

Restoration of Bay Lane Quarry

Environmental Impact Assessment Report Volume III: Non-Technical Summary

March 2019





Bay Lane Soil Recovery Facility

Environmental Impact Assessment Report Volume III: Appendices

Document Control Sheet

Client:	GLV Bay Lane Limited
Project Title:	Bay Lane Soil Recovery Facility
Document Title:	Environmental Impact Assessment Report, Volume III: Appendices
Document No:	MDR1499

Text Pages:	-	Appendices:	-	Current Revision:	F01
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Rev.	Status	Date	Author(s)	Reviewed By	Approved By
F01	Final	20 March 2019	RPS		

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Legend	
	Site Boundary
	Adjoining Lands Owned
	Site Notice
	River
ESB Cable Network	
Low/Medium Voltage	
	LV Three Phase Overhead
	MV Three Phase Overhead
High Voltage	
	110kV Overhead
	220kV Overhead
	38kV Overhead

Client
GLV Bay Lane Limited

Project
BAY LANE SOIL RECOVERY FACILITY

Title
Location Map

OS: 3062A 3062B

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Approved By: XXX	Drawing No. Rev:
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Date: 28/02/2019	

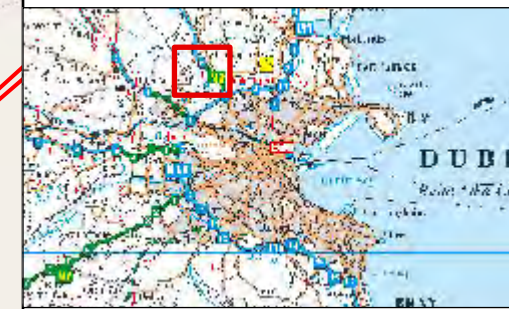
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Legend

- ▬ Site Boundary
- ▬ Adjoining Lands Owned
- Site Notice
- ▬ River
- GN Gas Network
- ▬ Low Pressure Distribution
- ▬ Medium Pressure Distribution
- ▬ High Pressure Transmission
- IWDData
- - - Water Main
- ESB Cable Network**
- Low/Medium Voltage**
- ▬ LV Three Phase Overhead
- - - LV Undergrnd
- ▬ MV Three Phase Overhead
- - - MV Undergrnd
- High Voltage**
- ▬ 110kV Overhead
- - - 110kV Undergrnd
- ▬ 220kV Overhead
- - - 220kV Undergrnd
- ▬ 38kV Overhead
- - - 38kV Undergrnd



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Utilities Map

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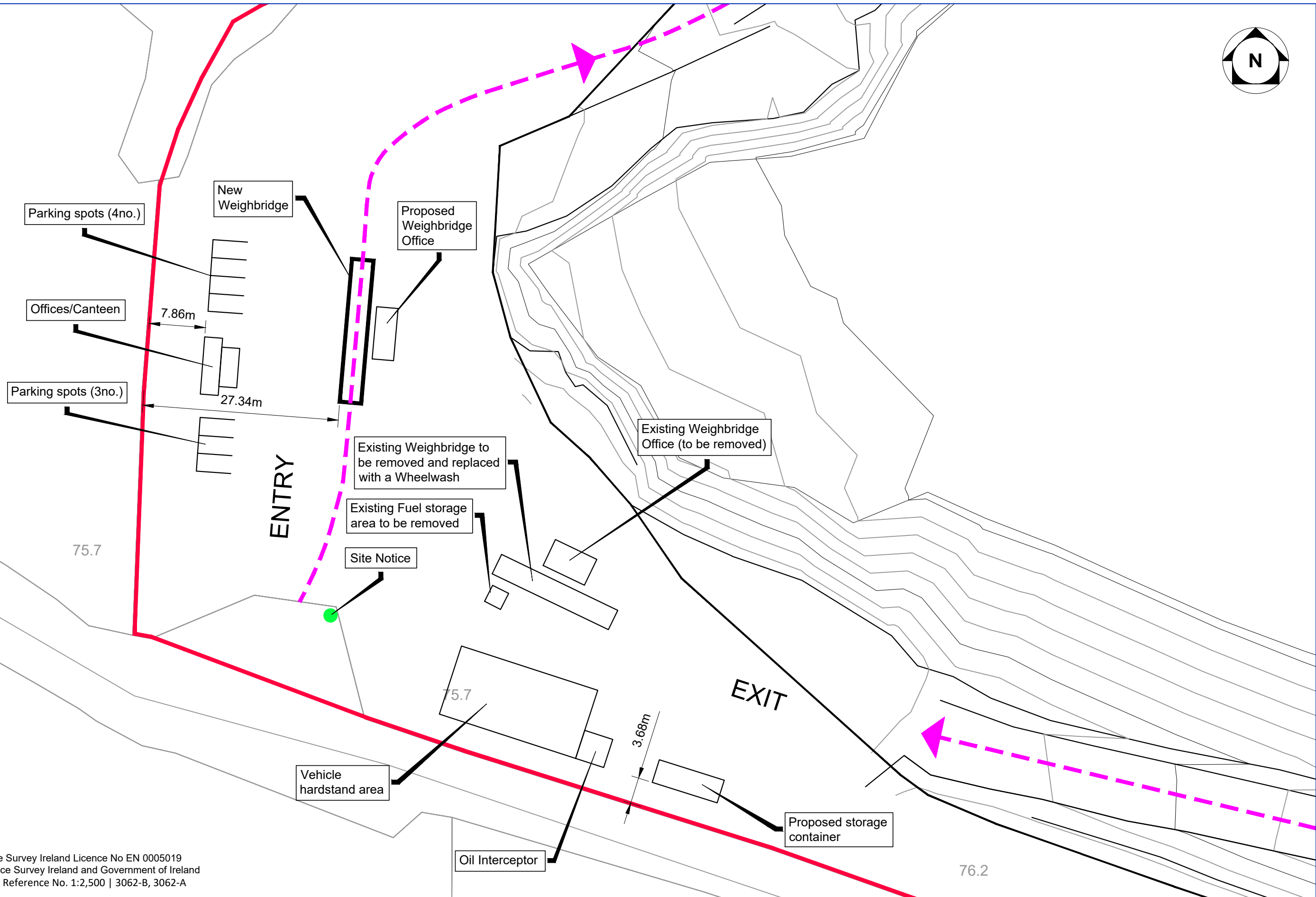
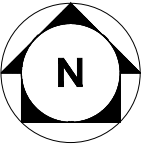
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
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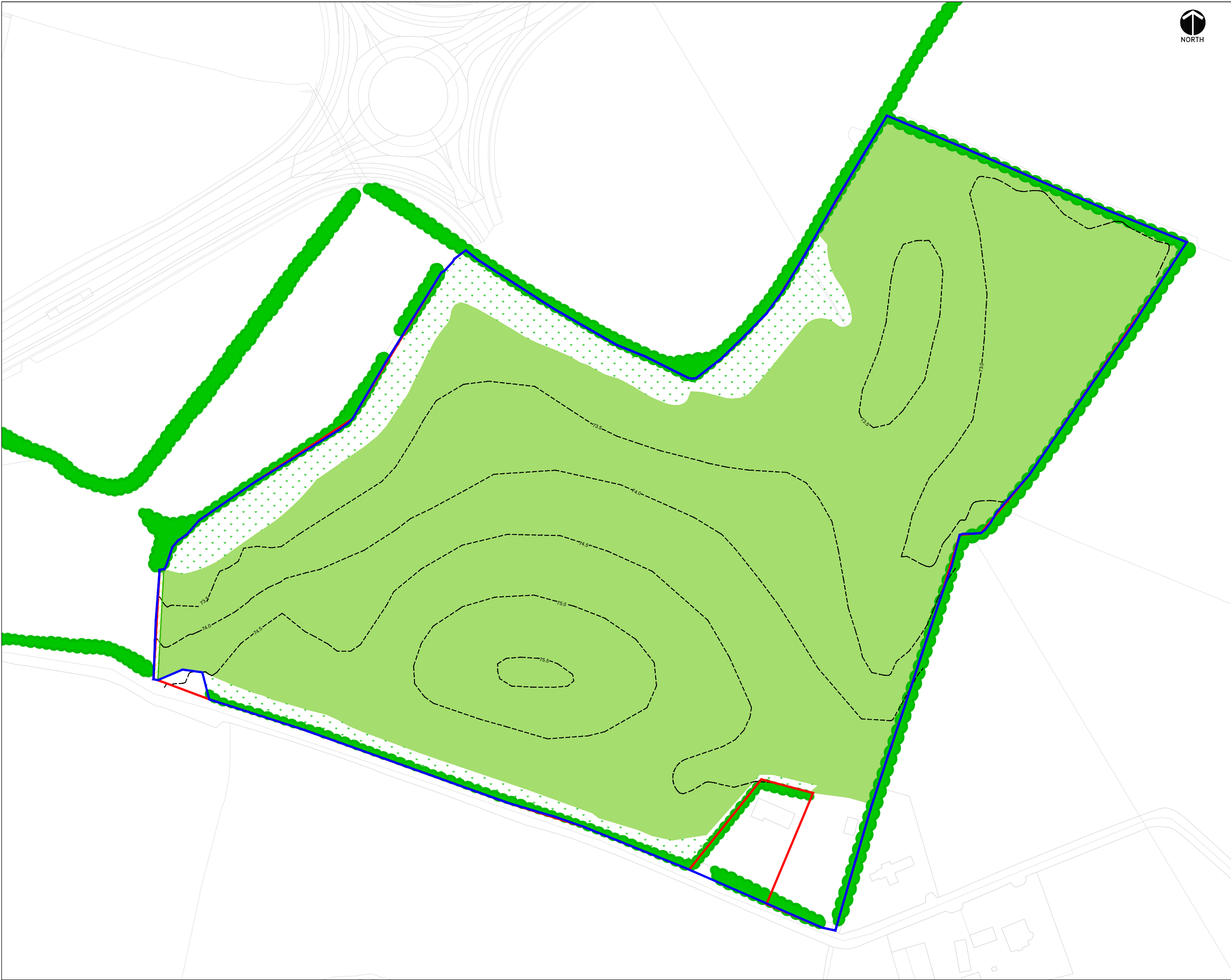
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Checked	CMG	BAY LANE SOIL RECOVERY FACILITY	
Approved	CMG		
Date	Mar. 2019	Title	
Scale	NTS @ A1 1:500 @ A3	DRAWING 5 PROPOSED SITE PLAN LAYOUT @ 1:500	
Job No.	MDR1499	File Ref.	Drg. No.
		MDR1499DG0005F01.dwg	DG0005
			Rev.
			F01



Legend

-  Site Boundary
-  Lands in control of landowners
-  Existing vegetation to be retained
-  Proposed hedgerow with tree planting
-  Proposed agricultural grass seeding areas
-  Proposed contours and levels



Revision	Date	Description	Drawn	Chk

STATUS FOR PLANNING



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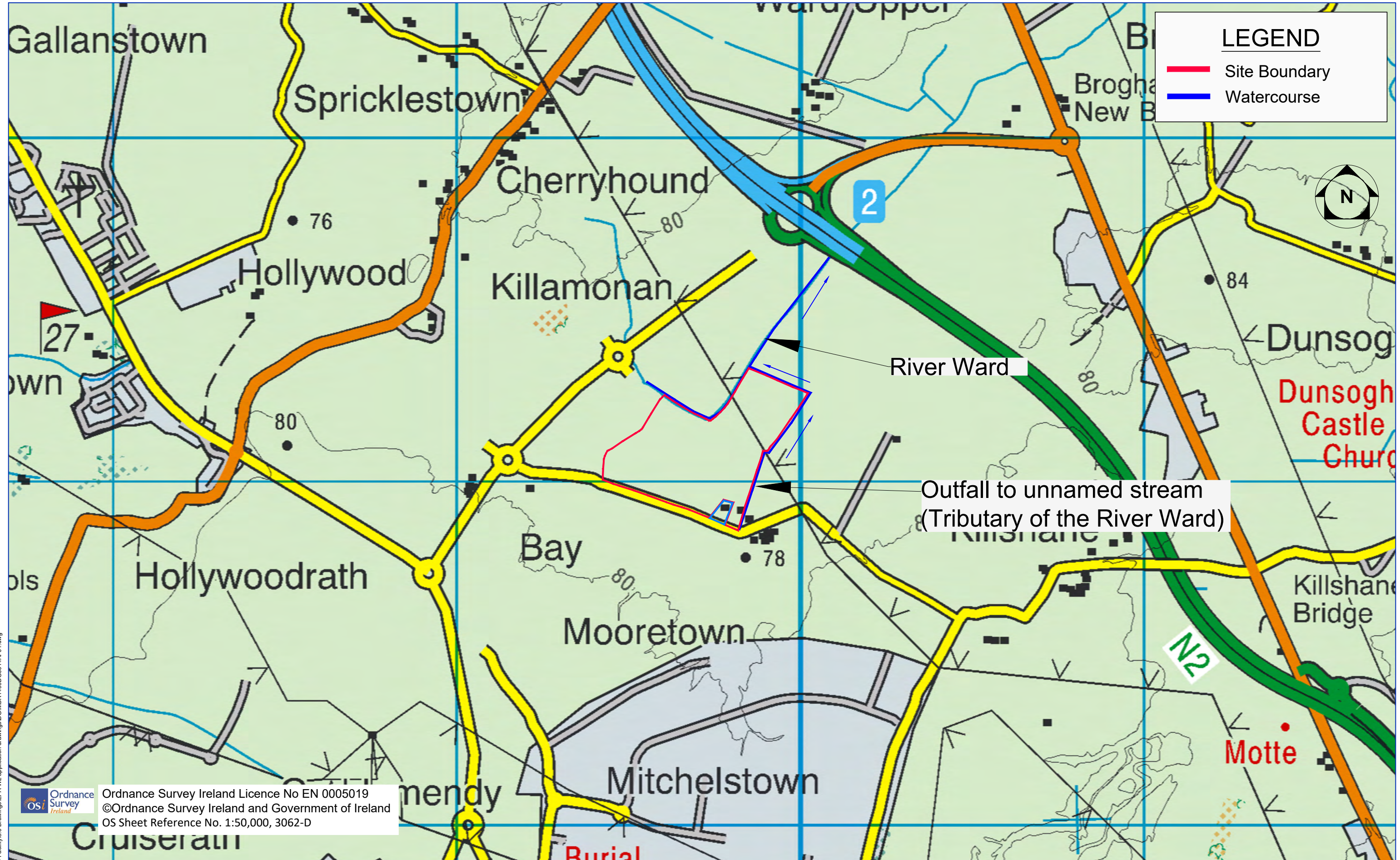
TITLE Restoration Plan

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FIGURE 1.8





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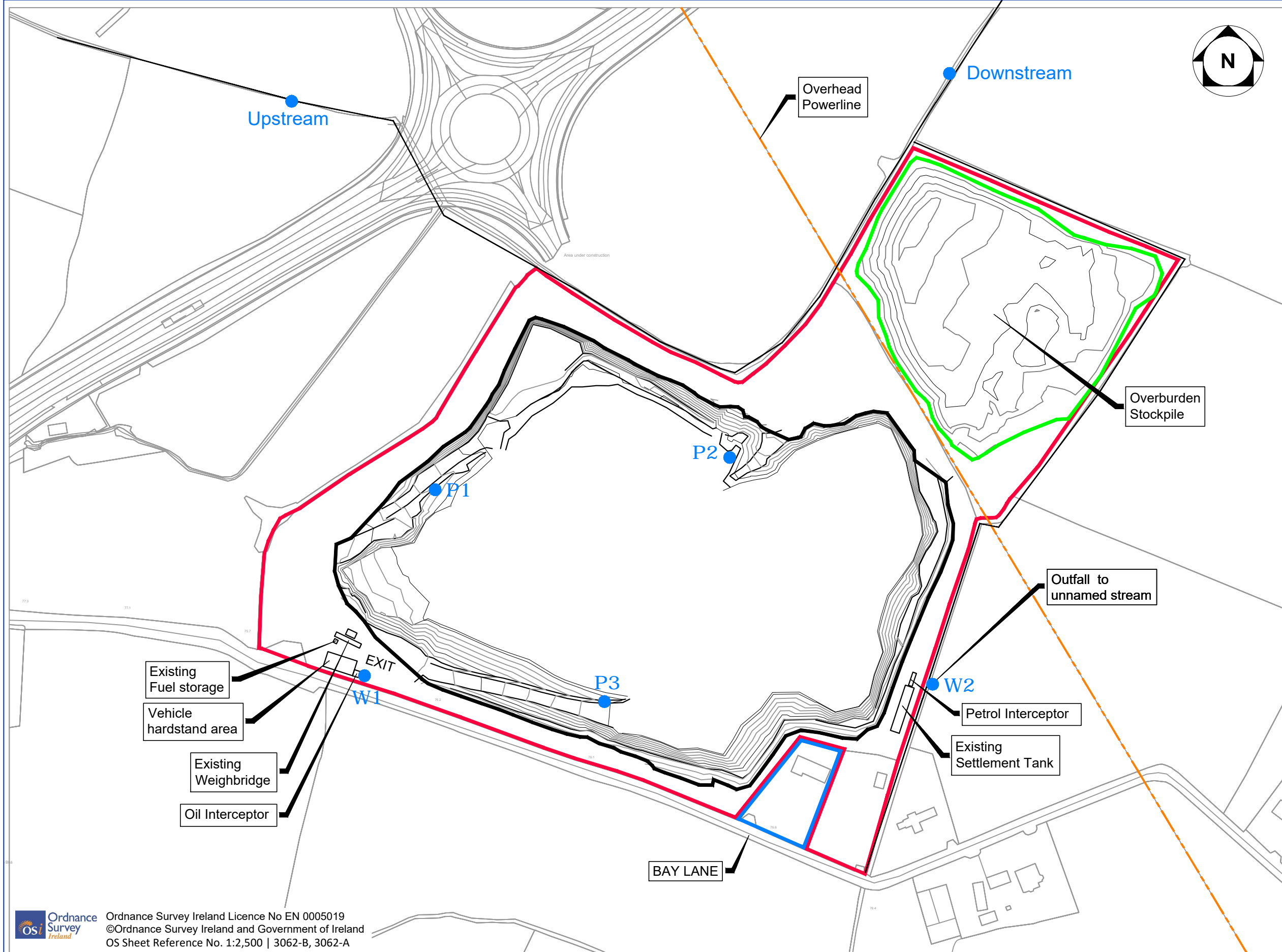
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Date Feb. 2019	Title	DRAWING 14A DRAINAGE 'A' SITE LOCATION		
Scale NTS @ A1 1:10,000 @ A3				
Job No. MDR1499	File Ref. MDR1499DG0014AF01.dwg	Drg. No. DG0014A	Rev. F01	



LEGEND

- Application Area
- Adjoining lands within the ownership of the applicant
- Watercourses
- P1 Water Monitoring locations


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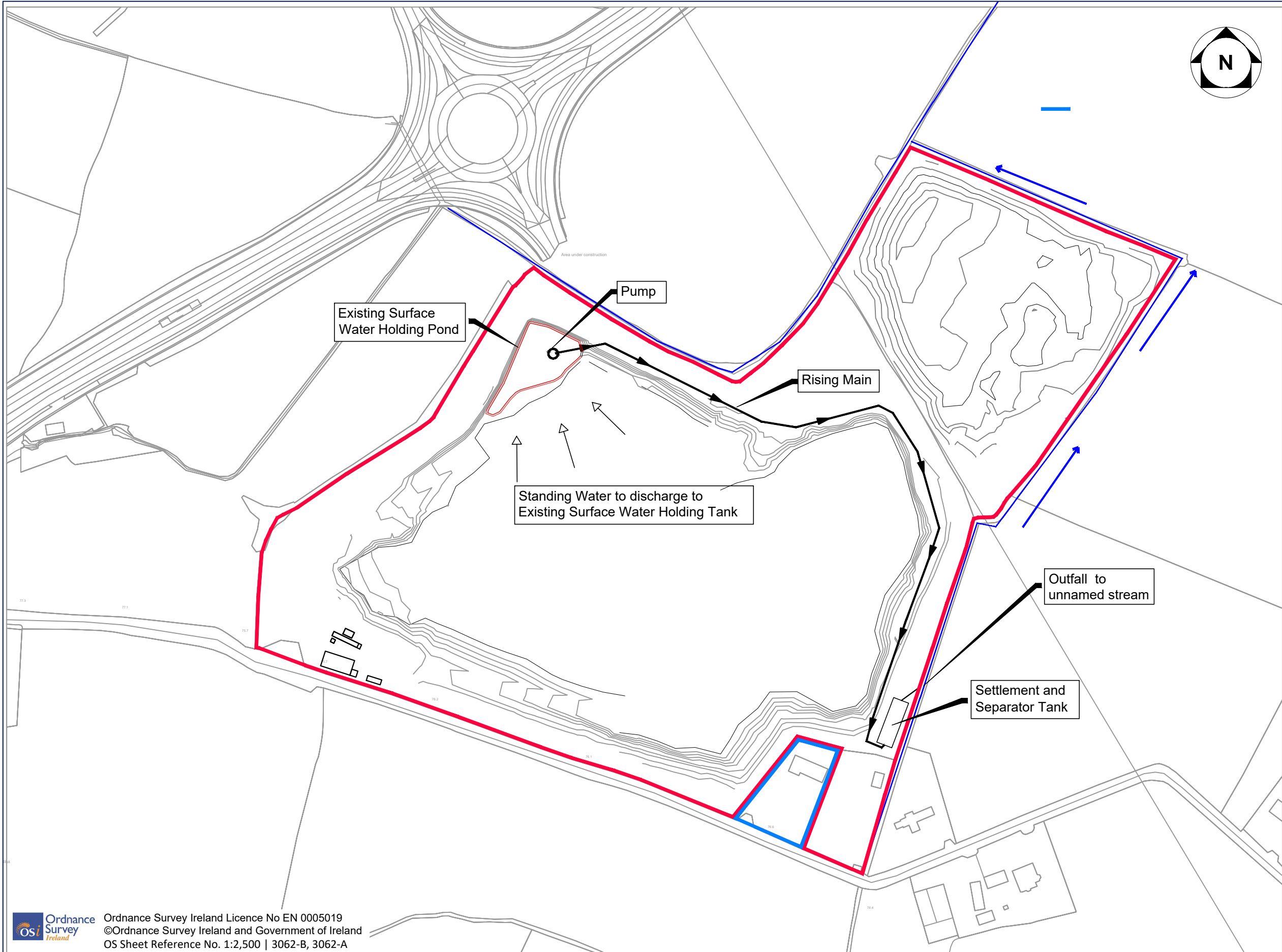
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Approved	CMG				
Date	Feb. 2019	Title	DRAWING 14B DRAINAGE 'B' SITE LAYOUT		
Scale	NTS @ A1 1:2500 @ A3				
Job No.	MDR1499	File Ref.	MDR1499DG0014BF01.dwg	Drg. No.	DG0014B
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LEGEND

- Application Area
- Adjoining lands within the ownership of the applicant
- Watercourses


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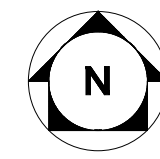


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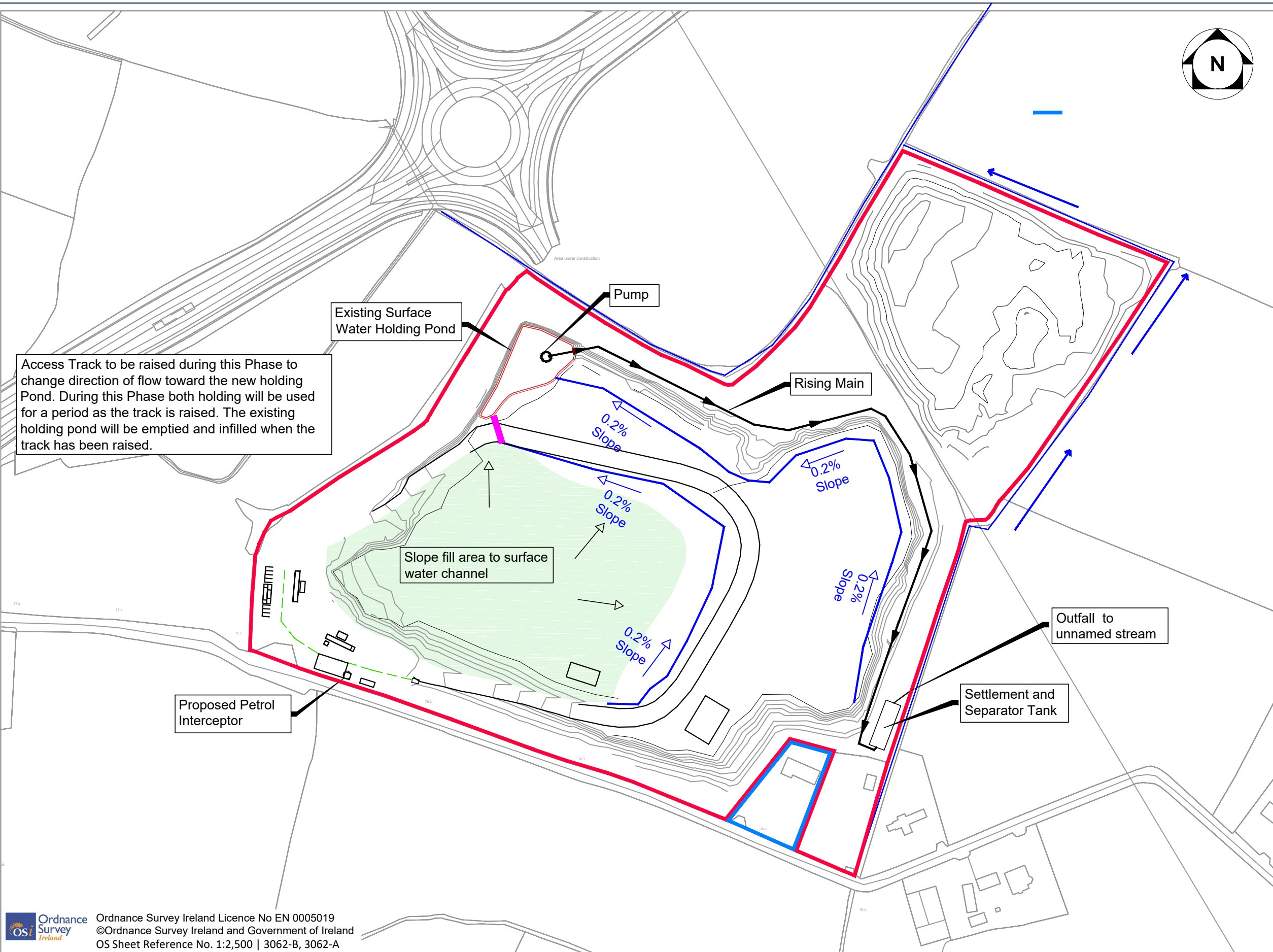
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Approved CMG				
Date 27.02.19	Title	DRAWING 14C DRAINAGE 'C' SITE DRAINAGE SYSTEMS LAYOUT		
Scale 1:1250 @ A1 1:2500 @ A3	File Ref.	Drg. No.	Rev.	
Job No. MDR1499	MDR1499DG0014CF01.dwg	DG0014-C	A01	

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LEGEND

- Application Area
- Adjoining lands within the ownership of the applicant
- Surface Water Channel
- Surface Water Wide Channel
- - - 300mmØ Drainage Pipe



Access Track to be raised during this Phase to change direction of flow toward the new holding Pond. During this Phase both holding will be used for a period as the track is raised. The existing holding pond will be emptied and infilled when the track has been raised.

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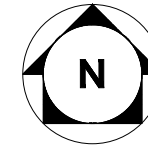
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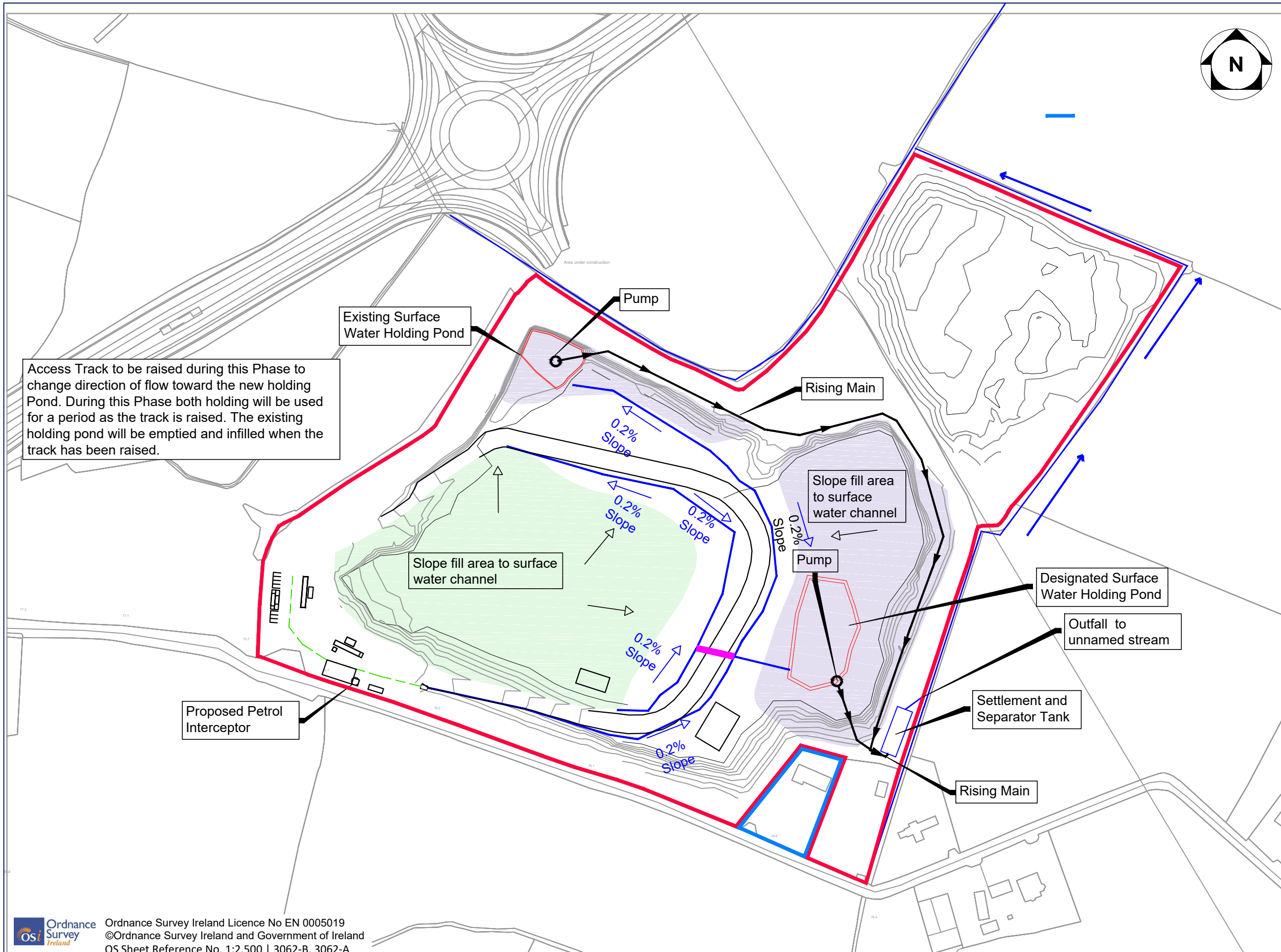
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Date 27.02.19	Title		
Scale 1:1250 @ A1 1:2500 @ A3	DRAWING 15A PROPOSED DRAINAGE LAYOUT PHASE 1		
Job No. MDR1499	File Ref. MDR1499DG0015_A_DF01.dwg	Drg. No. DG0015A	Rev. F01



LEGEND

- Application Area
- Adjoining lands within the ownership of the applicant
- Surface Water Channel
- Surface Water Wide Channel
- - - 300mmØ Drainage Pipe



Access Track to be raised during this Phase to change direction of flow toward the new holding Pond. During this Phase both holding will be used for a period as the track is raised. The existing holding pond will be emptied and infilled when the track has been raised.

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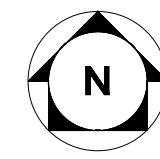
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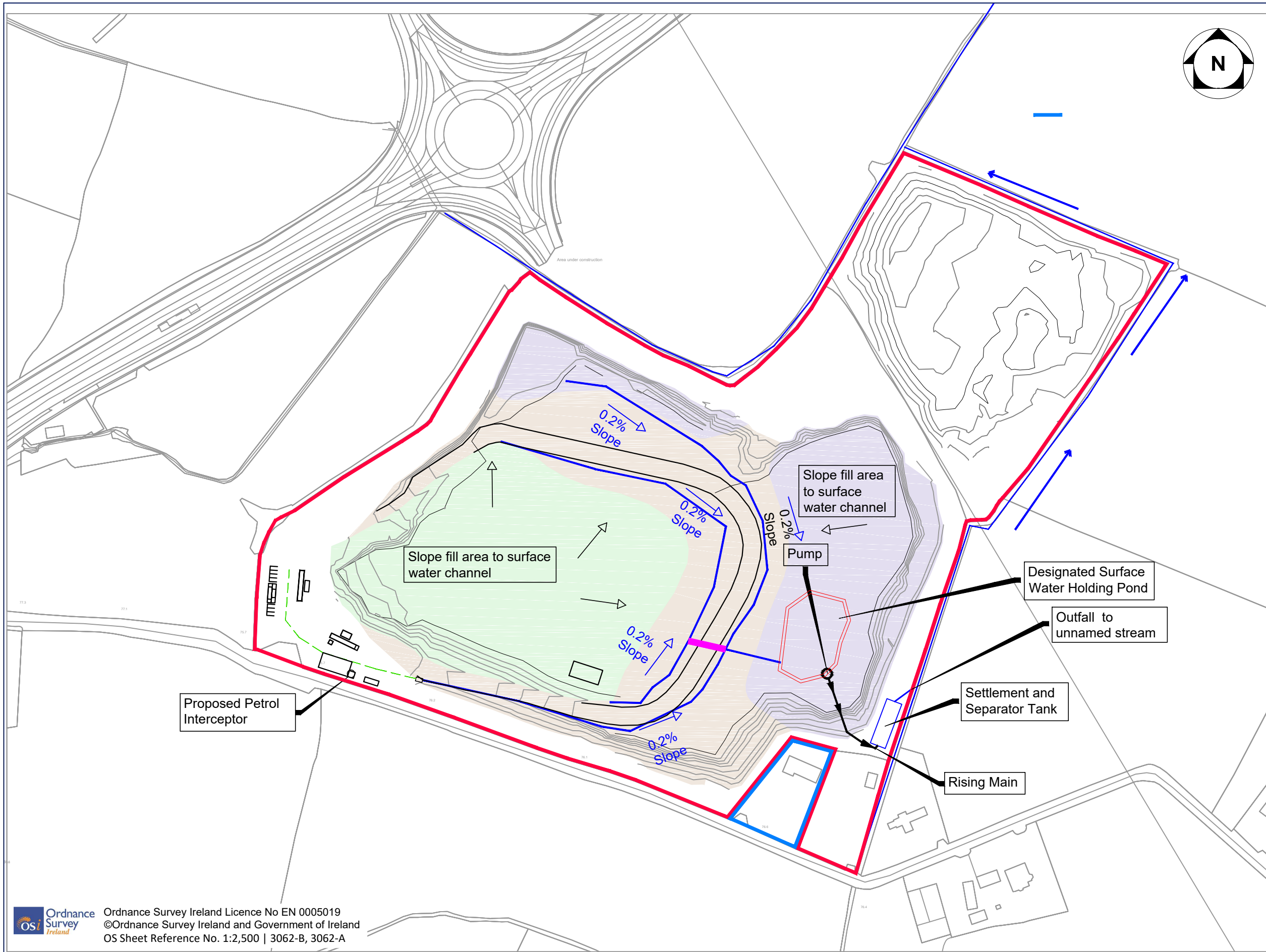
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Job No. MDR1499	File Ref. MDR1499DG0015_A_DF01.dwg	Drg. No. DG0015B	Rev. F01



LEGEND

- Application Area
- Adjoining lands within the ownership of the applicant
- Surface Water Channel
- Surface Water Wide Channel
- - - 300mmØ Drainage Pipe



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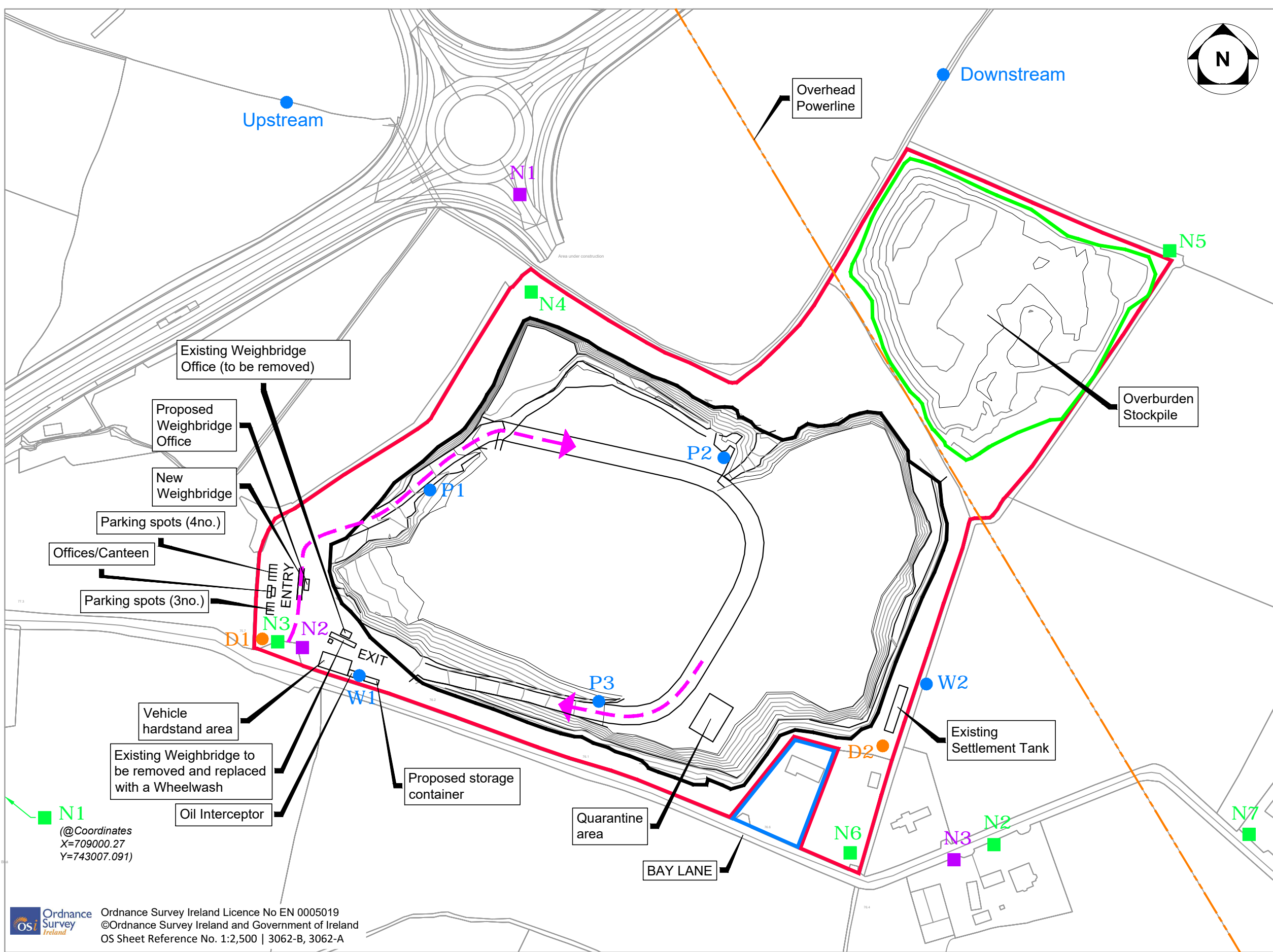
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Date 27.02.19	DRAWING 15C		
Scale 1:1250 @ A1 1:2500 @ A3	PROPOSED DRAINAGE LAYOUT PHASE 3		
Job No. MDR1499	File Ref. MDR1499DG0015_A_DF01.dwg	Drg. No. DG0015C	Rev. F01



LEGEND

- Application Area
- Adjoining lands within the ownership of the applicant
- Historical Noise Monitoring location (N1-N7)
- Baseline Noise Monitoring locations (N1-N3)
- Water Monitoring locations
- Dust Monitoring locations

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Approved CMG				
Date Mar. 2019	Title	DRAWING 16 ALL SAMPLING LOCATIONS		
Scale NTS @ A1 1:2500 @ A3				
Job No. MDR1499	File Ref. MDR1499DG0016F01.dwg	Drg. No. DG0016	Rev. F01	

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APPENDIX 5.2 CONSTRUCTION MANAGEMENT PLAN



Bay Lane Soil Recovery Facility Outline Construction Management Plan Document Control Sheet

Client:	GLV Bay Lane Limited
Project Title:	Bay Lane Soil Recovery Facility
Document Title:	Outline Construction Management Plan
Document No:	MDR1499

Text Pages:	44	Appendices:	0
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F01	Final	March 2019	RPS				CmG	<i>Conor Mc Gowan</i>

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1 INTRODUCTION

This document comprises an outline Construction Management Plan (CMP) for the proposed development comprising a soil recovery facility at Bay Lane Quarry, Bay Lane, Mulhuddart, Co. Dublin, Ireland.

Planning permission is sought by GLV Bay Lane Limited for development of a soil recovery facility at Bay Lane, Co. Dublin. This outline Construction Management Plan (CMP) forms part of the planning application to Fingal County Council. This report outlines the proposed methodologies and management measures to be implemented for the proposed development together with best practice and site-specific protection measures in order to protect the environment.

The site is fully in the ownership of the applicant (GLV Bay Lane Limited) and the applicant therefore has full control and ability to implement the proposed works following the receipt of planning permission from Fingal County Council.

The operations at the site will be subject to licence by the Environmental Protection Agency (EPA) and the proposed development, if granted, will operate under the licence and all operational requirements, record keeping, and monitoring regimes stipulated in the licence will apply.

The Waste Licence will require GLV Bay Lane Limited to maintain an Environmental Management System (EMS), the condition will list the requirements of the EMS, this includes the management reporting structure, schedule of environmental objectives and targets and an Environmental Management Programme (EMP), to make provision for management of the activity on a planned basis having regard to the desirability of ongoing assessment, recording and reporting of matters affecting the environment.

The measures proposed in this document will be implemented as appropriate within the facility EMS (for operational requirements) and/or a Contractor CMP (for construction / staging type requirements).

This report should be considered as a live document which will be updated by the applicant prior to the commencement of construction activities on site as required. It will be updated to incorporate the requirements of any relevant conditions attached to the grant of planning permission.

The CMP comprises the following elements:

Introduction and Context - This section provides an overview of the scope of works to be undertaken as part of this contract, including the location of works, current operations, the proposed development description etc. The purpose of this section is to fully understand the nature of the works so that potential impacts and mitigation measures can be identified.

Construction Management - This section of the CMP presents information on the construction and operational procedures of the proposed development; the purpose is to fully understand the nature of the proposed development so that potential impacts and mitigation measures can be identified.

Environmental Management Measures - The objective of this part of the CMP is to capture all mitigation measures put forward within the EIAR to provide additional detail in order to develop a practical programme of measures for the contractor(s). This element of the CMP will enable suitably qualified contractors to price the works required to implement mitigation measures.

1.1 SITE LOCATION AND CONTEXT

The site is located approximately 1km southwest off Exit 2 on the M2 motorway, approximately 6km NNW of Exit 5 on the M50 motorway.

The site is located at Bay Lane, St. Margaret's, County Dublin.

- Location: 53°25'33.2"N 6°21'15.7"W
- Grid coordinates latitude 53.425899 and longitude -6.354347
- Google Maps link: <https://goo.gl/maps/gpd9a6n9MYP2>

The site area is approximately 13.67ha in total and lies approximately 59.5m above Ordnance Datum. The quarry void extends over an area of 8.59 hectares.

The site is located close to a good transport network including the N2/M2, M50, M1 and the N3, while also being accessible to the Dublin Port Tunnel and to Dublin City Centre.

The Ordnance Survey of Ireland historical maps were consulted. The 1888-1913 OS 25" Inch Mapping indicates that the site was a previously greenfield with no evidence of high-risk historic land use.

Ortho-photography of the site in 1995, 2000 and 2005 available from the OSI Public Map Viewer showing the sequence of change from greenfield to quarry in c2000.

The site falls under the Fingal County Development Plan 2017 – 2023 and the associated lands are zoned GE – General Employment '*Provide opportunities for general enterprise and employment*', while also being subject to the Cherryhound Local Area Plan.



Figure 1.1 Site Location

1.2 SITE HISTORY

The site was zoned for and used for agricultural use prior to 2001.

Fingal County Council granted planning approval to develop a quarry in 2001. The planning approval required that the quarrying should cease, and that restoration be undertaken using dry inert fill.

Quarrying activities started in 2001 and included activities such as site clearance, blasting, crushing, grading and prior to loading for haulage offsite.

These activities generated a void space, an estimated void fill requirement of 740,000 M3. Quarrying activities ceased around 2009. The quarry land has a limited asset value in its current state. Use of the site for quarrying is limited due to the presence of pyrite. No further rock extraction will occur at the site.

The site was purchased by Glenveagh Properties PLC in mid-2018.

Details of the void space and capacity of the facility are presented in Chapter 5 of the EIAR.

1.3 PROPOSED DEVELOPMENT DESCRIPTION

This application seeks permission for the restoration of the facility through infill and restoration of a quarry with soil and stone which meet the waste acceptance criteria.

There remains a substantial void space on the quarry that requires infilling to restore the quarry to natural ground levels. This application seeks to ensure that the quarry can be infilled and fully restored.

The site operating hours, location, list of wastes to be accepted, the waste acceptance procedures, environmental monitoring and the general operation will be as described in the EIAR.

There are a number of temporary infrastructural changes sought under this application including a new temporary administration office building, new hard stand and car parking and a revised internal road network.

The main infrastructural elements to be included comprise the following:

1. The construction of a new facility entrance on the LP-1080 local road which bounds the south of the site. This will replace the existing facility entrance at the western boundary of the site which will revert to and be maintained as a secondary and emergency access. This new entrance will provide provision of safe access and reduce the road traffic risk associated with haulage to and from the site.
2. A new temporary administration building is to be located in the south-eastern portion of the site adjacent to the access road. Also, a temporary site canteen and welfare building. Each building comprises of a single-storey flat roof portacabin structure.
3. One weighbridge and associated office to be located near the administration building.

4. Car parking for 10 vehicles will be provided adjacent to the administration building.
5. An internal un-paved road network serving the deposition areas from the reception area.
6. A packaged treatment plant to treat sanitary effluent from the administration building;
7. All ancillary site works.

The operation will be licenced by the EPA and the waste licence will require that the operation comply with a series of conditions and monitoring regimes. The Waste Licence will be open ended and will not expire after 2.5 years.

The above elements are presented in **Figure 1.2** and a detailed development description is provided for in **Section 5.7** of the Environmental Impact Assessment Report (EIAR) submitted with the planning application.

1.4 SCOPE OF THIS CMP AND PHASES

This outline Construction Management Plan covers the construction / staging and operational phases of the project and applies to all of the proposed licence operations within the GLV Bay Lane Limited site for the duration of the granted permission.

Construction / staging will be very short duration establishment of the site temporary buildings and weighbridge, wheel-wash, site road among other ancillary enabling works.

Operations phase is the restoration activity.

The CMP relates to works undertaken within the landownership boundary outlined in **Figure 1.1**.

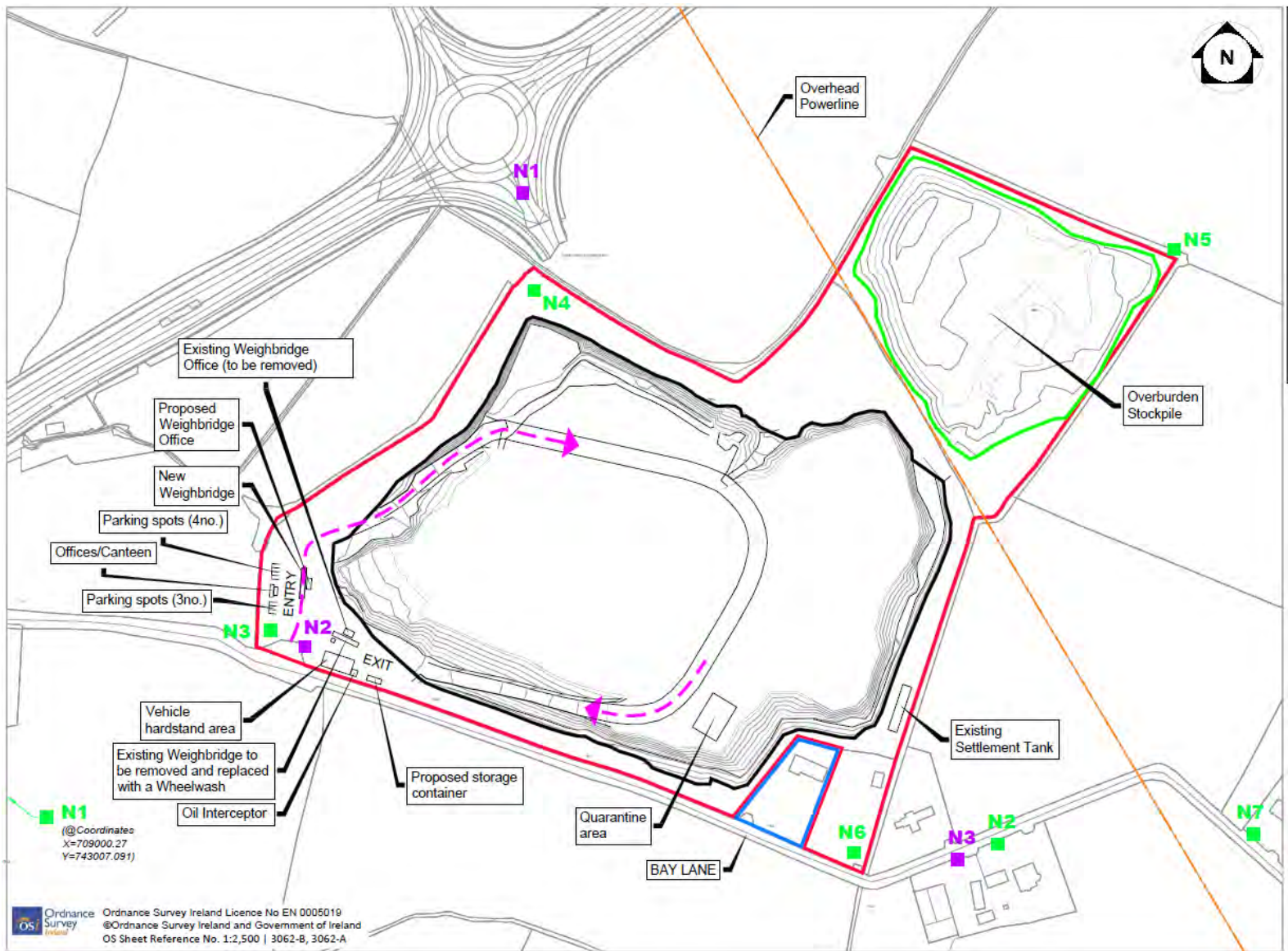


Figure 1.2 Proposed Site Layout

2 METHODOLOGY

2.1 CONSTRUCTION ELEMENTS

This section presents information on the construction and operational procedures of the proposed development such as:

- Site enabling works e.g. site administration, canteen/welfare building, weighbridge office etc.
- Operational Procedures e.g. traffic and transport, waste acceptance procedure, importing materials etc.
- Remediation and Landscaping.
- Construction / Operation Timeline and Operating Hours.

2.1.1 Site Enabling Works

2.1.1.1 Administration Building

A new temporary administration building, with access control, weighbridge and car parking will be located on the western side of the site entrance. This infrastructure will be located approximately 10m from the site boundary with Bay Lane road.

The administration buildings will comprise three buildings. Each structure will be a single storey portacabin building with flat roof.

- One office/meeting room
- a canteen, and shower and toilet facilities
- a file store,

Wheel washing facilities are proposed on the exit from the facility. It is proposed to install a wheel washing unit; which drivers will be required to pass through. The wheel wash will be self-contained to ensure this water is contained and there is no risk of accidental discharge.

2.1.1.2 Storm Water Management

To cater for the storm water generated by the hard stand associated with the vehicle parking and associated areas, a dedicated storm water management system is included in the design. This sustainable drainage system incorporates the following elements:

- Capture the storm water generated from hardstanding area through a network of gullies and underground pipe network;
- Treatment of the storm water by means of a combined silt trap and petrol interceptor which are designed to mitigate the potential for discharge from the site.
- Discharge of the treated storm water to the site sump area that in turn discharges off the site at greenfield run off rates.

2.1.1.3 Utilities

Sanitary effluent water will be generated from the canteen, toilet and wash facilities within the canteen building. All effluent will be collected in a sealed underground pipe network and discharged to a packaged treatment plant with treated effluent percolated to ground. The system will be sized to allow for additional loading. The proposed system will effectively treat effluent from a staff of 10.

Electricity supply to the administration building and associated infrastructure will be supplied from the grid network. A series of parallel overhead electricity power line runs along the southern boundary of the site. These lines will be routed underground to accommodate the new site entrance and a new connection will be agreed with the utility provider.

2.1.2 Operational Procedures

2.1.2.1 Traffic

The site is located close to a good transport network including the M2 motorway, located approximately 2km east of the site entrance. The existing access to the quarry is located approximately 260m southeast of the roundabout on the N2-R121 dual carriageway link road. The local road that connects this roundabout to the quarry access is called Bay Lane.

Bay Lane is the name of the local road that runs adjacent to the quarry. The road width varies between 5.0m and 5.4m for the approximately 260m length between Bay Lane Roundabout and the access to the quarry. South of the access to the quarry, Bay Lane reduces in road width to approximately 3.1m, but there is a ban on 3+ axle road users from this point. The presence of the vehicle size restriction limit, and the ceasing of operations at the quarry, results in Bay Lane having limited traffic movements.

The N2-R121 is a high capacity dual carriageway link road, which connects the M2/N2 road network to the R121 Ratoath Road and onwards to Blanchardstown Road, Snugborough Road and Ballycoolin Road. The link road is a Type 2 dual carriageway with two 3.5m wide lanes in each direction and separate off-road cycle tracks and footways. The dual carriageway has a flat vertical profile between the Bay Lane Roundabout and the M2/N2 grade separated junction. The horizontal alignment is straight for approximately 500m and then it is a long, prolonged curve for the 500m southwest of M2/N2 grade separated junction.

2.1.3 Waste acceptance at the Facility

This proposal is to establish a soil recovery facility at the existing Bay Lane Quarry to facilitate the restoration of the site to former natural levels by importation and recovery of inert clean soil and stone materials in accordance with the restoration plan.

Only clean soil and stones will be accepted at the Bay Lane Soil Recovery Facility during authorised opening hours. The hours of operation proposed by the applicant are from 08:00 to 18:00 hours Monday to Friday and 08:00 to 13:00 hours on Saturdays, with the facility being closed on Sundays and Public/Bank Holidays. No materials will be accepted at outside of these times.

Inert soil and stone waste material under the following European Waste Category (EWC) codes will be accepted for backfilling and restoration activities at the facility:

- 17 05 04 - Soil and Stones other than those mentioned in 17 05 03*
- 20 02 02 - Soil and Stones

A source of material for the backfilling and restoration of Bay Lane Quarry will be GLV Bay Lane Limited housing development/construction sites, that are in production at the time of operation. In certain circumstances, soil and stone materials will be accepted from other vetted and approved sources.

GLV Bay Lane Limited will implement a rigorous waste acceptance regime to ensure maximum traceability and protection on the environment. Waste acceptance procedures are outlined as below and will be aligned to requirements under the Waste Licence.

2.1.3.1 Waste Source pre-approval and characterisation (Rejection point 1)

All waste accepted for recovery will undergo a pre-approval procedure to determine the nature of the generating site, the material, the volume and other relevant characteristics. This will include comprehensive waste acceptance, inspection and sampling procedures, as required, as described below.

All large sources of soil and stone will be identified in advance and subject to basic characterisation testing at the generating site to confirm that soils at that location can be classified as clean and inert and appropriate for acceptance at Bay Lane Soil Recovery Facility.

Approval to haul waste to the facility will only be issued to hauliers holding a valid waste collection permit and a proven track record in the construction, waste management and / or haulage sectors.

The Bay Lane Soil Recovery Facility will require all soil and stones accepted for backfilling and recovery purposes to be significantly free of construction and demolition waste or non-hazardous / hazardous domestic, commercial or industrial wastes.

Wastes deemed acceptable by pre-approval will be subject to routine compliance evaluation to further demonstrate/confirm that they do comply with the basic characterisation and acceptance criteria. This compliance analysis will focus on key contaminant indicators. The details of this process are described in Table 2.1 below. The methodology proposed is aligned to the EPA guidance "*Waste acceptance criteria and development of soil trigger values for EPA-licensed soil recovery facilities 2017*".

Any waste collector/producer identified as importing contaminated/unsuitable material to the facility will be advised that no further loads can be accepted from the source of the suspected material. Detailed characterisation, and testing if required, of all waste being generated at the source of suspected material to ensure that future loads imported are clean and free of contamination.

Records will be kept of all inspections and testing of suspect wastes.

Table 2.1: Waste Acceptance Methodology for Backfill Material

Material Type	Minimum Criteria
Greenfield soil and stone	<p>Letter of suitability for the first 5,000 tonnes of soil and stone material received, and a further letter of suitability for each subsequent 5,000 tonnes of soil and stone material received.</p> <p>Each letter of suitability will be signed by a suitably qualified person and will include the following:</p> <ul style="list-style-type: none"> ▪ Confirm the waste is greenfield soil and stone ▪ A description of the source and nature of the soil and stone ▪ The location of the source of the soil and stone (including a map showing the source site boundary) ▪ The material is suitable for use as backfill within the facility ▪ The material will not cause environmental pollution at the facility <p>GLV Bay Lane Limited notes that there is no requirement for testing greenfield soil and stone, unless directed by EPA. However, GLV Bay Lane Limited notes that it is advisable that the suitably qualified person relies on soil test results to confirm the greenfield status of the source site before signing the letter of suitability.</p> <p>When the material arrives at Bay Lane Soil Recovery Facility, a visual video check may be conducted at the weighbridge (for uncovered loads only, for health and safety reasons) and upon tipping and placement to verify that the material delivered is in fact greenfield soil and stone.</p>
Non-greenfield soil and stone	<p>Prior to accepting material from each individual non-greenfield source site, GLV Bay Lane Limited will obtain information on the past use of the site and will reject non-greenfield sites where soil or groundwater contamination has been identified or where there is an increased risk of contamination being present. Soil and stone will not be accepted from sites where activities in the past have involved the manufacture or storage of hazardous substances e.g. chemical manufacturing facilities, oil storage facilities, retail filling stations.</p> <p>Up to 2% contamination with non-natural materials is acceptable within the soil and stone, i.e. anthropogenic or man-made substances such as rubble, concrete, bricks, metal and bitumen that are non-natural to the environment from which the material was extracted. There is no allowance for chemical contamination.</p> <p>Basic characterisation, compliance testing and on-site visual verification will be undertaken.</p> <p>Contaminant concentrations within the soil and stone will comply with soil trigger levels agreed with the EPA.</p>

The waste acceptance and characterisation process for non-greenfield soil and stone is shown in Table 2.2.

Table 2.2: Waste Characterisation for Non-Greenfield Soil and Stone

Amount of Material	Testing Requirement	Frequency of Testing/Location of Sampling
Greater than 2,000 tonnes from a single source	Basic characterisation Note 1	To be carried out off-site prior to agreeing acceptance of the waste at the facility.
	Compliance testing	One representative sample will be analysed for every

	Note 1	2,000 tonnes of material received at the facility. Note 3.
	On-site verification Note 2	Every load received at the facility
Less than 2,000 tonnes from a single source	Basic characterisation Note 1	Sampling will be undertaken at the facility prior to the use of material as backfill. At least one representative sample will be collected from every 2,000 tonnes of material from the collective of single sources, each of which is less than 2,000 tonnes. Note 3.
	On-site verification Note 2	Every load received at the facility
<p>In the case where there is conflict between Table above and the licence requirements, the licence requirements will prevail.</p> <p>Note 1: Basic characterisation constitutes a thorough determination, according to standardised analysis and behaviour testing methods, of the short and long-term leaching behaviour and/or characteristic properties of the waste. Parameters and trigger levels are to be agreed with the Agency.</p> <p>Note 2: On-site verification are rapid check methods (e.g. visual inspection) to confirm that a waste is the same as that which has been subjected to compliance testing and that which is described in any accompanying documents.</p> <p>Note 3. A portion of each sample will be retained on site for three years and will be available for inspection/analysis by the Agency.</p>		

Contaminant concentrations within the soil and stone will comply with soil trigger levels agreed with the EPA.

2.1.3.2 Reception at weighbridge (Rejection point 2)

Each consignment of material arriving at the facility will be inspected under Standard Operating Procedures upon entry by trained personnel to ensure it complies with what was agreed with the consigning facility in the preapproval stage.

Upon entry into the facility:

- All loads will be weighed;
- Any description of the waste will be checked in to confirm they comply with the licence, and
- A record will be made of the waste type, quantity, source and haulier.

Arriving vehicles will access the site at the existing site entrance on Bay Lane and will proceed to the weighbridge. Here the haulier will provide the required waste documentation for verification and recording.

The documentation for each consignment will be presented for verification. Waste will be accepted at the facility provided that the waste being imported is the same as that described in the accompanying documentation and the accompanying documentation includes a valid identification number.

Loads from hauliers failing to produce the required documentation or where evidence of contaminated or unsuitable material is identified within the consignment, will be rejected and directed off-site. Records of rejected consignments will be kept for review and appropriate action by GLV Bay Lane Limited. The waste producer / waste collector who imported the suspect material to

site will be advised that no further loads will be accepted from the same source as the suspect material, pending completion of more detailed waste characterisation (potentially including testing) to confirm that all waste generated at the same source is inert and substantially free of other waste materials. Testing will be undertaken at the expense of the waste producer / waste collector. The recycling manger will be informed immediately.

Soil and stone loads imported to the site that are uncovered may be visually inspected, by video, at the weighbridge.

Upon approval of the documentation and verification of any visual video check, the material will be directed towards the tipping area in the active backfilling area using the sites internal haul roads.

2.1.3.3 Tipping, On-Site Verification (Rejection point 3)

At the tipping area, the driver will be directed where to tip by the relevant machine operator. At this point, it will be visually inspected once again to ensure that there is no contaminated or unsuitable material intermixed within the load. Suspect contaminated or unsuitable materials will be identified through visual inspection (identification of unusual colour, intermixed wastes etc) or smell (unusual or distinct odours).

Contaminated or unsuitable loads identified during this stage will be reloaded and the load directed offsite immediately. If this is not possible, the contaminated or unsuitable materials will be moved to the quarantine area for appropriate storage or immediate removal offsite. The recycling manger will be informed immediately.

Any excessive (>2% as will be determined by a trained operator) quantities of non-inert soil and stone wastes (principally metal, timber, PVC pipes and plastic, concrete and brick) inadvertently imported and accepted at the site will be segregated (mechanically or by hand, as appropriate), stockpiled and transferred to storage skips at the waste quarantine area pending removal off-site to appropriate waste management facilities.

2.1.3.4 Placement, On-Site Verification (Rejection point 4)

The unloaded material that has been accepted upon tipping will be moved to the backfilling area immediately upon a dozer becoming available and compacted to avoid fugitive dust nuisance/arising.

During this spreading, placement and compaction operation the material will be visually inspected again to ensure that there is no contaminated or unsuitable material intermixed within the load. Any unsuitable or contaminated material identified at this stage will be segregated and removed to the waste quarantine area and stored pending closer inspection and testing to establish suitability. The recycling manger will be informed immediately. Contaminated or unsuitable material will be removed for management at an appropriate facility.

2.1.3.5 Waste acceptance - summary

Opportunities for identification of unsuitable materials, and subsequent rejection, will be implemented as follows:

1. At pre-approval stage, and the materials will be refused admission onto the site or upon identification of issues at characterisation.
2. Upon video inspection at weighbridge (uncovered loads) – materials will be redirected offsite immediately.
3. Upon vehicle tipping. Materials will be reloaded and will be redirected offsite immediately. If reloading cannot occur immediately, the rejected waste will be separated and moved to the Quarantine Area. The recycling manger will be informed immediately. A waste acceptance/rejection procedure will be applied. Non-natural materials in consignments will be manually removed where possible and transferred to the appropriate waste skip for appropriate management.
4. Before recovery stage. Materials will be reloaded and will be redirected offsite immediately. If reloading cannot occur immediately, the rejected waste will be separated and moved to the Quarantine Area. The recycling manger will be informed immediately. A waste acceptance/rejection procedure will be applied.

A flow diagram of the soil and stone waste handling and inspection process is provided in **Figure 2.1**.

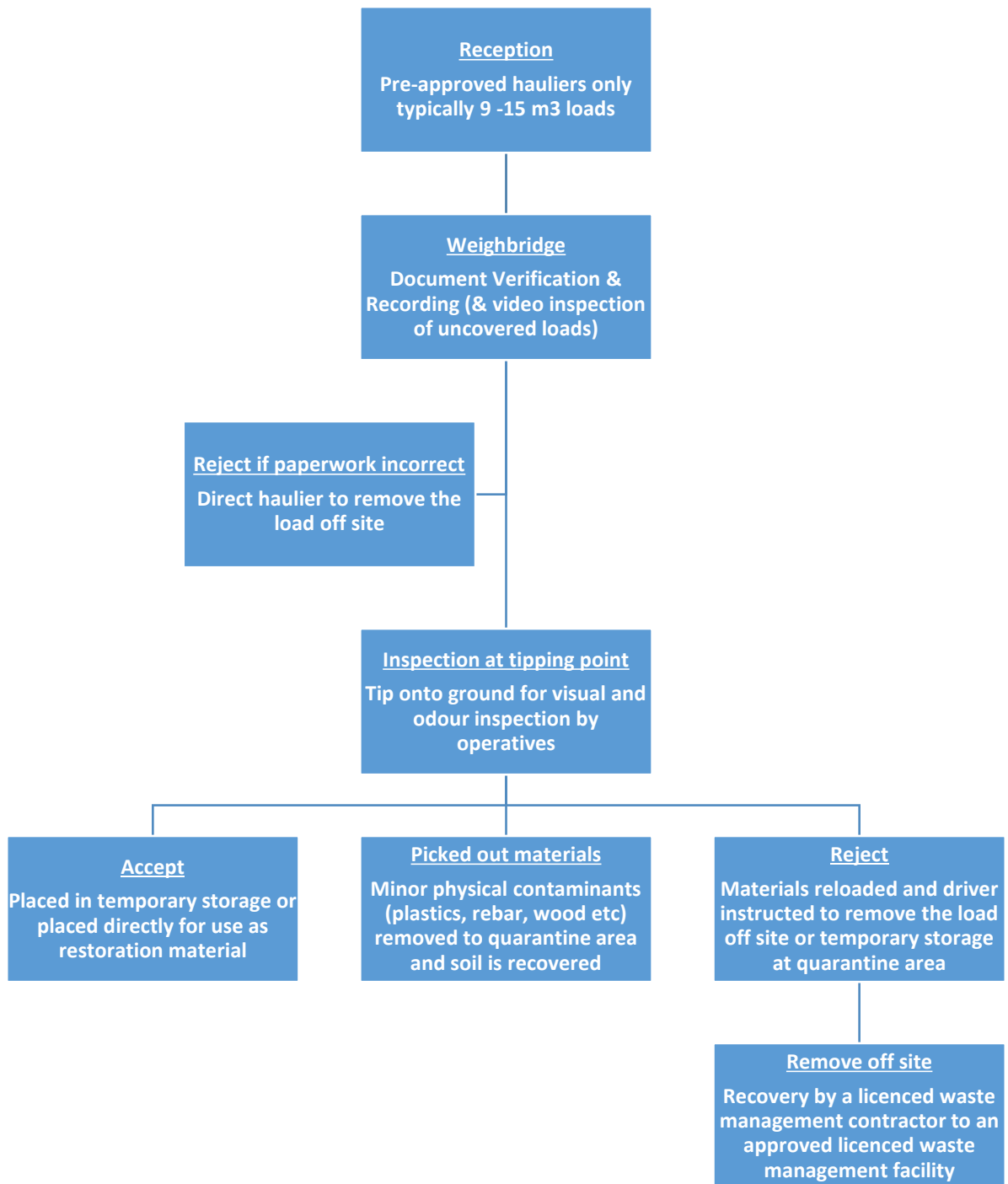


Figure 2.1: Flow diagram of the soil and stone waste handling and inspection process

2.1.4 Importing Material

This section outlines information related to the material after it has been deemed suitable for deposition, as well as the overall approach towards how the material will be positioned.

The estimated total volume of material to be imported to the site is approximately 740,000m³. This application for Bay Lane Soil Recovery Facility would result in a maximum waste acceptance of 532,800 tonnes per annum of inert soil and stone waste. Only the inert wastes in **Table 2.3** are proposed for recovery at the facility.

Table 2.3 Acceptable Waste for Recovery

EWC Code	Description	Restrictions
170504	Soil and stones	Other than those mentioned in EWC 170503 and excluding peat
20 02 02	Soil and Stones	

2.1.5 Phasing

Phasing will operate in phases as described in following sections, outlined in figures 5.6-5.8.

Backfilling of the bottom of pit floor will be undertaken in one main lift for each phase. The backfilled materials will be subject to compaction by tracked dozer. The materials placed at the bottom of the quarry will be further compacted by the weight of overlying material.

Phase 1 comprises filling of the area south west of the haul route between the southern and western ramps to final restoration profile. This phase of the development will result in the completion of backfilling of south western corners of the site to final restoration profile, with contoured slopes to the haul road. The final contoured areas will be covered and seeded.

Phase 2 comprises filling of the area north east of the haul route between the southern and western ramps to final restoration profile. The overburden stockpile will also be replaced in the pit area during this phase. This phase of the development will result in the completion of backfilling of north eastern part of the site to final restoration profile, with contoured slopes to the haul road. The final contoured areas will be covered and seeded.

See **Figure 2.2: Indicative Project Phasing of Backfilling and Restoration – Phase 1&2**

Phase 3 comprises filling of the haul route between the two reception area ramps to final restoration profile. The final contoured areas will be covered and seeded.

See **Figure 2.3: Indicative Project Phasing of Backfilling and Restoration – Phase 3**

On completion of the filling stage, in phase 4 a covering layer of subsoil and topsoil will be placed and graded across any remaining filled soil and stone which has not been covered and seeded. This topsoil will be planted with grass to promote stability and to minimise soil erosion and dust generation. The final contoured areas will be covered and seeded. Placement of the final covering layers will in all instances align to final restoration profile of the site and will be in accordance with

the landscaping restoration scheme submitted with this EIAR, which is aligned to original site contours.

See **Figure 2.4: Indicative Project Phasing of Backfilling and Restoration – Phase 4**

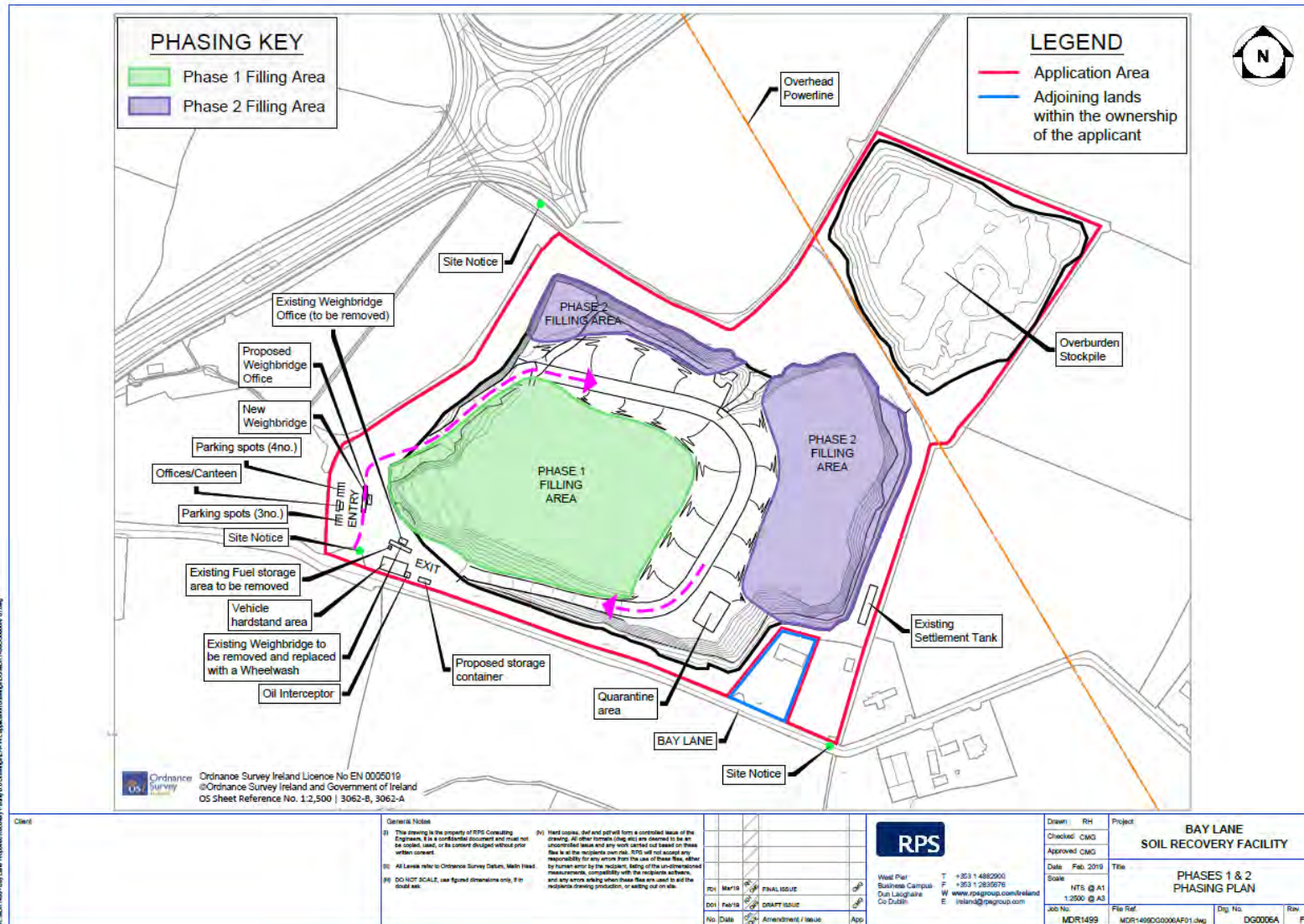


Figure 2.2: Indicative Project Phasing of Backfilling and Restoration – Phase 1&2

2.1.6 Site Restoration

2.1.6.1 Plant and Machinery

The construction/operational stage activities will be locally prominent with frequent traffic movements and machinery on site. However, such activities are similar to those found locally currently due to the presence of the former quarry and the existing concrete manufacturing operations near the site of the proposed development. The plant and machinery used on-site will comply with the EC (Construction Plant and Equipment) Permissible, Noise Levels Regulations, 1988 (S.I. No. 320 of 1988).

Following the completion of the site's restoration the use of machinery such as tractors may be used.

2.1.7 Remediation / Landscaping

The overall purpose of the proposed development is to allow for the infill of the former quarry to facilitate the full restoration of the site to natural levels. After completion of the infilling the site will be covered and landscaped to allow for the site to be suitable for agricultural use. This restoration will be sympathetic to the surrounding land uses.

In addition to any planning requirements, GLV Bay Lane Limited will comply with any conditions contained within the Waste Licence in relation to the ultimate restoration of the site.

This application proposes a revised set of restoration contours for the proposed development and these are shown in **Figure 2.5**. These revised contours are required to ensure that the final infilling ensures the land is restored to a smooth provide with the existing levels to the east and the west of the site.

Within the wider landscape the proposal will continue to blend with the existing agricultural landscape around the site. The creation of pastoral fields on the site will restore the quarry site to its former appearance in this landscape.

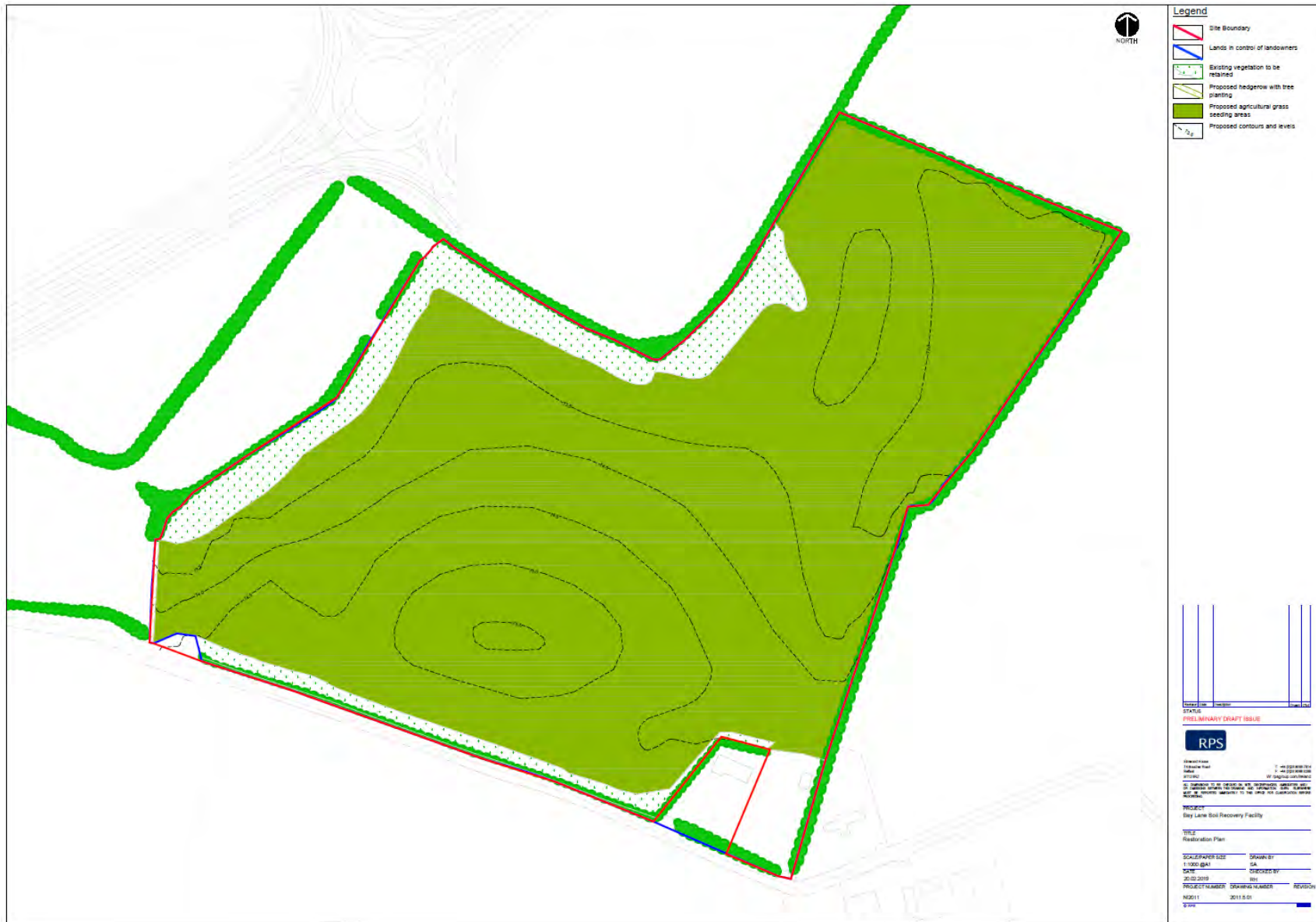


Figure 2.5 Final restoration levels

2.1.8 Construction / Operation Timeline and Operating Hours

2.1.8.1 Estimated Duration

Projections have been made to calculate the timeframe required to infill the remaining void. The following projections have been used to estimate how many years it would take to infill the existing void (740,000m³), assuming that the maximum waste accepted value (532,800 tonnes per annum of inert soil and stone waste) is achieved each year. At this rate the void space will be fully infilled, and the site restored to natural ground levels in a 2.5-year timeframe.

2.1.8.2 Operation hours

Waste acceptance hours and hours of operation will be agreed with the EPA and will be included as one of the conditions imposed.

The hours of operation proposed by the applicant are from 08:00 to 18:00 hours Monday to Friday and 08:00 to 13:00 hours on Saturdays, with the facility being closed on Sundays and Public/Bank Holidays. No materials will be accepted at outside of these times.

3 ENVIRONMENTAL MANAGEMENT MEASURES

The following measures are set out in order to protect and eliminate the potential for significant impact to the environment. These should be carried out together with general best practice measures and various guidance documents set throughout Chapter 4, while the remaining subsections identified the mitigation and management measures proposed to be adopted for this development as identified through the specialist environmental assessments undertaken as part of the Environmental Impact Assessment (EIA).

3.1 SUMMARY OF MITIGATION MEASURES ARISING FROM THE EIAR AND NIS

All works in relation to the project shall be undertaken in accordance with the requirements set out in the Environmental Impact Assessment Report (EIAR) and the Natura Impact Statement (NIS). Chapters 6 to 16 of the EIAR assess the likely significant impacts arising from the proposed development. **Table 3.1** summarises the potential impacts identified, and the mitigation measures required, where necessary.

Table 3.1 Summary of Construction / Operational Phase Mitigation Measures listed in the EIAR and NIS

Environmental Factor	Environmental Effect Identified	Brief Description of Effect	Mitigation Measures Proposed to Control Effect
Population	Impact on Population	The proposed development will not have any significant direct impacts. Effects include; temporary increase in population in the area resulting in some additional trade for local accommodation and services.	The construction staging phase of the proposed development will proceed over an approximate 1-month period. Therefore, the impacts on population are short term and do not require significant mitigation.
	Impact on Employment	The construction staging phase will generate construction employment directly on-site with additional specialist workers, benefiting support industries such as building suppliers. The employment of the construction workforce will have a beneficial impact on services within the local area.	The proposed development will have a positive impact on employment, therefore, no mitigation measures are required.
	Impact on Community	The proposed development will result in the creation of a construction site in a new area over phases that will have a potential negative impact on the immediate local environment, businesses and the small number of local residents through increased traffic and increased noise, dirt and dust generation.	The following mitigation measures will be imposed: <ul style="list-style-type: none"> ▪ Spraying the road surface near the entrances to the subject site with water to limit dust emissions; ▪ Prompt removal of any material spillage at the site entrance to prevent dispersion; ▪ Stockpiles with loose material to be covered when not in use; ▪ Lorries importing/exporting loose materials to/from the construction areas to be covered; ▪ Establishing channels of communication between relevant parties; and ▪ Erection of barriers around noisy plant.
Human Health	Impacts on the Local Communities and Their Health	The facility will introduce temporary construction related air and noise emissions within the site boundary, other main aspects that extend beyond the site boundary are fugitive emissions and impacts to drinking water supplies from traffic and site operations.	Mitigation measures are assessed in more detail under the Water, Air, Noise and Traffic sections, these will ensure there will be no residual impacts for human health.
Biodiversity	Impacts on Habitats and Flora	The bulk of the proposed works are located within habitats of Local (lower) importance. Habitats of Local	Where feasible, no scrub clearance or other removal of vegetation will occur during the bird breeding season from 1 st

Environmental Factor	Environmental Effect Identified	Brief Description of Effect	Mitigation Measures Proposed to Control Effect
		<p>(lower) importance do not require impact assessment. The construction of the new site entrance will require the loss of several meters of hedgerows for the duration of the operation phase.</p>	<p>March to 31st August. Given the low ecological value of the hedgerows in this area, this impact is not considered significant.</p>
	<p>Impacts to Surface Water</p>	<p>The new infrastructural proposals and hardstanding area may result in both direct and indirect impacts including changes in the hydrological regime through surface water run-off that would require changes in the current drainage infrastructure. Potential impacts to water quality may occur through the leakage or spillage of materials, sediment loss during construction and resultant impacts to the aquatic environment.</p>	<p>During construction, GLV Bay Lane Limited and/or any Contractor appointed by GLV Bay Lane Limited, must ensure that:</p> <ul style="list-style-type: none"> ▪ Topsoil shall be: <ul style="list-style-type: none"> ▪ maintained in a tidy condition, separate from general spoil, with side slopes not steeper than 1 in 3; ▪ maintained in good condition keeping weeds under control and preventing vermin infestation. ▪ Excavations shall be left open for minimal periods to avoid acting as a conduit for surface water flows; ▪ All ready-mixed concrete shall be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline waste waters or contaminated storm water to the underlying subsoil. Wash down and washout of concrete transporting vehicles will take place at an appropriate facility offsite; ▪ Concrete shall be contained and managed appropriately to prevent pollution of watercourses. Concrete pouring will be prevented during periods of heavy rainfall, and quick setting mixes will be used; ▪ Waste materials shall be stored in designated areas that are isolated from surface water drains. Skips will be closed or covered to prevent materials being blown or washed away and to reduce the likelihood of contaminated water leakage;

Environmental Factor	Environmental Effect Identified	Brief Description of Effect	Mitigation Measures Proposed to Control Effect
			<ul style="list-style-type: none"> ▪ Temporary construction compounds shall not be located within 20 m of watercourses, or where it is likely that groundwater will be encountered; ▪ No harmful materials shall be deposited into nearby watercourses, including drainage ditches/pipes, on or adjacent to the site; ▪ Any dewatering of standing water in the site shall require a Dewatering Plan to be incorporated into the Specified Engineering Works for agreement with the EPA prior to major works on site. This plan will include a commitment to dewatering (to the existing settlement tank), at a rate equivalent to greenfield run-off; and ▪ Protection measures shall be put in place to ensure that all hydrocarbons used during the Construction are appropriately handled, stored and disposed of in accordance with recognised standards. These measures will include: <ul style="list-style-type: none"> ▪ Re-fuelling of plant will not occur on hardstand areas. Drip trays will be used, and spill kits will be kept available; ▪ Machinery used on site will be regularly inspected to ensure there is no leakage from them and to ensure the machinery will not cause contamination of watercourses; ▪ Fuel will be transported onsite in a mobile, double skinned tank and a spill tray will be used when refuelling; ▪ Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for disposal or re-cycling by the generating operative;

Environmental Factor	Environmental Effect Identified	Brief Description of Effect	Mitigation Measures Proposed to Control Effect
			<ul style="list-style-type: none"> ▪ Only emergency breakdown maintenance will be carried out on site. Emergency procedures and spillage kits will be readily available at strategic site locations and construction staff will be familiar with emergency procedures; and ▪ Any spillage of fuels, lubricants or hydraulic oils will be immediately contained, with an appropriate emergency response put in. Any contaminated soil will be removed from the site and properly disposed of. <p>During operation, GLV Bay Lane Limited will ensure that:</p> <ul style="list-style-type: none"> ▪ Incoming landfill waste shall be subject to detailed Waste Acceptance Protocols, which are agreed with the EPA; ▪ Any monitoring schedules outlined in the Waste Licence shall be delivered throughout the operational phase; ▪ The monitoring of a new discharge/percolation from the foul water treatment (contained septic tank) to ensure compliance with water quality standards.

Environmental Factor	Environmental Effect Identified	Brief Description of Effect	Mitigation Measures Proposed to Control Effect
	Invasive Species	<p>There is potential for invasive species to be introduced or become established during the proposed development. Machinery, equipment and material (including soil) which may be transported onto the site for construction could lead to the introduction of invasive species to the site with potential to displace natural biodiversity.</p>	<p>An Invasive Species Management Plan (ISMP) will be prepared by a suitably and its action approved. The ISMP will include management protocols for dealing with occurrences on scheduled invasive species, including mitigation/procedures set out by INVAS (undated);</p> <ul style="list-style-type: none"> ▪ A pre-construction survey (carried out by an appropriately qualified ecologist in the correct botanical season: e.g. April - September) will be carried out immediately in advance of construction activities; ▪ All machinery entering the site during construction activities are free from contamination with scheduled invasive plants. This can be achieved through wheel wash stations for vehicles entering and exiting the proposed development site; ▪ The materials which are introduced to the site during the construction are free from scheduled invasive species; and ▪ Where a scheduled invasive species is accidentally introduced or becomes established within the proposed development site, works will be immediately halted and an effective exclusion zone will be erected until such time that the species identified are under control. <p>Should schedule invasive plants be discovered during the invasive species surveys, the area will be visibly cordoned off in all directions where access will allow and up to 7 metres in the case of Japanese knotweed (<i>Fallopia japonica</i>). Thereafter, there will be a requirement to develop an Invasive Species Management Plan (ISMP). The ISMP will be agreed with a suitable qualified ecologist/invasive species specialist and may require specialist contactor to undertake management.</p>
Soil, Geology and Hydrogeology	Impacts on the Hydrogeological	The potential effects on soils, geology and hydrogeology that could result from the extended operational phase	The following will apply in addition to the sediment control measures listed elsewhere:

Environmental Factor	Environmental Effect Identified	Brief Description of Effect	Mitigation Measures Proposed to Control Effect
	Environment	include: <ul style="list-style-type: none"> • Impact on groundwater quality during active infilling through the infiltration of runoff collecting within the waste mass. This could result in an increased risk to groundwater dependent receptors (e.g. groundwater users, wetlands or surface water bodies); • Groundwater flooding; • Localised impacts on the quality of soil potentially groundwater through the accidental release of hazardous materials, most notably hydrocarbons associated with areas of parking and/or vehicular movements around the site. 	<ul style="list-style-type: none"> • All ready-mixed concrete will be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline waste waters or contaminated storm water to the underlying subsoil. Wash down and washout of concrete transporting vehicles will take place at an appropriate facility offsite. • Skips will be closed or covered to prevent materials being blown or washed away and to reduce the likelihood of contaminated water leakage. Hazardous materials including waste oil, solvents and paints, will be stored in sealed containers in bunded areas and kept separate from other waste materials while awaiting collection by a registered waste carrier. Refuelling, lubrication and storage areas and site offices will not be located within 50m of any surface water bodies. <p>All inert soil and stone arriving at site for disposal will be subject to the detailed Waste Acceptance Protocols agreed with the EPA.</p>
Water	Impacts on the Hydrological Environment	<p>The new infrastructural proposals and hardstanding area result in both direct and indirect impacts including changes in the hydrological regime through surface water run-off that would require changes in the current drainage infrastructure. Potential impacts to water quality may occur through the leakage or spillage of materials.</p>	<ul style="list-style-type: none"> ▪ Temporary storage of soil will be stored away from any open surface water drains. Movement of material will be minimised to reduce degradation of soil structure and generation of dust. ▪ Excavated materials from construction works will reused as infill on site. ▪ Waste fuels and materials will be stored in designated areas that are isolated from surface water drains. Skips will be closed or covered to prevent materials being blown or washed away and to reduce the likelihood of contaminated water leakage. <p>During construction, GLV Bay Lane Limited and/or any Contractor appointed by GLV Bay Lane Limited, must ensure that:</p>

Environmental Factor	Environmental Effect Identified	Brief Description of Effect	Mitigation Measures Proposed to Control Effect
			<ul style="list-style-type: none"> ▪ All ready-mixed concrete will be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline waste waters or contaminated storm water to the underlying subsoil. Wash down and washout of concrete transporting vehicles will take place at an appropriate facility offsite; ▪ Waste fuels and materials will be stored in designated areas that are isolated from surface water drains. Skips will be closed or covered to prevent materials being blown or washed away and to reduce the likelihood of contaminated water leakage. Hazardous materials including waste oil, solvents and paints, will be stored in sealed containers in bunded areas and kept separate from other waste materials while awaiting collection by a registered waste carrier. Refuelling, lubrication and storage areas and site offices will not be located within 50m of any surface water bodies; ▪ Topsoil will be striped to an average depth of 300mm over the whole site area bounded by the temporary fencing. Topsoil shall be maintained separate from general spoil in a tidy condition in with side slopes not steeper than 1 in 3 and shall be maintained in good condition keeping weeds under control and preventing vermin infestation. He shall take all necessary precautions to avoid run off resulting from topsoil stripping from polluting neighbouring watercourses; ▪ Stockpiling of materials is strictly prohibited within 5m of any ditch or water-laden channel and appropriate management of excess material stockpiles to prevent siltation of watercourses; ▪ Temporary construction compounds will not be located 20 m of watercourses, or where it is likely that groundwater will be encountered;

Environmental Factor	Environmental Effect Identified	Brief Description of Effect	Mitigation Measures Proposed to Control Effect
			<ul style="list-style-type: none"> ▪ All oils, solvents and paints will be stored within suitably designed bunded areas with a bund volume of 110% of the capacity of the largest tank/container; ▪ Refuelling will only take place in designated hard standing areas. A supply of spill kits and hydrocarbon adsorbent packs will be stored along the construction areas. Personnel will be trained in the use of this equipment. Waste oils and hydraulic fluids will be collected in suitable leak-proof containers and transported from the site and off-site areas for disposal or recycling. ▪ Machinery used on site will be regularly inspected to ensure there is no leakage from them and to ensure the machinery will not cause contamination of watercourses; ▪ Where required, fuel will be transported in a mobile, double skinned tank and a spill tray will be used when refuelling (if taking place outside a compound area); ▪ Concrete, including, but not limited to, waste and wash-down water, will be contained and managed appropriately to prevent pollution of watercourses. Concrete pouring will be prevented during periods of heavy rainfall; quick setting mixes will be used; and, ▪ Protection measures will be put in place to ensure that all hydrocarbons used during the Construction are appropriately handled, stored and disposed of in accordance with recognised standards.
	<p>Impacts on the Hydrological Environment – Operational Phase</p>	<p>The operational phase of the site involves the continuation of infilling and restoration of the former quarry with inert waste at a rate not exceeding 532,800 tonnes per annum of inert soil and stone waste.</p> <p>During operation the potential impact is the accidental spills and leaks attributed through surface water. Accidental discharge of hydrocarbons could occur from</p>	<ul style="list-style-type: none"> ▪ Rain water from roofing and surface water runoff from hardstanding areas will be discharged to a surface water settlement tank with silt trap and Class 1 petrol interceptor. The interceptor will prevent pollution to surface waters by any hydrocarbons. ▪ Pollution mitigation measures will be designed to prevent or reduce the risk of significant impact by contaminated run-off to surface water.

Environmental Factor	Environmental Effect Identified	Brief Description of Effect	Mitigation Measures Proposed to Control Effect
		site traffic, in car parking areas or fuel storage and potentially entering the surface water drainage system is not mitigated.	
Air Quality and Climate	Impacts to Dust	Dust has the potential to be generated through the infilling operation at the quarry with inert waste, vehicle movements around the site and infrastructure changes.	<ul style="list-style-type: none"> ▪ The physical characteristics of the site, this is the overriding dust mitigation method. As the majority of the site is below ground level, it acts as a natural barrier, containing the dust within the void and preventing nuisance to the surrounding landscape; ▪ Dust control equipment to be used to control dust levels; ▪ A road sweeper will be used on site to mitigate against dust on and around the site; ▪ Public roads outside the site shall be regularly inspected for cleanliness, and cleaned as necessary; ▪ All vehicles exiting the site shall make use of a wheel wash facility prior to entering onto public roads; ▪ Wheel washes should be self-contained systems that do not require discharge of the wastewater to water bodies; and ▪ A sprinkler system and regular watering is in place at the entrance/reception to suppress dust;
	Impacts to Odour	There is a low potential for odour generation and nuisance to occur during the operations on the GLV Bay Lane Limited site. The Waste Licence only permits the acceptance of inert soil and stone materials to be landfilled that will not cause an odour impact.	Due to the waste acceptance condition, odour generating waste will not be accepted, therefore, mitigation measures are not required. Non-conforming and/or fly-tipped waste will be removed off site to an approved facility.
	Impacts on Road Traffic	Road traffic from the proposed development can impact directly on local air quality and any sensitive receptors that are located adjacent to the local road networks may experience the impacts to local air quality.	Mitigation of road traffic emissions are mainly achieved through EU legislation driven improvements in fuel and engine technology resulting in a gradually reducing emissions per vehicle profile.
	Impacts on Greenhouse Gas Emissions	Greenhouse gas emissions from the on-site use of fossil fuels and through the use of vehicles associated with the site.	Implementation of a Traffic Management Plan which will be prepared in advance of operation. Implementing good practice e.g. turning off engines, regular

Environmental Factor	Environmental Effect Identified	Brief Description of Effect	Mitigation Measures Proposed to Control Effect
			maintenance and use of low energy equipment.
Noise and Vibration	Impacts on Noise Sensitive Receptors	Noise and vibration resulting from on-site construction and operational works, including traffic-related noise and vibration.	<ul style="list-style-type: none"> ▪ During the initial phases where construction, restoration and infilling are operating in tandem, every effort should be made to double up on HGV trips; and ▪ HGV will only be allowed to import material to the site during the proposed operational hours.
Traffic and Transportation	Impacts on Traffic, including safety, volume and delays	Additional traffic volumes associated with the construction and operational phase activities, primarily HGVs traveling on the existing road network and delays to non-project related journeys as a result of HGVs.	<ul style="list-style-type: none"> ▪ Road signage is proposed to provide advance warning signage of the new access; and ▪ A full Traffic Management Plan for both phases will be prepared by GLV Bay Lane Limited and agreed with the Local Authority to minimise the volume of traffic to minimise delays;
Material Assets	Impacts to Utilities and Waste	Temporary disruptions to electrical, telecommunications and water supply utilities during the construction and operation phase.	No mitigation measures are considered necessary in respect of utilities or waste during the operation of the facility.
	Impacts to Residential Property	Impacts from traffic, dust and noise to residential property in the area.	Mitigations for air and climate, traffic and transportation and noise and vibration are listed under their respective headings.
Cultural Heritage	Impacts to Cultural Heritage	Disturbances to cultural heritage in the area including RMP/SMR sites and architectural sites.	Monitoring of overburden-stripping will be carried out as an archaeological exercise leaving a depth of 30 cm. Should any features be revealed then any further work would be subject to additional licencing.
Landscape and Visual Assessment	Impacts to On-Site / Off-Site Visuals to Sensitive Receptors	Landscape, physical and visual impacts to the landform and land cover of the site during the construction, operational and remediation phases.	<ul style="list-style-type: none"> ▪ Temporary storage heaps not to exceed 2m; ▪ Protection of existing vegetation along the site boundary; ▪ Ensuring existing landscape framework remains dominant by cleaning up of debris, protecting or reinforcing existing boundary vegetation; ▪ New hedgerow and tree planting proposed; and ▪ Restoration and reinstatement of the levels of topography at the site.

3.2 ENVIRONMENTAL SITE PROCEDURES

This outline Construction / Operational Management Plan (CMP) has been prepared in accordance with various best practice guidelines for construction and operational activities in general. It sets out recommended environmental management measures which shall be provided for in a final CMP to be prepared following receipt of permission and to which the future development shall adhere. These management measures and those to be incorporated in the final CMP have regard to, but not limited to the following guidelines:

- Environmental Management in the Extractive Industry (Non-Scheduled Minerals) (EPA, 2007).
- Draft Guidance Note on Soil Recovery Waste Acceptance Criteria (EPA, 2017).
- Construction Industry Guidelines (such as CIRIA C502 Environmental Good Practice on site).
- BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise and BS 5228-2:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part2: Vibration (together referred to as B.S. 5228).
- Control of Dust from Construction and Demolition Activities (BRE, 2003).
- Control of Water Pollution from Construction Sites - Guide to Good Practice. SP156 (Murnane et al, 2002).
- Control of water pollution from construction sites. Guidance for Consultants and Contractors (C532). CIRIA (H. Masters-Williams et al), 2001).

The following project specific environmental management procedures will be developed and employed by GLV Bay Lane Limited. While working on the project.

Outline of Potential Environmental Procedures

- Roles and Responsibilities
- Awareness and Training
- Environmental Emergency Response Plan
- Record Keeping, Auditing and Monitoring
- Good House-Keeping and Construction Best Practice
- Contaminated Material Plan
- Fuel Spill Management Plan
- Protection of Flora and Fauna
- Invasive Species Management
- Soil, Geology and Hydrogeology
- Water Management
- Sediment Control
- Air Quality and Climate Management
- Noise and Vibration Management
- Traffic Management Plan
- Landscape Restoration Plan

Because some management measures are set out under various specific environmental topic headings there is some overlap in recommended management measures specified.

3.3 ENVIRONMENTAL MANAGEMENT MEASURES

The following sections provide guidance on the requirements of for each of the specific environmental management procedures as set out in the EIAR. As appropriate, an outline of information to be contained within each procedure is provided.

N.B. This report should be considered as a live document which will be updated by the applicant prior to commencement of activities. It will be updated to incorporate the requirements of any relevant conditions attached to either / both the grant of planning permission and the Waste Licence.

3.3.1 Roles and Responsibilities

This section will set out the roles and responsibilities of the principal parties involved in the construction of the proposed remediation solution once a Contractor has been appointed. The roles and responsibilities outlined below are indicative, and these will be updated upon appointment of the Contractor.

3.3.1.1 GLV Bay Lane Limited Ltd.

GLV Bay Lane Limited Ltd. will be responsible for the following management and reporting activities for the facility waste licence:

- Acting as the primary contact for all interaction with the EPA
- Reading, understanding, approving and implementing the EIAR documentation and ensure that all environmental standards are achieved during the project.
- Being aware of legislation, codes of practice, guidance notes and good environmental working practice relevant to the remediation project.
- Enabling those who are best placed to eliminate or mitigate risk to do so.
- Ensuring that all incidents are reported to the EPA in a timely fashion.
- Ensuring that the designed and installed development presents minimal environmental risk.
- Ensuring that all related activities are planned and performed to best manage and mitigate any risk to personnel or the environment introduced during construction activities.
- Ensuring that all applicable environmental documents have the correct level of authorisation.

3.3.1.2 The Contractor

Any Contractor appointed by GLV Bay Lane Limited will be responsible for all activities necessary to provide the works in accordance with the requirements stated or implied within the Contract, unless explicitly stated as being the responsibility of the Employer or others. This includes construction, testing and all associated management and supervision. It also includes implementation of mitigation measures and monitoring required.

The Contractor shall resource, plan, progress and deliver the project in such a manner that all management systems are fully transparent and auditable.

The Contractor's management systems shall be audited by the Project Manager as appropriate throughout the Contract.

The Contractor appointed to the project shall be assigned the following responsibilities as a contractual requirement. It should be noted that this is an indicative list and does not limit the requirements of the Contract.

3.3.2 Awareness and Training

As part of the Waste Licence, GLV Bay Lane Limited will be required maintain procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a significant effect upon the environment. Appropriate records of training to be maintained. Employees and site workers to be made aware of their potential impacts to the environment during an induction.

The Facility Manager and deputy, and any replacement manager or deputy, shall successfully complete both the appropriate Waste Management Training Programme and associated site assessment appraisal within twelve months of appointment.

3.3.3 Environmental Emergency Response Plan

An 'Accident Prevention and Emergency Response' will provide for the protection of the environment. This will be implemented to ensure that a documented Accident Prevention Procedure is in place that will address the hazards on-site. The environmental emergency response will set out procedures and responsibilities to be followed in the event of emergency situation on the site. It will identify potential emergency occurrences and ensure appropriate provision is made on site to allow the specified procedure to be swiftly and safely performed.

In the event of an incident the licensee shall immediately:

- Carry out an investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
- Isolate the source of any such emission;
- Evaluate the environmental pollution, if any, caused by the incident;
- Identify and execute the measures to minimise the emissions/malfunction and the effects thereof;
- Identify the date, time and place of the incident; and
- Notify the Agency and other relevant authorities.

GLV Bay Lane Limited will provide a proposal to the Agency for its agreement within one month of the incident occurring or as otherwise agreed by the Agency to:

- Identify and put in place measures to avoid reoccurrence of the incident; and

- Identify and put in place any other appropriate remedial action.

3.3.4 Record Keeping, Auditing and Monitoring

The Waste Licence will require GLV Bay Lane Limited to notify, record and report to the Agency to provide for the collection and reporting of adequate information on the activity. The licensee (GLV Bay Lane Limited) must notify the Agency as soon as practicable after the occurrence of the following:

- Any release of environmental significance to atmosphere for any potential emission point including bypasses;
- Any emissions, which does not comply with the requirements of this licence;
- Any malfunction or breakdown of key control equipment or monitoring equipment set out in the Control and Monitoring schedule which is likely to lead to loss of control of the abatement system; and
- Any incident with the potential for environmental contamination of surface water or groundwater, or posing an environmental threat to air or land, or requiring an emergency response by the Local Authority.

The monitoring and control of the emissions from the facility will be confirmed in the conditions of the pending Waste Licence. The mitigation strategies mentioned in this chapter will be implemented to minimise emissions from the site. No specified emission agreed with the EPA shall exceed the emission limit values set out in the emissions limits of the licence schedule of the Waste Licence. The likely monitoring schedule that are to be reported to the EPA and included in the Annual Environmental Reports may include the following:

- Surface Water;
- Dust; and
- Noise.

3.3.5 Good Site House-Keeping and Construction Management Best Practice

The purpose of the Good Site House-Keeping procedure is to ensure a good standard of 'house-keeping' across the proposed development while highlighting some standard best practice measures which will minimise environmental risk. Some of these measures are repeated as relevant and appropriate in following specialist environmental management procedures, which highlights the importance of such measures for the protection of the overall environment.

GLV Bay Lane Limited, together with all staff and any subcontractor must plan, manage and monitor their work so it is carried out safely and without risks to health, including careful planning on how the site will be kept tidy and housekeeping actively managed.

The following mitigation methods shall be employed by the contractor to ensure good housekeeping on site and in the surrounding area:

- Spraying the road surface near the entrances to the subject site with water when necessary to limit dust emissions;

- Prompt removal of any material spillage at the site entrances to prevent dispersion along the public road due to wind/rain action and subsequent re-suspension due to passing vehicles;
- Stockpiles of loose, fine aggregate or other similar sized construction material which could be easily re-suspended by the wind to be covered when not in use;
- Lorries importing/exporting loose materials to/from the construction areas to be covered;
- Establishing channels of communication between the contractor/developer, Planning Authority and resident communities;
- Erection of barriers around items such as generators or high duty compressors;
- All works will be carried out under the supervision of suitably experienced and competent staff;
- Prior to any works, ensure that all plant and equipment is mechanically sound to avoid leaks of oil, fuel, hydraulic fluids and grease;
- Car parking facilities will be available on site, as will wheel-wash facilities to minimise dust/dirt being transferred from the site to the public roads by vehicles; and
- Contractors shall prepare an assessment for potential noisy operation operations and outline the noise mitigation measures proposed, to protect local amenity.

3.3.6 Contaminated Material Plan

A Contaminated Material Plan will set out detailed waste acceptance and rejection procedures set out in summary in **Section** Error! Reference source not found. above.

3.3.7 Fuel Spill Management Plan

No fuels will be stored onsite, with fuel imported on an as-needs basis. Refuelling will only occur on appropriate hardstand area. The only containers of fuels permanently onsite will be those in vehicles. GLV Bay Lane Limited will prepare and put in place a Fuel Spill Management Plan to contain, remove or remediate spillages before they reach a surface water receptor. In the event of a fuel spill the following procedure are followed:

- The source of the spill will be closed off immediately if possible. The Facility Manager or Deputy Manager will be notified immediately;
- Shut off valves will be closed off where appropriate;
- The liquid will be contained as far as is practicable by employing containment booms and absorbent mats and/or suitable absorbent material to contain and absorb any spillage at the facility. Suitable booms and mats will be stored at the site office;
- A waste oil tanker (or tankers) will be contracted immediately to pump any liquid spill;
- The following authorities will be notified by telephone at the earliest opportunity: the EPA, Fingal County Council, the Eastern Regional Fisheries Board
- All oil will be removed from the surface by either pumping or use of absorbent materials. All waste oils and materials will be disposed to an appropriate facility.
- Once used the absorbent material shall be disposed of at an appropriate facility.
- All staff will be informed as to the location and use of the absorbent materials and will be proficient in their use.
- All such spills will be recorded on an Incident Report Form.

3.3.8 Protection of Flora and Fauna

Where feasible, no scrub clearance or other removal of vegetation will occur during the bird breeding season from 1st March to 31st August.

3.3.9 Invasive Species Management

It is not likely the works will have a direct influence on the spread of invasive species. However, if invasive species were identified, these will be monitored to ensure that uncontrolled expansion does not occur.

3.3.10 Water Management

GLV Bay Lane Limited will implement the following procedures in order to minimise adverse effects to the sites water and to reduce runoff and prevent pollutants entering the stream and rivers located on the boundary of the site:

- Temporary storage of soil will be stored away from any open surface water drains. Movement of material will be minimised in order to reduce degradation of soil structure and generation of dust.
- Excavated materials will reused as infill on site.
- Waste materials will be stored in designated areas that are isolated from surface water drains. Skips will be closed or covered to prevent materials being blown or washed away and to reduce the likelihood of contaminated water leakage. Hazardous materials including waste oil, solvents and paints, will be stored, for the shortest duration onsite possible, in sealed containers and kept separate from other waste materials while awaiting collection by a registered waste carrier, with the normal direction being that they be carried offsite by the contractor generating them. Re-fuelling, lubrication and storage areas and site offices are not proposed within 50m of any surface water bodies.
- All ready-mixed concrete will be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline waste waters or contaminated storm water to the underlying subsoil. Wash down and washout of concrete transporting vehicles will take place at an appropriate facility offsite.
- A project-specific Construction Environmental Management Plan (CMP) will be established and maintained by the contractors during the proposed project works. The plan will cover all potentially polluting activities and include an emergency response procedure. All personnel working on the site will be trained in the implementation of the procedures. The Contractor will comply with the following guidance documents:
 - CIRIA – Guideline Document C532 Control of Water Pollution from Construction Sites (CIRIA, 2001) and;
 - CIRIA – Guideline Document C624 Development and Flood Risk - guidance for the construction industry (CIRIA, 2004).

Management measures to protect the site's water during the operational phase are as follows:

- Rain water from roofing and surface water runoff from hardstanding areas will be discharged to a surface water settlement tank with silt trap and Class 1 petrol interceptor. The interceptor will prevent pollution to surface waters by any hydrocarbons, which may be present in small volumes due to accidental leaks from cars/trucks from hardstanding areas.

- The surface water drainage proposed is described in reg EIAR and will not change significantly as the phasing continues. The surface water drainage system mitigates the amount of silt which would otherwise reach the adjacent Shallon Ward Stream water body.
- The facility will be an EPA licenced facility. Under the terms of the Waste Licence, pollution mitigation measures will be designed to prevent or reduce the risk of significant impact by contaminated run-off to surface water. Compliance will be verified through regular quality monitoring of surface water and surface water discharge points and submitting the results to the EPA.

3.3.11 Sediment Control

With reference to the potential for impact on the stream and River and ultimately the Malahide Estuary, the CMP will include for a sediment control plan for the stage to ensure so significant impact to the stream. As a minimum this plan will include the mitigation measures stated in the mitigation measures specified for water (**Section 3.3.10**).

3.3.12 Air Quality and Climate Management

3.3.12.1 Air Quality

The air quality section of this report focuses on the environmental management measures in place to minimise the impacts from the generation of dust, odour and road traffic.

Dust

The potential for dust to be emitted depends on the type of activity being carried out in conjunction with environmental factors including levels of rainfall, wind speeds and wind direction. The potential for impact from dust depends on the distance to potentially sensitive locations and whether the wind can carry the dust to these locations. The waste licence will set emission limits.

The implementation of a dust minimisation plan during the operation of the project will include the following measures:

- The physical characteristics of the site, this is the overriding dust mitigation method. As the majority of the site is below ground level, it acts as a natural barrier, containing the dust within the void and preventing nuisance to the surrounding landscape;
- Monitoring and reporting to the EPA, as per licence requirements;
- Active tipping area will be restricted in location and area;
- Dust control equipment to be used to control dust levels;
- A road sweeper will be used on site to mitigate against dust on and around the site;
- Public roads outside the site shall be regularly inspected for cleanliness, and cleaned as necessary;
- All vehicles exiting the site shall make use of a wheel wash facility prior to entering onto public roads, to ensure mud and other wastes are not tracked onto public roads;
- Wheel wash will be a self-contained system that does not require discharge of the wastewater to water bodies;

- Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and/or windy conditions (also applies to vehicles delivering material with dust potential), a mobile water bowser is on site for deployment during dry weather periods;
- Concrete surfaces will be used at the site entrance to minimise dust generation in these areas;
- All vehicles which present a risk of spillage of materials, while either delivering or removing materials, will be loaded in such a way as to prevent spillage onto the public road; and
- The contractor will be required to ensure that all vehicles are suitably maintained to ensure that emissions of engine generated pollutants is kept to a minimum.

Odour

Non-conforming and/or fly-tipped waste will be removed off site immediately to an approved facility. No emissions are expected; therefore, no mitigation measures are required.

3.3.13 Noise and Vibration Management

Mitigation measures may be introduced in order to ameliorate or reduce negative impacts. The site's Waste Licence may require monitoring of noise emissions

During the construction and operational phase, the following measures shall be employed by the contractor in order to reduce noise levels from plant and machinery at the site, as well as from HGV's travelling on the local roads:

- HGVs will only be allowed to import material to the site during the proposed operational hours.
 - All equipment will be regularly maintained to ensure that they are operating effectively and not producing additional noise emissions or potential tonal sources;
 - Where practicable the number of machines in simultaneous operation will be minimised;
 - All vehicle engines will be switched off when not in use;
 - Plant and machinery used on-site will comply with the EC (Construction Plant and Equipment) Permissible, Noise Levels Regulations, 1988 (S.I. No. 320 of 1988); and
 - All contractors will employ the best practicable means to minimise noise emissions and will be obliged to comply with the general recommendations of BS 5228-1: 2009 and 'Environmental Good Practice Site Guide' 2005 compiled by CIRIA and the UK Environmental Agency.

No mitigation measures are required or recommended for the post-remediation phase.

3.3.13.1 Climate

Consideration is given in this section to specific measures associated with the proposed development and also wider measures applicable to landfill operations. It is noted that the mitigation measures proposed for air quality and climate will also benefit in terms of reducing CO₂ emissions. Mitigation measures to be employed by the contractor to minimise CO₂ emissions from the proposed development's construction and operation include the following:

- Consultation with a wider variety of internal and external stakeholders to ensure all relevant information is included in the development of the plans;
- Implementation of a Traffic Management Plan which will be prepared in advance of operation. This will outline measures to minimise congestion and queuing, reduce distances of deliveries and eliminate unnecessary loads;
- Turning off vehicular engines (and mobile plant) when not in use for more than five minutes. This restriction will be enforced strictly unless the idle function is necessary for security or functionality reasons;
- Regular maintenance of plant and equipment. Technical inspection of vehicles to ensure they will perform the most efficiently;
- The use of thermostatic controls on all space heating systems in site buildings to maintain optimum comfort at minimum energy use;
- The use of sensors on light fittings in all site buildings and low energy lighting systems;
- The use of adequately insulated temporary building structures fitted with suitable vents;
- The use of low energy equipment and ‘power saving’ functions on all PCs and monitors in the site offices;
- The use of low flow showers and tap fittings; and

3.3.14 Traffic Management Plan

If granted planning permission, GLV Bay Lane Limited will prepare a full Traffic Management Plan (TMP) for the combined construction and operation stage of the development. The characteristics of the TMP will be agreed with Fingal County Council in advance.

The TMP will include measures for emergency access in the event of a road traffic accident or similar incident that hinders the site access and egress along the interconnector road. In such a scenario, the alternative site access will be provided via the M2. For such an event all customers and hauliers will be immediately notified via phone or email to advise of the following:

- The nature of the emergency.
- The expected duration (if known).
- Direction on the appropriate alternative route to be taken for committed vehicles.
- Direction to halt all deliveries yet to leave the source site until the safe site access is restored.

3.3.15 Landscape Restoration Plan

In order to minimise the projects effects on landscape during the construction / operational phase, a landscape restoration plan will be prepared as the final Environmental Management Plan. The following measures shall be adopted to reduce landscape effects during the construction / operational phase of the proposed development:

- Temporary storage heaps associated with infill materials and soil not to exceed 2m height;
- Storage compound areas will be reinstated to former land use upon completion of the works.
- Vehicles exiting compound areas will be subject to wheel wash facilities in order to maintain clean roads;
- Protection of existing vegetation along the site boundary. The services of a qualified arboriculturist will be sought to perform a tree survey of all trees along the development site boundary. Existing vegetation, including trees and hedgerows should be assessed to quantify their age, condition and tagged with metal tags. Prior to commencement of construction, existing vegetation which is to be retained will be protected by erection of temporary fencing to ensure no works are carried out under reach of their canopies. Unstable trees should be removed under direction of the arboriculturist
- Ensuring existing landscape framework remains dominant by cleaning up of debris, protecting or reinforcing existing boundary vegetation.

GLV Bay Lane Limited will prepare a landscape restoration plan for the restoration phase to restore and reinstate the site to the surrounding landscape. A list of objectives in terms of mitigation for visual quality and landscape character shall include the following for the restoration phase:

- Proposed hedgerow planting with trees to reinforce and amalgamate existing hedgerows. Proposed tree and hedgerow species shall be comprised of locally appropriate species;
- The restoration and reinstatement of the levels and topography at the site for the purpose of agricultural use; and
- Removal of all site infrastructure and equipment.

APPENDIX 8.A CONSULTATION RESPONSES



Your Ref: MDR1499_LT0002_DAU
Our Ref: **G Pre00243/2018**
(Please quote in all related correspondence)

13 November 2018

Mr. Tim Ryle,
RPS,
West Pier Business Campus,
Dún Laoghaire,
Co. Dublin,
A96 N6T7
Via email: tim.ryle@rpsgroup.com

Re: Consultation for Bay Lane Quarry Restoration, North County Dublin.

A chara

On behalf of the Department of Culture, Heritage and the Gaeltacht, I refer to correspondence received in connection with the above. Outlined below are heritage-related observations/recommendations of the Department under the stated headings.

Nature Conservation

This is a proposal to restore a discussed quarry using soil and stone material from a number of Glenveagh Homes' housing developments. This Department notes from the documentation that the type of disused quarry has not been specified, i.e. whether it was a stone quarry or a sand and gravel quarry. From the aerial photograph provided it seems to be vegetated. While ecological surveys are mentioned, it is unclear if an Environmental Impact Assessment Report (EIAR) is to be produced as well as an Appropriate Assessment (AA) screening.

Sand and gravel quarries can contain protected and rare plants and may also provide a habitat for nesting sand martins. Rock quarries can provide nest ledges for Peregrine falcons and ravens. Should there be any protected or rare plants, or nesting birds, on the quarry site, then the restoration plan should include a section on maintaining their habitat post quarrying.

Please find below some general scoping comments for EIAR, appropriate assessment screening and appropriate assessment/Natura Impact Statement (NIS), and for licensing requirements which may assist. Please note that, should the project screen out for Environmental Impact Assessment (EIA) that the comments for EIAR also apply to any ecological impact assessment (EclA) or similar report to be produced.



Please note that you should also consult the requirements of this Department in relation to pre-planning at <https://www.npws.ie/development%20consultations>, in particular the section entitled pre-application consultation/engagement.

EIAR

Ecological Survey

With regard to scoping for an EIAR for a proposed development, in order to assess impacts on biodiversity, fauna, flora and habitats, an ecological survey should be carried out of the site of the proposed development site including the route of any access roads, pipelines or cables etc. to survey the habitats and species present. Where ex-situ impacts are possible survey work may be required outside of the development sites.

Surveys should be carried out by suitably qualified persons at an appropriate time of the year depending on the species being surveyed for. The EIAR should include the results of the surveys, and detail the survey methodology and timing of such surveys. It is expected by this Department that in any survey methodology used that best practice will be adhered to and if necessary non Irish methodology adapted for the Irish situation. The EIAR should cover the whole project, including construction, operation and, if applicable, restoration or decommissioning phases. Alternatives examined should also be included in the EIAR. Inland Fisheries Ireland (IFI) should be consulted with regard to fish species if applicable. For information on Geological and Geomorphological sites the Geological Survey of Ireland should be consulted.

Baseline data

With regard to the scope of baseline data, details of designated sites can be found at www.npws.ie/. For flora and fauna the data of the National Parks and Wildlife Service (NPWS) should be consulted at www.npws.ie/. Where further detail is required on any information on the website, a data request form should be submitted. This can be found at <https://www.npws.ie/maps-and-data/open-data-policy>. Further information may be found at <http://dahg.maps.arcgis.com/home/index.html>. Other sources of information relating to habitats and species include that of the National Biodiversity Data Centre (www.biodiversityireland.ie), Inland Fisheries Ireland (www.fisheriesireland.ie), BirdWatch Ireland (www.birdwatchireland.ie) and Bat Conservation Ireland (www.batconservationireland.org). Data may also exist at a County level within the Planning Authority.

Impact assessment

The impact of the development on the flora, fauna and habitats present should be assessed. In particular the impact of the proposed development should be assessed, where applicable, with regard to:



- Natura 2000 sites, i.e. Special Areas of Conservation (SAC) designated under the EC Habitats Directive (Council Directive 92/43/EEC) and Special Protection Areas (SPA) designated under the EC Birds Directive (Directive 2009/147 EC),
- Other designated sites, or sites proposed for designation, such as Natural Heritage Areas and proposed Natural Heritage Areas, Nature Reserves and Refuges for Fauna or Flora, designated under the Wildlife Acts 1976 to 2018,
- Species protected under the Wildlife Acts including protected flora,
- '*Protected species and natural habitats*', as defined in the Environmental Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations, 2008, including Birds Directive – Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur) and Habitats Directive – Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur),
- Important bird areas such as those identified by Birdlife International,
- Features of the landscape which are of major importance for wild flora and fauna, such as those with a “stepping stone” and ecological corridors function, as referenced in Article 10 of the Habitats Directive,
- Other habitats of ecological value in a national to local context (such as those identified as locally important biodiversity areas within Local Biodiversity Action Plans and County Development Plans),
- Red data book species,
- and biodiversity in general.

Reference should be made to the National Biodiversity Action Plan 2017-2021 and any relevant County Biodiversity Plan, as well as the All-Ireland Pollinator Plan 2015-2020.

It should be noted that the National Biodiversity Action Plan sets out Government policy on nature conservation and includes as Objective 1 to “mainstream biodiversity into decision making”, including for all public authorities to move towards no net loss of biodiversity. It also requires Local Authorities to develop policies and objectives for the protection and restoration of biodiversity.

Any losses of biodiverse habitat associated with this proposed development, including from access roads for example, such as woodland, scrub, hedgerows and other habitats should be mitigated for.

In order to assess the above impacts it may be necessary to obtain hydrological and/or geological data. In particular any impact on water table levels or groundwater flows may impact on wetland sites some distance away. The EIAR should assess cumulative impacts with other plans or projects if applicable. Where negative impacts are identified suitable mitigation measures should be detailed if appropriate. As EU Member States have to report every 6 years on the National resource of habitats and species listed under the Habitats Directive it is important that any impact on such habitats and species both inside and outside of Natura 2000 sites is recorded.



Alien invasive species

The EIAR should also address the issue of invasive alien plant and animal species, such as Japanese Knotweed, and detail the methods required to ensure they are not accidentally introduced or spread during construction. Information on alien invasive species in Ireland can be found at <http://invasives.biodiversityireland.ie/> and at <http://invasivespeciesireland.com/>.

Hedgerows and protected species

Hedgerows form important wildlife corridors and provide areas for birds to nest in. In addition badger setts may be present. If suitable trees are present bats may roost there and they use hedgerows as flight routes. Badgers may also have setts in hedgerows. Badgers are listed on annex III of the Berne Convention and are protected under the Wildlife Acts. Hedgerows also provide a habitat for woodland flora. Where a hedgerow forms a townland or other historical boundary it is usually an old hedgerow. Such hedgerows will contain more biodiversity than a younger hedgerow. Hedgerows should be maintained where possible. The EIAR should provide an estimate of the length of hedgerow that will be lost, if any. Where trees or hedgerows have to be removed there should be suitable planting of native species in mitigation. Hedgerows and trees should not be removed during the nesting season (i.e. March 1st to August 31st).

Bats

Bat roosts may be present in trees, buildings and bridges. Bat roosts can only be destroyed under licence under the Wildlife Acts and a derogation under the Birds and Natural Habitats Regulations and such a licence would only be given if suitable mitigation measures were implemented. Where so called bat friendly lighting is proposed as mitigation then it should be proven to work as mitigation. However please note that the recently published *Bats and Artificial Lighting in the UK, Guidance Note 08/18, Bat Conservation Trust and Institution of Lighting Professionals*, which can be downloaded from <http://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/> has found that artificial lighting has been found to be particularly harmful if used along river corridors, near woodland edges and near hedgerows. Therefore lighting in woodlands and ecological corridors should be avoided.

Rivers and Wetlands

Wetlands are important areas for biodiversity. Any watercourse or wetland impacted on should be surveyed for the presence of protected species and species listed on Annexes II and IV of the Habitats Directive. These species could include otters (*Lutra lutra*), which are protected under the Wildlife Acts and listed on Annexes II and IV of the Habitats Directive, Salmon (*Salmo salar*) and Lamprey species listed on Annex II of the Habitats Directive, and White-clawed Crayfish (*Austropotamobius pallipes*) which are protected under the Wildlife Acts and listed on Annex II of the Habitats Directive, Frogs (*Rana temporaria*) and Newts (*Triturus vulgaris*) protected under the Wildlife Acts and Kingfishers (*Alcedo atthis*) protected under the Wildlife Acts and listed on Annex I of the Birds Directive (Council Directive 79/409 EEC).



One of the main threats identified in the threat response plan for otter is habitat destruction (see www.npws.ie/sites/default/files/publications/pdf/2009_Otter_TRP.pdf).

In addition a 10 m riparian buffer on both banks of a waterway is considered to comprise part of the otter habitat. Therefore any proposed development should be located at least 10 m away from the waterway.

A suitable riparian habitat should be left along each watercourse. Construction work should not be allowed to impact on water quality and measures should be detailed in the EIAR to prevent sediment and/or fuel runoff from getting into watercourses which could adversely impact on aquatic species. Flood plains, if present, should be identified in the EIAR and left undeveloped to allow for the protection of these valuable habitats and provide areas for flood water retention. If applicable the EIAR should take account of the guidelines for Planning Authorities entitled “The Planning System and Flood Risk Management” and published by the Department of the Environment, Heritage and Local Government in November 2009.

IFI should be consulted with regard to impacts on fish species and the applicant may find it useful to consult their publication entitled “Planning for watercourses in the urban environment” which can be downloaded from their website at

<https://www.fisheriesireland.ie/extranet/fisheries-management-1/86-planning-for-watercourses-in-the-urban-environment-1/file.html>.

Water quality

Ground and surface water quality should be protected during the construction and operation of the proposed development and if applicable the applicant should ensure that adequate sewage treatment facilities are or will be in place prior to any development. The applicant should also ensure that adequate water supplies are present prior to development.

Quarries

The EIAR should cover the whole project, including operational, developmental and restoration phases. Sand and gravel quarries can contain protected and rare plants and may also provide a habitat for nesting sand martins. Rock quarries can provide nest ledges for Peregrine falcons and ravens. Should there be any protected or rare plants, or nesting birds, on the quarry site, then the restoration plan should include a section on maintaining their habitat post quarrying. Should quarrying take place below the water table then the impacts on ground and surface waters will need to be assessed.

Construction Management Plans (CMPs)

Complete project details including outline construction management plans (CMPs) need to be provided in order to allow an adequate assessment to be undertaken. Applicants need to be able to demonstrate that CMPs and other such plans are adequate and effective mitigation, supported by scientific information and analysis, and that they are feasible within the physical constraints of the site. The positions, locations and sizes of construction



infrastructure and mitigation, such as settlement ponds, disposal sites and construction compounds, may significantly affect European sites, other designated sites, habitats, and species in their own right and could have an effect for example on drainage, water quality, habitat loss, and disturbance. If these are undetermined at time of the assessment, all potential effects of the development on the site are not being considered. If applicants are not in a position to decide the exact location and details of these at time of application, then they need to consider the range of options that may be used in their assessment so that all issues are covered.

Appropriate Assessment (AA)

Guidance

Guidance on AA is available in the Departmental guidance document on Appropriate Assessment, which is available on the NPWS website at www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf and in the EU Commission guidance entitled “*Assessment of plans and projects significantly affecting Natura 2000 sites Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*” which can be downloaded from http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura_2000_assess_en.pdf.

However CJEU and Irish case law has clarified some issues and should also be consulted.

Conservation objectives

In order to carry out the appropriate assessment screening, and/or prepare the Natura Impact Statement (NIS), information about the relevant Natura 2000 sites including their conservation objectives will need to be collected. Details of designated sites and species and conservation objectives can be found on www.npws.ie/. Site-specific, as opposed to generic, conservation objectives are now available for some sites. Each conservation objective for a qualifying interest (QI) is defined by a list of attributes and targets and is often supported by further documentation. Where these are not available for a site, an examination of the attributes that are used to define site-specific conservation objectives for the same QIs in other sites can be usefully used to ensure the full ecological implications of a proposal for a site’s conservation objective and its integrity are analysed and assessed. It is advised, as per the notes and guidelines in the site-specific conservation objectives that any reports quoting conservation objectives should give the version number and date, so that it can be ensured and established that the most up-to-date versions are used in the preparation of Natura Impact Statements and in undertaking appropriate assessments.

Where further detail is required on any information on the website a data request form should be submitted. This can be found at <https://www.npws.ie/maps-and-data/open-data-policy>.



Cumulative and ex situ impacts

A rule of thumb often used is to include all Natura 2000 sites within a distance of 15 km. It should be noted however that this will not always be appropriate. In some instances where there are hydrological connections a whole river catchment or a groundwater aquifer may need to be included. Similarly where bird flight paths are involved the impact may be on an SPA more than 15 km away.

Other relevant Local Authorities should be consulted to determine if there are any projects or plans which, in combination with this proposed development, could impact on any Natura 2000 sites.

Water and wastewater

If this development is not on mains sewerage then impacts from wastewater, including cumulative impacts, on groundwater and any nearby surface waters or wetland habitats should be assessed. In addition if it is not on mains water supply then impacts, including cumulative impacts, relating to water abstraction should be assessed. This may require hydrogeological information. Where connection will be to existing infrastructure the impact of the demand for additional potable water, wastewater treatment, and additional surface runoff should be assessed.

Alien invasive species

If the proposed development is adjacent to a Natura 2000 site and involves construction, landscaping or a garden, care should be taken to ensure that no terrestrial or aquatic invasive species are used which could impact negatively on these sites. Information on alien invasive species in Ireland can be found at <http://invasives.biodiversityireland.ie/> and at <http://invasivespeciesireland.com/>.

Construction Management Plans (CMPs)

Complete project details including outline construction management plans (CMPs) need to be provided in order to allow an adequate appropriate assessment to be undertaken. Applicants need to be able to demonstrate that CMPs and other such plans are adequate and effective mitigation, supported by scientific information and analysis, and that they are feasible within the physical constraints of the site. The positions, locations and sizes of construction infrastructure and mitigation, such as settlement ponds, disposal sites and construction compounds, may significantly affect European sites, designated sites, habitats, and species in their own right and could have an effect for example on drainage, water quality, habitat loss, and disturbance. If these are undetermined at time of the assessment, all potential effects of the development on the site are not being considered. If applicants are not in a position to decide the exact location and details of these at time of application, then they need to consider the range of options that may be used in their assessment so that all issues are covered. The CMP should also include methods to ensure invasive alien species are not introduced or spread.



Licences

Where there are impacts on protected species and their habitats, resting or breeding places, licences may be required under the Wildlife Acts or derogations under the Habitats Regulations. In particular bats and otters and cetaceans are strictly protected under annex IV of the Habitats Directive. A copy of Circular Letter NPWS 2/07 entitled “Guidance on Compliance with Regulation 23 of the Habitats Regulations 1997 – strict protection of certain species/applications for derogation licences” can be found on the Departmental website at www.npws.ie/sites/default/files/general/circular-npws-02-07.pdf.

It should be noted however that the Regulations of 1997 have since been revoked and that Part 6 of the European Communities (Birds and Natural Habitats) Regulations 2011-2015 is now the relevant part dealing with the protection of flora and fauna. In particular reference to Regulation 23 in the circular letter should be taken to mean Regulation 51 in the current Regulations.

In addition the applicant and the planning authority will be required to take account of species protected under sections 21, 22 and 23 of the Wildlife Acts if there are any impacts on other protected species or their resting or breeding places, such as on protected plants, badger setts or birds’ nests. They will also need to be cognisant of article 5 (d) of the Birds Directive. For that reason vegetation, including hedges and trees, should not be removed during the nesting season (i.e. March 1st to August 31st).

In order to apply for any such derogation as mentioned above the results of a survey should be submitted to the National Parks and Wildlife Service section of this Department. Such surveys are to be carried out by appropriately qualified person/s at an appropriate time of the year. Details of survey methodology should also be provided. Such licences should be applied for in advance of planning to avoid delays and in case project modifications are necessary.

Should this survey work take place well before construction commences, it is recommended that an ecological survey of the development site should take place immediately prior to construction to ensure no significant change in the baseline ecological survey has occurred. If there has been any significant change mitigation may require amendment and where a licence has expired, there will be a need for new licence applications for protected species.

The above observations/recommendations are based on the papers submitted to this Department on a pre-planning basis and are made without prejudice to any observations that the Minister may make in the context of any consultation arising on foot of any development application referred to the Minister, by the planning authority, in her role as statutory consultee under the Planning and Development Act, 2000, as amended.



You are requested to send further communications to this Department's Development Applications Unit (DAU) at manager.dau@chg.gov.ie (team monitored); if this is not possible, correspondence may alternatively be sent to:

The Manager
Development Applications Unit (DAU)
Department of Culture, Heritage and the Gaeltacht
Newtown Road
Wexford
Y35 AP90

Is mise, le meas

A handwritten signature in dark ink, which reads "Sinéad O'Brien". The signature is written in a cursive style and is centered below the text "Is mise, le meas".

Sinéad O' Brien
Development Applications Unit

Conor McGovern

From: Adam McClure
Sent: 08 February 2019 15:14
To: Tim Ryle
Subject: FW: [EXT] Re: Peregrine data

Tim,

Response from IRSG: Bay Lane peregrines.

Adam

Hi Adam,

Sorry in the delay in getting back to you. I have gone through the Peregrine data from 2017 survey and there is no record of Bay Lane, unless it is under a different name. There is a record for Huntstown quarry, as a bird being present but no evidence of breeding, do you know who owns the Bay lane quarry? As I say there is no record under that name.

Regards

Irene

APPENDIX 8.B BIRD AND BAT ACTIVITY REPORT (SEPTEMBER 2018)

**Bird And Bat Evaluation Of Bay Lane Quarry Proposed For In-filling:
An Assessment of Lands and Derelict House**

Brian Keeley B.Sc. (Hons) in Zool. MCIEEM

September 2018

Birds and bats are a significant and vital element of the natural heritage of Ireland. As part of the European Union, biodiversity conservation in the Republic of Ireland is protected within a single legislative directive (European Communities (Birds And Natural Habitats) Regulations 2011) that is the combination of the former Birds Directive of 1979 and the Habitats Directive of 1992. Birds and bats are afforded varying degrees of protection under Irish and EU law.

Bird protection is complicated by the fact that some species are considered sufficiently abundant to allow killing for sport and recreation or to reduce crop damage, building deterioration or health risk. Birds and their nests are protected under the Wildlife Act within the officially designated nesting period; March 1st to August 31st. Birds with the highest level of protection deemed necessary due to their vulnerability and a risk of dramatic or continued decline are given protection by the designation of Special Protection Areas in addition to the protection of their nests and offspring.

Ireland's SPA Network encompasses over 570,000 hectares of marine and terrestrial habitats. Agricultural land represents a share of the SPA network ranging from the extensive farmland of upland areas where its hedgerows, wet grassland and scrub offer feeding and/or breeding opportunities for Hen Harrier to the intensively farmed coastal polderland where internationally important numbers of swans and geese occur. Dublin Bay features a number of SPAs from the total of 154 for the Republic of Ireland.

For bats, protection is more comprehensive than for birds with all Irish species protected under Annex IV of the Directive and with one species, the lesser horseshoe bat, further protected under Annex II; a species not resident in Dublin and mainly concentrated in a band of six counties along the west coast of the island.

Bat resting places and breeding places are protected and any actions that lead to their deterioration or destruction are an offence under the Wildlife Act unless a specific derogation has been sought in advance through the National Parks and Wildlife Service.

In the urban and suburban environment, the need to protect and enhance biodiversity may be challenging where the need to house and provide recreational facilities may involve the modification of the vegetation and landscape elements and may have an immediate effect upon the biodiversity of the area or of adjoining and surrounding areas. Birds may lose nest sites through alteration of the landscape or tree or hedgerow removal in addition to the feeding opportunities provided by the presence of vegetation and cover. Bats may also lose roost sites and feeding and commuting corridors that allow movement between good roost sites and good feeding areas and the network of roosts that bats avail of throughout the year.

This assessment considers the potential of a near-end quarry in the vicinity of Tyrrellstown, Saint Margaret's and Finglas for nesting birds and roosting and feeding bats. The proposal is that the quarry would be in-filled with top-soil to bring the lands back to a filled profile that could at a later stage serve as a site for other uses.

The aim of the survey is to identify the presence of birds and bats, consider the potential impacts of the in-filling of the site and provide measures to ensure that all protected species are unharmed and otherwise unaffected as a species following the completion of all works to the site.

Methodology

Birds

The site was examined on three different time periods to identify the presence of roosting or breeding birds. This involved a walkover of the site at 12 pm on 8th August, at 8 pm in the evening and again at 05.45 hours on 9th August 2018 examining all rock faces, stone piles, rubble, crevices. In addition to this, the dormer bungalow and nearby metal barn, to determine whether there were territories of breeding birds and to observe any other birds within the site that were feeding or commuting through the site. The quarry was examined more closely in daylight hours than the 15-metre night time limit as the risk of injury was considered to be less in daylight and in the presence of several other individuals. Birds were primarily identified visually with the aid of Nikon Aculon A211 8 x 42 binoculars but also by auditory cues – birdsong and other calls.

Survey constraints

The survey period was within the period indicated as the nesting season for birds and was at a time when it is suitable to undertake an examination of nesting birds. Many birds have bred by early August but within a quarry, evidence of nests would be very clear at this time.

Young peregrine falcons, kestrels and ravens would have been weaned by August and usually as early as late June and would be hunting alone by August. Sand martins would also have been weaned by this date. Nests of all the above birds would be very evident at this time of year and their presence would be easily ascertained.

This evaluation considers the infill of the quarry in terms of the birds and bats within the cliff faces and excavated areas and the mitigation for the infill. It also considers the bird and bat fauna of the bungalow and metal barn. As the latter structures and the surrounding trees are not within this application, mitigation measures for their removal are not incorporated into this report.

Bats

Equipment used

Echometer 3 x 2, Pettersson D240X, High powered torch x 2, Garmin GPS attachment, Mobile phone x 2.

The site was examined over the course of one night by two bat surveyors on 8th August 2018. The first survey period was in daylight and involved an examination of the dormer bungalow proposed for future demolition and an examination of the quarry cliff faces for any evidence of roosting bats, including droppings accumulation, staining, squeaking or other noises or even actual bats. This was undertaken by a single surveyor. The night time survey was undertaken by two surveyors, one of which concentrated on surveying the quarry while the second observed the bungalow over the course of the night.

Each surveyor was equipped with an Echometer 3 bat detector and recorder. The surveyor within the quarry also availed of a Garmin GPS attachment to record the relative position of each bat observed. In addition to this, the quarry surveyor was equipped with a Pettersson D240X to record signals over a greater distance and of lower intensity.

Surveying commenced with a second visual examination of the dormer bungalow prior to sunset to identify any evidence of roosting bats. This was followed by the bat detector assessment which was comprised of two periods and covered the emergence period (from 21.00 hours onwards) and the return period prior to dawn (from 04.45 hours up to 06.00 hours) with a walked transect of the house perimeter and the neighbouring metal barn.

Surveying the quarry commenced at the slip road into the quarry and followed a counter-clockwise transect of the entire quarry keeping a distance of 15 metres from cliff faces for safety reasons. After two complete circuits, the route was modified to allow for concentration on areas where activity was most noted and away from unused areas.

All observations were conveyed by text message to the surveyor at the bungalow to note all signals and to allow for a better overview of bat activity within the vicinity (and reciprocally). Bats were sought visually where signals were noted by the D240X and not the EM3 (the former being a more sensitive machine).

Sunset was at 21.08 hours with mild and still weather conditions, sunrise was at 05.55 hours with a temperature of 9°C.

Survey constraints

Surveying was undertaken at a highly suitable period of the year. Bats have bred, and young bats are flying and hence bat numbers are higher than at almost all other times of year.

Results

Birds

Species of bird noted to nest within the quarry cliffs or stone piles None

The bird species within the site is given in Table 1. All the species noted are very common in Ireland and there were no very rare species present. There was one red-listed bird species (yellowhammer) and one amber-listed species (stock dove – male and female). Neither of these species were nesting within the quarry and yellowhammers were within hedgerow surrounding the quarry.

There were no nests in evidence within the quarry. No occupied or empty nests were present and overall bird activity near the cliff face was low. The cliffs are not especially tall within the quarry and this reduces the potential for nesting species such as peregrine falcon, kestrel or raven.

There is no evidence of sand martins within the quarry. This may be due to a cessation of operations up to recently and the absence of suitable sand or stone piles within which nests could be excavated.

The following species were the only species noted on the cliff at any stage: wood pigeon and stock dove. A pied wagtail was also noted within the quarry but was not nesting at the time of survey. A swallow family nesting in the metal barn occasionally fed within the quarry. Several nests are present within the barn including a thrush species (probably blackbird).

Other species close to the quarry but noted perching on electric cables or posts: jackdaws – 58 were perched on the morning of August 9th, 2018. Other crow species that flew over the quarry included raven, rook and magpie but none of these were present within the site for any sustained period.

Common hedgerow species seen around the quarry entrance hedges were bullfinch, robin, wren, blue tit and great tit. Overflying species included herring gull and probably lesser black-backed gull (not close enough to see markings clearly). Three buzzards were present during the daytime assessment and prior to dawn and they are probably nesting in trees within the overall area but are not a species expected within a quarry.

Bats

Species of bat noted to roost within the site None

No bats were confirmed to roost within the site. There were three bat droppings on the window ledge of the bungalow, but these were fragments and were scattered; not forming a pile and are possibly from bats feeding around the building. No piles of droppings, staining or actual bats were noted within the bungalow. The metal barn would be more difficult to locate small numbers of bat droppings, but no bats were seen to emerge from or return to this building at any stage.

No bats were seen to emerge from the rock faces within the quarry. Nor did any bats return to the quarry face during the pre-dawn period.

The delay between sunset and the arrival of the first bats would suggest that bats were approaching the quarry from another location. Bats were first heard at the quarry at 21.41 hours and the first bat at the garden, house and barn was at 21.34 hours (26 minutes after sunset). This would suggest that there are no bats roosting within the quarry.

Bats were also very scarce prior to dawn and this would suggest that they were not returning to a roost within the quarry at this time. However, bat activity was also quite reduced on the survey morning possibly due to a drop in temperature.

Species feeding within the site

a) The quarry

Common pipistrelle *Pipistrellus pipistrellus*

Soprano pipistrelle *Pipistrellus pygmaeus*

Leisler's bat *Nyctalus leisleri*

The main bat activity within the quarry was based around the pond that has developed at the base of one of the cliff faces that has been bunded to prevent the water spreading throughout the quarry floor. Here there was repeat common and soprano pipistrelle bat activity that was almost exclusively noted within the post-dusk survey and only a single bat call prior to dawn (soprano pipistrelle at 05.15 hours at the pond). A summary of bat activity around the quarry is shown in Figure 1.

b) Around the bungalow and metal barn

Common pipistrelle *Pipistrellus pipistrellus*

Soprano pipistrelle *Pipistrellus pygmaeus*

Leisler's bat *Nyctalus leisleri*

Brown long-eared bat *Plecotus auritus*

No bats exited from the buildings at dusk or returned to either building prior to dawn. There was bat activity around these buildings during both phases of the survey. The first bat noted was at 21.34 hours; a common pipistrelle. A Leisler's bat first appeared at 21.44 hours and a brown long-eared bat was present at 22.29 hours.

No soprano pipistrelles were present during the night but there was a two-minute period of activity from 05.08 hours to 05.10 hours. This species was absent from this point onwards and a common pipistrelle was present from 05.10 hours to 05.11 hours, at which time all bat feeding and commuting in the site had ceased.

No Leisler's bats or brown long-eared bats were noted in the pre-dawn assessment.

In summary, there are no bats roosting within the quarry or currently within the bungalow.

Impacts Of The Proposed Development

Loss of nesting sites for birds

There will be a reduction in rock face within which birds may nest or roost. This will be a long-term slight to negligible negative impact as there is no clear evidence available of usage. No species of conservation concern are likely to be nesting within the quarry. Stock doves (amber-listed) nest in tree hollows and yellowhammers (red-listed) nest in hedgerow.

Potential roost loss for bats

There is potential for bats within the rock face, but no bats were noted emerging or entering these areas. There are four species immediately surrounding the quarry and of these, the most likely rock dweller is the brown long-eared bat as it is a species noted to hibernate in caves rock crevices can provide similar conditions to cave entrances).

Pipistrelles also hibernate in caves in central Europe and may do so in Ireland in lower numbers and are therefore overlooked.

The infill of the quarry would remove the availability of the rock crevices to individual bats. This is likely to be at most an occasional and uncommon occupancy and the scale of the impact is likely to be long-term slight to negligible negative impact.

Reduced Feeding

There will be a loss of the small pond within the quarry as the soil level increases through the site and eventually engulfs the exposed rock entirely. This will be a permanent slight to moderate negative impact. As feeding activity may have been attributable to a relatively small number of bats at any one time, this is unlikely to be a substantial loss to any local species.

Mitigation Measures

Checking of the quarry for birds if within the nesting season

If the quarry infill commences between August 31st and March 1st, there is no requirement for any re-survey of the quarry for birds. Equally, the likelihood of roosting bats is very low in the quarry.

If the infill commences after March 1st or before August 31st, all crevices and cavities within the rock face above the pond shall be checked for birds by an ecologist prior to the in-fill of this section of the quarry. As the buildings are not included within this application, there is no requirement to examine them unless there is a proposal to demolish.

Should birds be noted during this evaluation, a derogation shall be required from NPWS. This would note the section that is a nest site, the species of bird present and the location within the structure, the means by which the birds would be protected prior to nest removal; the nest would be protected until the young have fledged after which time the nest could be destroyed (under licence from NPWS only). This would also require further mitigation measures including nesting sites for birds if practicable.

Impacts Following Mitigation

There will be a limited loss of feeding within the site for bats and birds and a potential loss of nesting areas for birds. No nests are known from the site and there is no confirmed loss of nest sites from the quarry infill. There will be very limited (negligible to slight negative) long-term impact upon bats within the site given the relatively low level of bat activity noted. There will be no loss of roost potential as the site develops based on the infill of the quarry. Any future changes to the site including tree felling or building demolition are not included within the evaluation

Table 1: Bird species noted at Bay Lane Quarry primarily from territorial calls

Blackbird	Turdus merula
Bullfinch	Pyrrhula pyrrhula
Yellowhammer	Emberiza citrinella
Blue Tit	Cyanistes caeruleus
Buzzard	Buteo buteo
Great Tit	Parus major
Hooded Crow	Corvus cornix
House Sparrow	Passer domesticus
Jackdaw	Corvus monedula
Magpie	Pica pica
Pheasant	Phasianus colchicus
Robin	Erithacus rubecula
Rook	Corvus frugilegus
Song Thrush	Turdus philomelos
Wood Pigeon	Columba palumbus
Stock Dove	Columba oenas
Pied wagtail	Motacilla alba
Swallow	Hirundo rustica
Wren	Troglodytes troglodytes

The shaded species were noted within the quarry area while all other species were surrounding the quarry

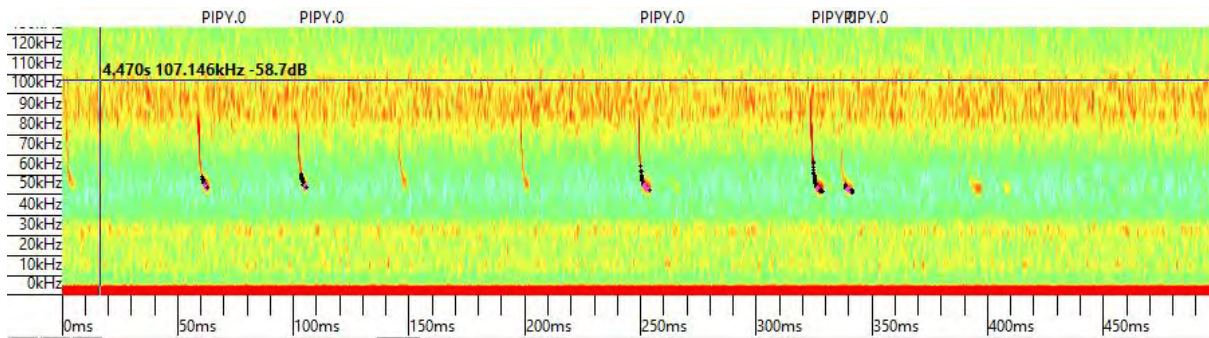


Figure 1: Bat activity within the quarry in August 2018
 The line indicates the transect followed during the survey

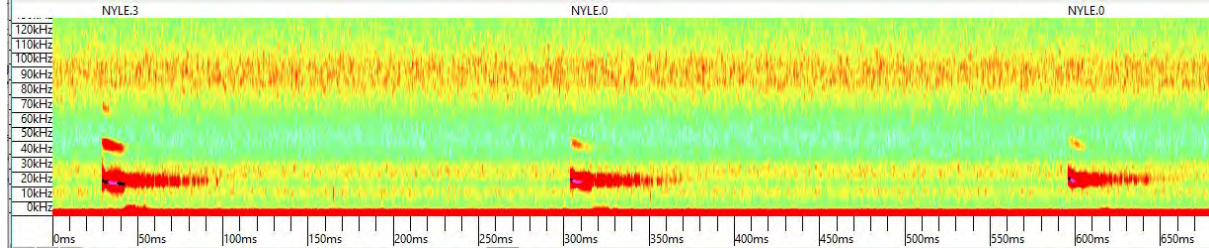
Legend

Green paddle **Common pipistrelle** **Blue paddle** **Soprano pipistrelle**
Yellow paddle **Leisler's bat**

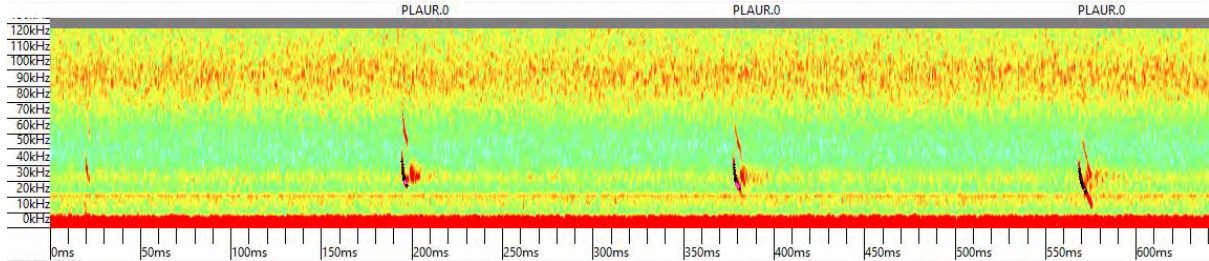
Most bat activity within the quarry was around the area from which water has not been pumped. The majority of bat activity was of soprano pipistrelle but in all, three species fed within the quarry area and four including the bungalow and barn.



Soprano pipistrelle signal – the first signal recorded within the quarry



Leisler's bat at 21.44 hours around bungalow and garden



Brown long-eared bat at 22.29 hours between the bungalow and metal barn

Table 2: All bat signals around the bungalow and barn

Date	Time	Auto Id	Pulses	Manual Id
08/08/2018	21:34:26	Common Pipistrelle	21	Common Pipistrelle
08/08/2018	21:42:39	Soprano Pipistrelle	38	Common Pipistrelle
08/08/2018	21:44:43	Leisler's Bat	12	Leisler's Bat
08/08/2018	21:50:35	Leisler's Bat	9	Leisler's Bat
08/08/2018	21:52:18	Common Pipistrelle	23	Common Pipistrelle
08/08/2018	21:54:23	Pipistrelle	10	Pipistrelle
08/08/2018	22:17:45	Leisler's Bat	2	Leisler's Bat
08/08/2018	22:29:47	Long-Eared	5	Long-Eared
08/08/2018	22:36:39	Leisler's Bat	6	Leisler's Bat
08/08/2018	22:46:16	Common Pipistrelle	19	Common Pipistrelle
09/08/2018	05:08:01	Soprano Pipistrelle	14	Soprano Pipistrelle
09/08/2018	05:08:21	Soprano Pipistrelle	4	Soprano Pipistrelle
09/08/2018	05:09:03	Soprano Pipistrelle	16	Soprano Pipistrelle
09/08/2018	05:09:24	Soprano Pipistrelle	15	Soprano Pipistrelle
09/08/2018	05:09:44	Soprano Pipistrelle	18	Soprano Pipistrelle
09/08/2018	05:10:05	Soprano Pipistrelle	27	Soprano Pipistrelle
09/08/2018	05:10:27	Soprano Pipistrelle	42	Soprano Pipistrelle
09/08/2018	05:10:47	Common Pipistrelle	36	Common Pipistrelle
09/08/2018	05:11:07	Common Pipistrelle	13	Common Pipistrelle
09/08/2018	05:11:28	Common Pipistrelle	8	Common Pipistrelle

APPENDIX 8.C NPWS LICENCE AND APPROVED PROTOCOL

Bay Lane Quarry

Amphibian Survey Licence Application Backing Document

Document Control Sheet

Client:	Glenveagh Homes Ltd
Project Title:	Bay Lane Quarry
Document Title:	Amphibian Survey Licence Application Backing Document
Document No:	MDR1499Rp0021

Text Pages:	6	Appendices:	0	Current Revision:	F01
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Rev.	Status	Date	Author(s)		Reviewed By		Approved By	
D01	Draft	11 Dec 2018	TR	<i>Tim Nye</i>	CMcG	<i>Conor McGeown</i>		
F01	For issue	12 Dec 2018	TR	<i>Tim Nye</i>	CMcG	<i>Conor McGeown</i>	CMcG	<i>Conor McGeown</i>

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1 INTRODUCTION

This document provides the backing information in support of a licence application for the proposed survey of Newts for the Bay Lane Quarry Planning application. As a precautionary measure, Frogs are being included on the licence application based on previous feedback from NPWS and similar licence applications that RPS has submitted in the recent past.

1.1 PROJECT LOCATION AND BACKGROUND

Bay lane Quarry is located at Bay Lane, St. Margaret's, County Dublin, approximately 1km southwest off Exit 2 on the M2 motorway at latitude 53.426547 and longitude -6.350784, approximately 6km NNW of Exit 5 on the M50 motorway (**Figure 1.1**).

The site is currently a disused quarry, and has been inactive for a number of years. The derelict site area is approximately 13.67ha in total and lies approximately 59.5m above Ordnance Datum. The quarry void extends over an area of 8.59 hectares.

Signs of significant previous rock excavation and crushed stone production are evident. This extraction work has left a pit volume of 828,963 m³. The pit floor is generally flat rock with a layer of soil or stone. Within the open pit, small mounds of aggregate still remain. The north eastern section of the site has not been excavated for quarrying purposes. A volume of 116,834 m³ topsoil and unsuitable stone from quarrying remains stockpiled in this area.

1.2 PROJECT DESCRIPTION

The project proposer, Glenveagh Homes Limited is a housebuilder which currently has 800 residential units under construction. It has a pipeline of 11,700 units with a 2,000 unit per annum output target by 2023.

Glenveagh Homes Limited has identified a shortage in available soil and stone treatment capacity in the Dublin market to support its business. Glenveagh Homes Limited purchased the Bay Lane Quarry during 2018 with the intention to develop it into a soil and stone recovery facility in the course of restoring the site to agricultural land.

1.3 REQUIREMENTS FOR AMPHIBIAN SURVEYS

The potential for Smooth newt (*Lissotriton vulgaris*) and Common frog (*Rana temporaria*), which are legally protected Amphibians, to occur on the site was previously identified during constraints studies. Thereafter, a telephone conversation with the local Conservation Ranger Niall Harmey indicated the potential for their occurrence on the site, given the fact that they are known to occur in ponds at Huntstown Quarry, approximately 2km due site of Bay Lane.

A preliminary walkover of the site conducted on October 9th identified that the quarry floor was prone to considerable winter flooding. One other waterbody was noted in the site as well as a small area of ground that is prone to standing water.



Figure 1.1: Location of Bay Lane Quarry (outlined in red)

1.4 AMPHIBIANS AND THE LAW

All native amphibians that are known from Ireland, including Common frog and Smooth newt, are wholly protected under Irish legislation. Furthermore, the Common frog is protected under EU Habitats Directive [92/43/EEC] Annex V. The interference with or collection of spawn for both species is not permitted except under derogation licence from the National Parks and Wildlife Service (NPWS).

Given the identification that potential newt territory within the quarry, licenced survey work is required out in the interests of best practice and to ensure legal compliance and to enable a robust ecological impact assessment to be carried out.

2 METHODOLOGY

2.1 PROPOSED SURVEY SCHEDULE

The optimum period for the survey of breeding adults for Newts is between March and late May and a number of techniques are recommended as determined by the conditions of the waterbody/habitat.

There is no survey limit with regards Frogs, although it is recognised that greater chance of confirming presence through the confirmation of the presence of spawn in suitable water features.

With this in mind it is proposed that the surveys will commence in March 2019 and that 4 separate visits will be undertaken culminating in the fourth and final visit in May 2019.

2.2 TARGETED AMPHIBIAN SURVEY

The proposed amphibian surveys will be carried out in accordance with NRA (2009) *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Roads Schemes*. Best practice dictates that four visits are undertaken to establish newt presence/absence. The survey protocol was reinforced with reference to some recent studies which reflect changes in understanding/interpretation with regards amphibian ecology and best practice. These included:

- Meehan, S., (2013). *IWT National Smooth Newt Survey 2013 Report*. Irish Wildlife Trust.
- Amphibian and Reptile Conservation (Anon.). *National Amphibian and Reptile Recording Scheme – NARRS: Amphibian surveys*.
- Reid, N., Dingerkus, S.K., Stone, R.E., Pietravallo, S., Kelly, R., Buckley, J., Beebee, T.J.C. & Wilkinson, J.W. (2013). *National Frog Survey of Ireland 2010/11*. Irish Wildlife Manuals **58**. National Parks and Wildlife Service, Department of arts, Heritage and the Gaeltacht, Dublin, Ireland.

The survey methodology specified as part of the proposed licence application includes the following:-

- Vegetation/Egg searching – relatively quick in appropriate season but is not useful in enumerating populations;
- Netting – suitable for daytime survey between March and October. It is disruptive and results in turbidity within the water column;
- Torching – suitable for warm still evenings between March and May. Time consuming as small stretches covered. No disturbance of water body;
- Bottle/Funnel trapping – this is the least favoured and onerous option as it has seasonal and time dependant implications for the welfare of any captured newts. It is often used where torching is not possible.

A further supplementary technique, often used in the case of long term studies where interference by outside elements such as livestock can be minimised, is refuge searching. At this time refugia (places that provide refuge for newts) are not being proposed.

2.3 DEROGATION LICENCE

A derogation licence application (to which this backing document accompanies) is been submitted to the NPWS Wildlife Licensing Unit under the provisions of the Wildlife Acts 1976 (as amended), namely sections 23 and 24. This was in respect of conducting a Smooth newt habitat survey and allowing the temporary capture of same via specified methods for the purposes of determining the presence/absence of Smooth newt in the project lands.

The licence also identifies frog, for which the survey will be carried out in the same time. No capture of frogs or of spawn is required.

3 CONCLUDING REMARKS

At this stage it is uncertain what conditions would be applicable to the licence. However, RPS would keep the local NPWS Conservation Ranger informed as to the survey progress and early findings as appropriate.

Dependant on the outcome of the survey and the confirmation of newt and frog presence at the site, there may be a requirement to recommend mitigation measures as part of the planning submission. These would be communicated to NPWS separately for consideration.



**An Roinn Cultúir,
Oidhreacht agus Gaeltachta**
Department of Culture,
Heritage and the Gaeltacht

Licence No. C20/2019

NATIONAL PARKS & WILDLIFE SERVICE

Wildlife Acts 1976 to 2018 – Sections 23 and 34

**LICENCE TO CAPTURE PROTECTED WILD ANIMALS FOR EDUCATIONAL, SCIENTIFIC
OR OTHER PURPOSES**

The Minister for Culture, Heritage and the Gaeltacht in exercise of the powers conferred on her by Sections 9, 23 and 34 of the Wildlife Acts 1976 to 2018 authorises:

Tim Ryle

Westpier Business Campus, Dun Laoghaire, Co. Dublin

To disturb specimens of the species specified in Column 1 of the Schedule hereunder in the area specified in Column 2 by the means specified in column 3 for scientific educational or other purposes during the period beginning **01 March 2019** and ending on **30 June 2019**, subject to the conditions listed overleaf.

SCHEDULE

1 Species	2 Area	3 Means of capture
Common Frog (<i>Rana temporaria</i>) Smooth Newt (<i>Lissotriton vulgaris</i>)	Bay Lane Quarry, Fingal, North Co. Dublin	Newts – in the first instance, habitat survey. Thereafter potentially combination of lamping at night, sweep- netting and bottle capture as required prior to re-release. Frogs – No capture, Habitat search only

Dated 20 February 2019

For the Minister for Culture, Heritage and the Gaeltacht



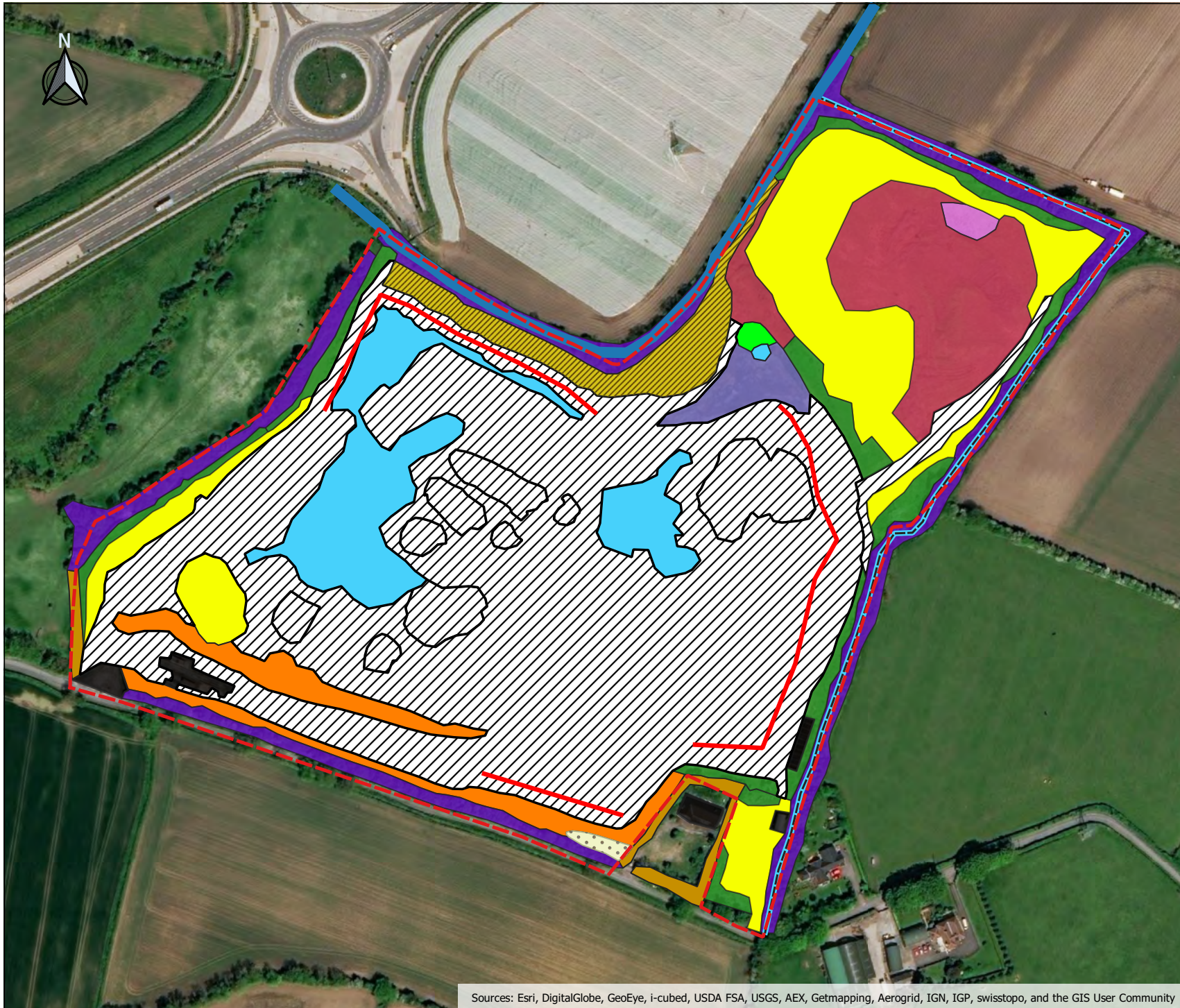
Conditions

1. This licence shall be produced for inspection on a request being made on that behalf by a member of An Garda Síochána or any person appointed by the Minister for Culture, Heritage and the Gaeltacht under Section 72 of the Wildlife Acts 1976 to 2018, to be an authorised person for the purposes of the Acts.
2. The local NPWS District Conservation Officer or Conservation Ranger must be contacted prior to the activity commencing under the terms of this licence.
3. On expiry of this licence a return stating the work carried out must be provided to the National Parks and Wildlife Service, 90 North King Street, Dublin 7. Any subsequent applications for a Section 23 & 34 licence will be judged against the full, proper and timely submission of returns under the licence.
4. Any query in relation to this licence should be addressed to National Parks and Wildlife Service, 90 North King Street, Dublin 7, D07 N7CV. Telephone: 01-888 3203.


Note: This licence does not confer right of entry onto any lands.



APPENDIX 8.D HABITAT MAP



Legend

-  Planning boundary
-  FW2
-  FW4
-  ER2
-  Buildings and artificial surfaces
-  Dry calcareous and neutral grassland/Wet grassland (mosaic)
-  Hedgerows
-  Other artificial lakes and ponds
-  Recolonising bare ground
-  Recolonising bare ground/Scrub (mosaic)
-  Rich fen and flush
-  Scrub
-  Scrub/Rich fen and flush (mosaic)
-  Spoil and bare ground
-  Treelines
-  Wet grassland
-  Dry calcareous and neutral grassland/Wet grassland
-  Dry calcareous and neutral grassland
-  Wet grassland/Scrub (mosaic)

Client **GLV Bay Lane Limited**

Project **Bay Lane Soil Recovery Facility**

Title **APPENDIX D**

RPS RPS Consulting Engineers
West Pier Business Campus
Dun Laoghaire
Co. Dublin
Tel: +353 1 488 2900

Issue Details		
Drawn:	JMM	Project: MDR1499
Checked:	TR	File Ref:
Approved:	CMG	MDR1499QG1009F01
Scale:	1:3,000 @ A4	Projection:
Date:	14/03/2019	IRENET95 / ITM

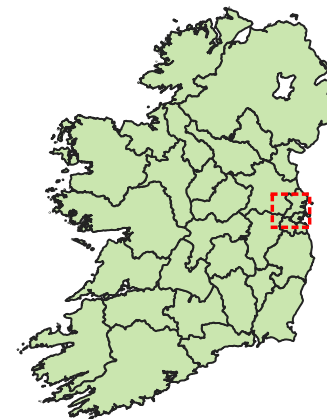
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APPENDIX 8.E ECOLOGICAL TARGET NOTES



Sources: Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend



- Mammal trails
- P1
- Target Notes
- Vantage Point

Client
GLV Bay Lane Limited

Project
Bay Lane Soil Recovery Facility

Title
APPENDIX E

RPS Consulting Engineers
West Pier Business Campus
Dun Laoghaire
Co. Dublin
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Issue Details	
Drawn: JMM	Project: MDR1499
Checked: MN	File Ref:
Approved: CMG	MDR1499QG1010F01
Scale: 1:3,000 @ A4	Projection:
Date: 14/03/2019	IRENET95 / ITM

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APPENDIX 9.1 SURFACEWATER ANALYSIS



Exova Jones Environmental

Registered Office: Exova Environmental UK Limited, 10 Lower Grosvenor Place, London, SW1W 0EN. Reg No. 11371415

Unit 3 Deeside Point
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Deeside
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RPS
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Co Dublin
Ireland

Tel: +44 (0) 1244 833780
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Attention : Conor McGovern
Date : 7th February, 2019
Your reference :
Our reference : Test Report 19/1207 Batch 1
Location : Bay Lane
Date samples received : 25th January, 2019
Status : Final report
Issue : 1

Seven samples were received for analysis on 25th January, 2019 of which seven were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied. All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Compiled By:

A handwritten signature in black ink, appearing to read 'L Halliwell'.

Lucas Halliwell
Project Co-ordinator

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

JE Job No.: 19/1207

SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

Samples must be received in a condition appropriate to the requested analyses. All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. If this is not the case you will be informed and any test results that may be compromised highlighted on your deviating samples report.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Please include all sections of this report if it is reproduced

All solid results are expressed on a dry weight basis unless stated otherwise.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa.
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
++	Result outside calibration range, results should be considered as indicative only and are not accredited.
*	Analysis subcontracted to an Exova Jones Environmental approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x2 Dilution
AB	x5 Dilution

JE Job No: 19/1207

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM4	Modified USEPA 8270 method for the solvent extraction and determination of 16 PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM5	Modified USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM14	Analysis of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for dissolved metals and acidified if required.				
TM37	Modified methods USEPA 160.2, EN872:2005 and SMWW 2540D. Gravimetric determination of Total Suspended Solids. Sample is filtered through a 1.5um pore size glass fibre filter and the resulting residue is dried and weighed.	PM0	No preparation is required.				
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods 325.2 (Chloride), 375.4 (Sulphate), 365.2 (o-Phosphate), 353.1 (TON), 354.1 (Nitrite), 350.1 (NH4+) comparable to BS ISO 15923-1, 7196A (Hex Cr)	PM0	No preparation is required.				
TM58	APHA Standard methods for the examination of water and waste water (SMWW) 5210D. Comparable with ISO 5815:1989. Measurement of Biochemical Oxygen Demand. When cBOD (Carbonaceous BOD) is requested a nitrification inhibitor is added which prevents the oxidation of reduced forms of nitrogen, such as ammonia, nitrite and organic nitrogen which exert a nitrogenous demand. Determination of Dissolved Oxygen using the Hach DO300 Oxygen Meter.	PM0	No preparation is required.				
TM149	Determination of Pesticides by Large Volume Injection on GC Triple Quad MS, based upon USEPA method 8270	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				

APPENDIX 16.1 LANDSCAPE FIGURES



Legend

Site Boundary

Rev:	Date:	Amendment:	Date:	Checked:
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■ Data Source: RPS 2017

Status: For Planning



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■ Client:

Project: Soil Recovery Facility, Kilshane Quarry

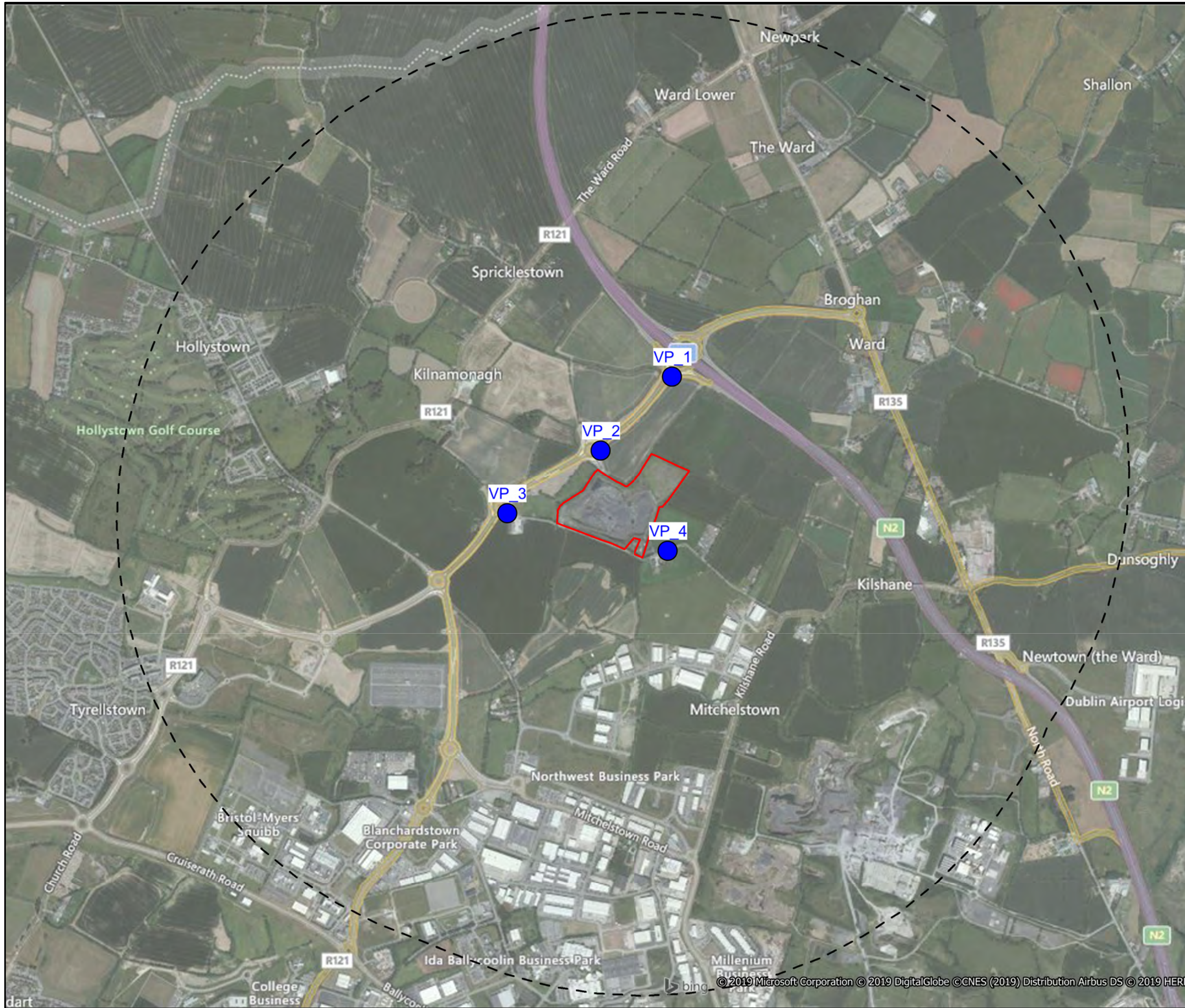
Title: Site Location Plan

Scale: NTS @ A3

Date: Mar 2019

Drawn: RT Checked: RH Job Ref: NI 2011

■ Figure No: 1.1 Revision: 01



Legend

- Site Boundary
- 2km Study Area
- Viewpoint Locations

VP_1 - 309933	243684
VP_2 - 309613	243341
VP_3 - 309193	243046
VP_4 - 309932	242892

Rev:	Date:	Amendment:	Date:	Checked:
<p>■ Data Source: RPS 2017</p> <p>Status: For Planning</p> <div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p>RPS</p> <p><small>Elmwood House, 74 Boucher Road, BELFAST, BT12 6RZ T: 028 9066 7914 F: 028 9066 8286 E: ireland@rpsgroup.com W: rpsgroup.com/ireland</small></p> </div> <p>■ Client:</p> <p>Project: Soil Recovery Facility, Kilshane Quarry</p> <p>Title: Viewpoint Location Plan</p> <p>Scale: NTS @ A3 ▲</p> <p>Date: March 2019</p> <p>Drawn: RT Checked: RH Job Ref: NI 2011</p>				
■ Figure No: 1.3		Revision: 01		

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Drawn: SA	Proj. Ref: NI2011	Date of Photo: 06.02.19	Project Title: <i>Bay Lane Soil Recovery Facility</i>	Viewpoint No. : 1	GPS Location: 309933, 243684	Horizontal Angle of View: 80 degrees Vertical Angle of View: 27 degrees	Figure 1.4a	RPS
		Time of Photo: 15:51		View South from M2, Exit 2 off Slip (Existing View)				



Drawn: SA	Proj. Ref: NI2011	Date of Photo: 06.02.19	Project Title: <i>Bay Lane Soil Recovery Facility</i>	Viewpoint No. : 1	GPS Location: 309933, 243684	Horizontal Angle of View: 80 degrees Vertical Angle of View: 27 degrees	Figure 1.4b	RPS
		Time of Photo: 15:51		View South from M2, Exit 2 off Slip (Predicted View)				



Drawn: SA	Proj. Ref: NI2011	Date of Photo: 06.02.19	Project Title: <i>Bay Lane Soil Recovery Facility</i>	Viewpoint No. : 2	GPS Location: 309613, 243341	Horizontal Angle of View: 80 degrees Vertical Angle of View: 27 degrees	Figure 1.5a	RPS
		Time of Photo: 15:58		View East from M2 Link Road (Existing View)				



Drawn: SA	Proj. Ref: NI2011	Date of Photo: 06.02.19	Project Title: <i>Bay Lane Soil Recovery Facility</i>	Viewpoint No. : 2	GPS Location: 309613, 243341	Horizontal Angle of View: 80 degrees Vertical Angle of View: 27 degrees	Figure 1.5b	RPS
		Time of Photo: 15:58		View East from M2 Link Road (Predicted View)				



Drawn: SA	Proj. Ref: NI2011	Date of Photo: 06.02.19	Project Title: <i>Bay Lane Soil Recovery Facility</i>	Viewpoint No. : 3	GPS Location: 309193, 243046	Horizontal Angle of View: 80 degrees Vertical Angle of View: 27 degrees	Figure 1.6a	RPS
		Time of Photo: 16:02		View North-east from Junction of Bay Lane and M2 Link Road (Existing View)				









Drawn: SA	Proj. Ref: NI2011	Date of Photo: 06.02.19	Project Title: <i>Bay Lane Soil Recovery Facility</i>	Viewpoint No. : 3	GPS Location: 309193, 243046	Horizontal Angle of View: 80 degrees Vertical Angle of View: 27 degrees	Figure 1.6b	RPS
		Time of Photo: 16:02		View North-east from Junction of Bay Lane and M2 Link Road (Predicted View)				

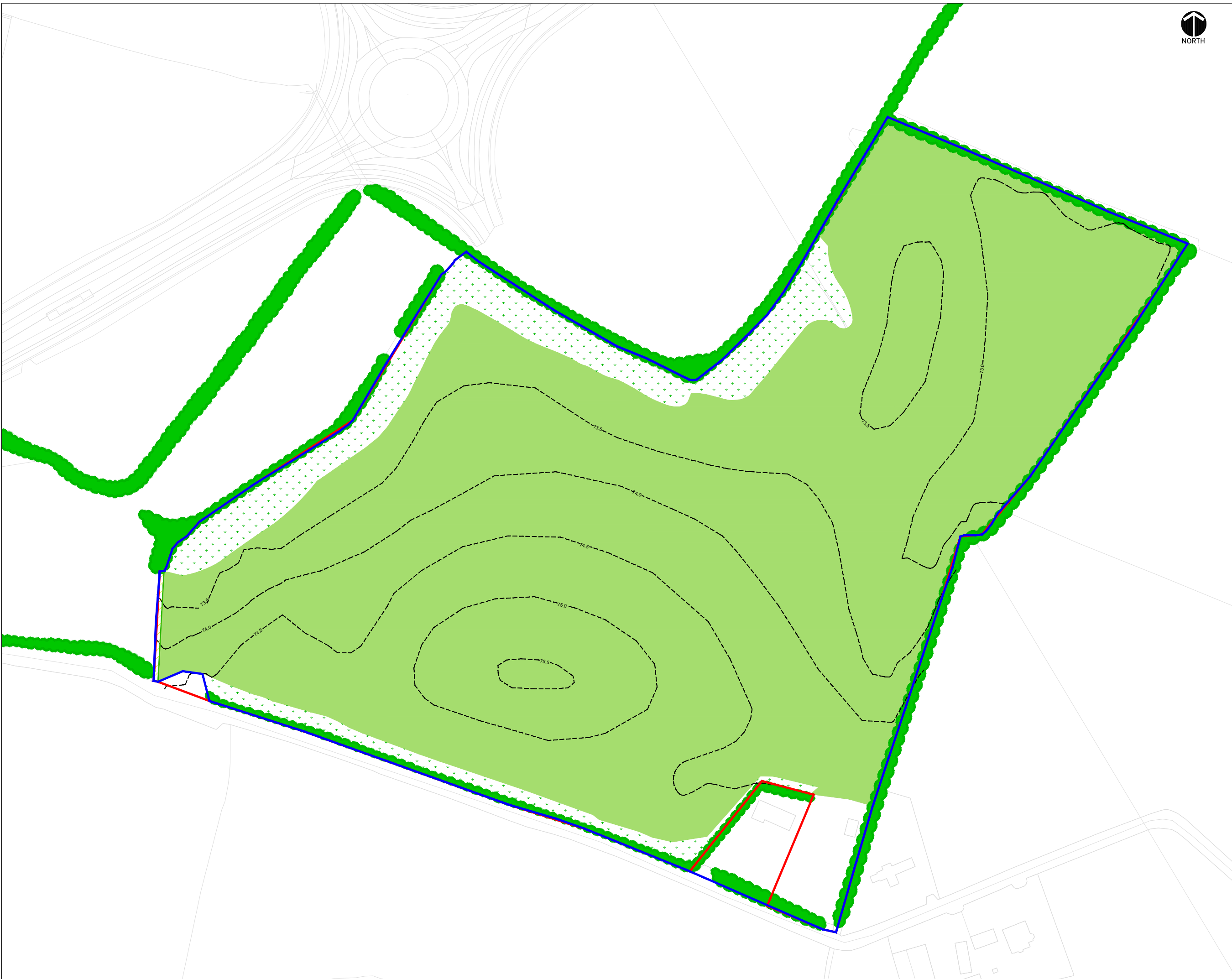


Drawn: SA	Proj. Ref: NI2011	Date of Photo: 06.02.19	Project Title: <i>Bay Lane Soil Recovery Facility</i>	Viewpoint No. : 4	GPS Location: 309932,242892	Horizontal Angle of View: 80 degrees Vertical Angle of View: 27 degrees	Figure 1.7a	RPS
		Time of Photo: 16:20		View North from Bay Lane (Existing View)				



Legend

-  Site Boundary
-  Lands in control of landowners
-  Existing vegetation to be retained
-  Proposed hedgerow with tree planting
-  Proposed agricultural grass seeding areas
-  Proposed contours and levels



Revision	Date	Description	Drawn	Chk

STATUS
FOR PLANNING



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PROJECT
Bay Lane Soil Recovery Facility

TITLE
Restoration Plan

SCALE/PAPER SIZE DRAWN BY
NTS @ A3 SA

DATE CHECKED BY
20.02.2019 RH

PROJECT NUMBER DRAWING NUMBER REVISION

N12011 FIGURE 1.8
RPS

RPS Dublin
West Pier Business Campus
Dun Laoghaire

