vehicle and wheel washing facilities can be provided at site exit(s) where practicable. If necessary vehicles can be washed down before exiting the site.
- Netting can be provided to enclose scaffolding in order to mitigate escape of air borne dust from the existing and new buildings.
- Vehicles and equipment shall not emit black smoke from exhaust system, except during ignition at start up.
- Engines and exhaust systems should be maintained so that exhaust emissions do not breach stationary emission limits set for the vehicle / equipment type and mode of operation.
- Servicing of vehicles and plant should be carried out regularly, rather than just following breakdowns.

- Internal combustion plant should not be left running unnecessarily.
- Exhaust direction and heights should be such as not to disturb dust on the ground and to ensure adequate local dispersal of emissions.
- Where possible fixed plant such as generators should be located away from residential areas.
- The number of handling operations for materials will be kept to a minimum in order to ensure that dusty material is not moved or handled unnecessarily.
- The transport of dusty materials and aggregates should be carried out using covered / sheeted lorries.
- Material handling areas should be clean, tidy and free from dust.
- Vehicle loading should be dampened down and drop heights for material to be kept to a minimum.
- Drop heights for chutes / skips should be kept to a minimum.
- Dust dispersal over the site boundary should be minimised using static sprinklers or other watering methods as necessary.
- Stockpiles of materials should be kept to a minimum and if necessary, they should be kept away from sensitive receptors such as residential areas etc.
- Stockpiles were necessary, should be sheeted or watered down.
- Methods and equipment should be in place for immediate clean up of spillages of dusty material.
- No burning of materials will be permitted on site.
- Earthworks excavations should be kept damp where necessary and where reasonably practicable.
- Cutting on site should be avoided where possible by using pre-fabrication methods.
- Equipment and techniques for cutting / grinding / drilling / sawing / sanding etc, which minimise dust emissions and which have the best available dust suppression measures, should be employed.
- Where scabbling is to be employed, tools should be fitted with dust bags, residual dust should be vacuumed up rather than swept away, and areas to be scabbled should be screened off.
- Wet processes should be used to clean building facades if possible. If dry grit blasting is unavoidable then ensure areas of work are sealed off and dust extraction systems used.
- Where possible pre-mixed plasters and masonry compounds should be used to minimise dust arising from on site mixing.
- Prior to commencement, the main contractor should identify the construction operations which are likely to generate dust and to draw up action plans to minimise emissions, utilising the methods highlighted above. Furthermore, the main contractor should prepare environmental risk assessments for all dust generating processes, which are envisaged.
- The main contractor should allocate suitably qualified personnel to be responsible for ensuring the generation of dust is minimised and effectively controlled.

9.4. The contractor will be obliged to implement the mitigation measures outlined in the EIAR in respect of dust / dirt control.

10. Water

- 10.1.** The excavations for the drainage pipes, water supply, utilities and foundations are anticipated as being relatively shallow and will have minimal impact on the ground water in the site.

- 10.2.** Following completion of any required initial dewatering, it is expected that flows of water into the excavation will be small. These flows will be managed by sump pumping on an as-required basis.

- 10.3.** During any discharge of surface water from the excavations, the quality of the water will be regularly monitored visually for hydrocarbon sheen and suspended solids. Periodic laboratory testing of discharge water samples will be carried out in accordance with the requirements of Meath County Council.

11. Noise Control

- 11.1.** The main contractor will deal with the immediate dangers to hearing etc. associated with high noise levels and the impact of same on construction operatives, by means of risk assessment and mitigation / precautionary measures and equipment, all pursuant to the current health and safety legislation.
- 11.2.** The main contractor should carry out a noise assessment in relation to the proposed works at construction stage. This noise assessment should be carried out by a competent person (or specialist firm) with specialist training in this area.
- 11.3.** The noise assessment should include the following steps:-
- Identify and list all construction work activities where there is likely to be a significant noise hazard.
 - Determine the hazards / nuisance.
 - Identify all third parties likely to be exposed to the nuisance.
 - Measuring the risk: The level of noise in dBA.
 - Considering and Implementing Control Measures.
 - Control exposure to noise.
 - Record the findings of the noise assessment.
 - Review and revise.
- 11.4.** The contractor will be obliged to implement the noise mitigation measures set out in the EIAR.

12. Proposed Construction Phasing and Programme

12.1. It is proposed that the 661 No. residential units, a crèche and retail unit together with associated roads and public road improvement works, services (including a pumping station), open spaces and car parking will be constructed as part of the development.

12.2. The proposed development will be constructed in 5 distinct phases which are illustrated on the enclosed Niall D Brennan Associates Architects drawing No. 17/094-PP-S-02 Rev B.

The delivery of the proposed road upgrades will be completed in tandem with the Phasing of the development. In this regard it is proposed that the new signalled controlled junction at the main access to the development will be completed as part of the Phase 1 works. The upgrade of the Rathmullan Road north of the development, which includes road widening and a new 2m wide footpath to link to the Boyne Greenway, will also be completed as part of the Phase 1 works.

The proposed upgrade of the Rathmullan Road/Marleys Lane junction, within the Louth County Council administrative area will be carried out in Phase 1 and will be completed before the occupation of any units.

The proposed upgrade of the Rathmullan Road/R132 junction will be carried out during the Phase 2 works.

The proposed upgrade of the local road to the south of the development site, from the new signal controlled junction to the south west corner of the development will be completed as part of the Phase 3 works.

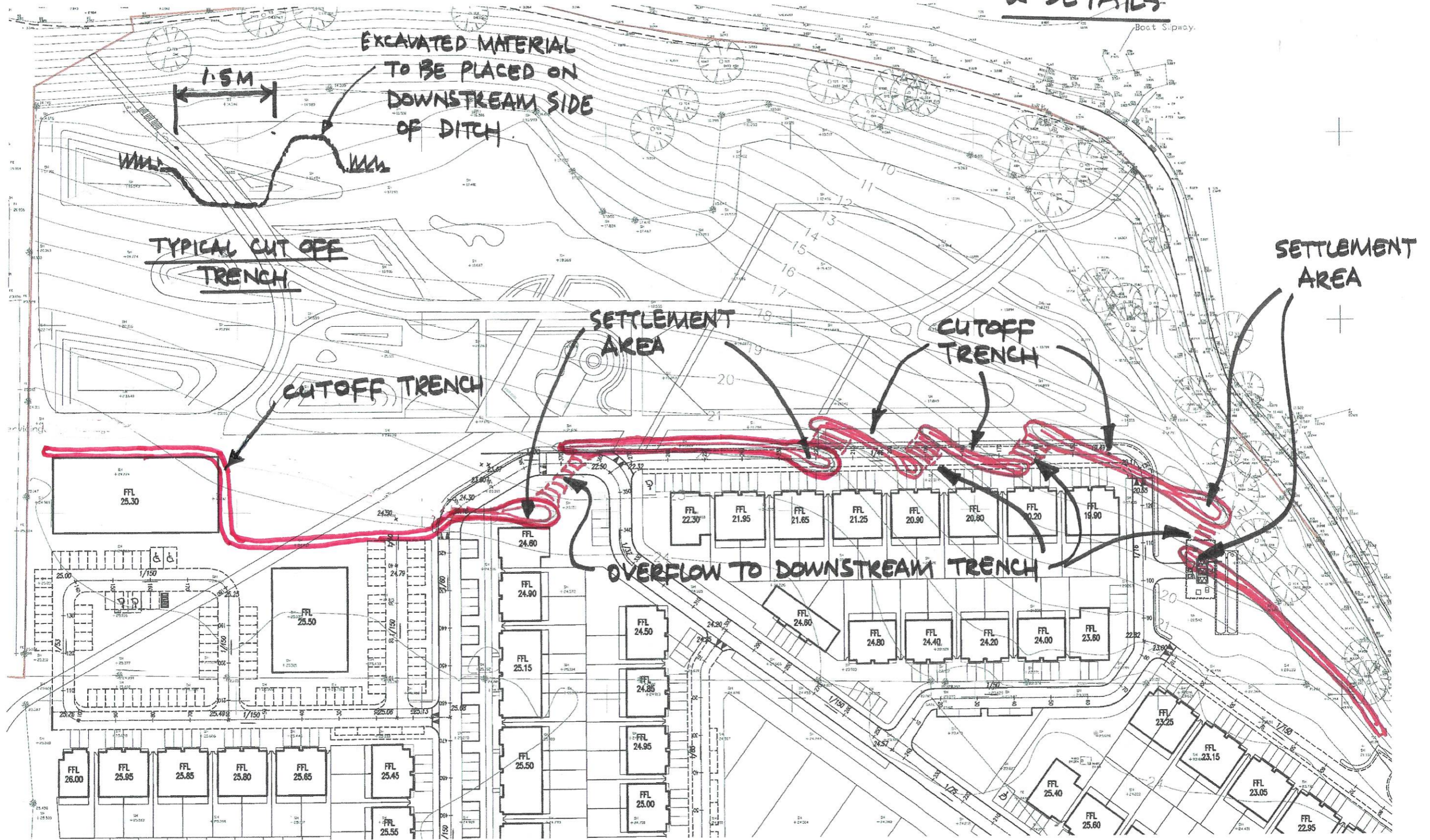
All of the road upgrades will be completed before the commencement of Phase 4.

12.3. It is anticipated that the development will be constructed over a period of 3 to 5 years depending upon the housing demand.

APPENDICES

A. Indicative Construction Stage Surface Water Runoff Management Strategy

RATHMULLAN - TEMPORARY CUT OFF TRENCH LAYOUT & DETAILS



NOTE : STRAW BALES TO BE PLACED AT APPROPRIATE INTERVALS ALONG THE CUT OFF TRENCHES AND AT THE OVERFLOW LOCATIONS.

UK and Ireland Office Locations

