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**ROADSTONE DUBLIN LIMITED**

**INERT WASTE RECOVERY FACILITY  
AT MILVERTON, SKERRIES, CO. DUBLIN**

**ENVIRONMENTAL IMPACT STATEMENT  
NON-TECHNICAL SUMMARY**

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**AUGUST 2009**



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## 1.0 INTRODUCTION

This Environmental Impact Statement (EIS) Non-Technical Summary provides supporting information to accompany a Waste Licence Application (WLA) to the Environmental Protection Agency (EPA) by Roadstone Dublin for a proposed inert waste recovery facility at its hard rock quarry at Milverton, Skerries Co. Dublin. The principal waste activity at the site is backfilling of the quarry void using imported inert soil and stone.

The location of the site is indicated on an extract from the 1:50,000 scale Ordnance Survey Discovery Series map of the area, reproduced as Figure 1. At the present time, traffic access to the site is mainly via the R127 Regional Road from Blakes Cross (on the former N1 National Primary Road) and Lusk. Traffic access to the site can also be obtained via the R127 from Skerries and Balbriggan.

The amount of inert material to be imported and placed at the facility over its operational life is 2,470,000 tonnes (approximately 1,300,000m<sup>3</sup>), of which approximately 1,900,000 tonnes must be imported. Inert materials to be placed and recovered at the facility will be sourced from construction and/or demolition sites where prior testing has indicated that no soil or material contamination is present.

The application area comprises a worked out quarry and surrounding land measuring covering an area of approximately 7.9hectares (19.0acres). No planning permission was ever issued in respect of quarrying activities at the application site as it was established and operating prior to the introduction of planning legislation. The proposal to backfill the worked out quarry with in-situ and imported inert soil and stones is part of the quarry restoration works which were previously notified and agreed by Roadstone Dublin with Fingal County Council as part of the quarry registration process undertaken in accordance with Section 261 of the Planning and Development Act of 2000 (Condition No. 13 of Planning Ref. Q05/003).

The proposed recovery of inert soils at the former quarry at Milverton will provide for near complete backfilling of a large open void, restoration of the worked out lands to agricultural use and improve protection of the underlying groundwater resource, which is currently classified as 'highly vulnerable' due to the absence of any protective soil cover.

## 2 RESTORATION SCHEME

### 2.1 Principal Elements

The proposed inert waste recovery facility at Milverton provides for

- (i) Use of imported inert natural materials, principally excess soil, stones and/or broken rock excavated on construction sites, to backfill and restore a large existing void created by previous extraction of limestone bedrock
- (ii) Separation of any non-inert construction and demolition waste (principally metal, timber, PVC pipes and plastic) unintentionally imported to site prior to removal off-site to appropriately licensed waste disposal or recovery facilities
- (iii) Temporary stockpiling of topsoil and subsoil pending re-use as cover material for phased restoration of the site
- (iv) Restoration of the backfilled void (including placement of cover soils and seeding) and return to use as agricultural grassland
- (v) Environmental monitoring of noise, dust, surface water and groundwater for the duration of the site restoration works.

### 2.2 Site Infrastructure

Inert materials are accepted at the site between 07.00 hours and 18.00hours each weekday and 07.00hours to 13.00hours on Saturday. Vehicular access to Roadstone Dublin's landholding and the waste recovery facility can only be obtained via the R127 Regional Road. All vehicular traffic arriving must stop at the weighbridge in front of the site office before gaining access to the waste recovery facility. Within the site, trucks travel to and from the active restoration and recycling areas over a network of paved and unpaved roads. Trucks must pass through a new wheelwash facility before exiting the site.

Fuel for site plant and equipment will be stored at the existing storage tanks adjacent to the concrete production yard and/or in mobile double skin bowsers. The fuel storage tanks will be bunded to provide a retention capacity of 100% of the storage volume. HGV trucks will refuel at existing refuelling facilities adjacent to the concrete production yard. Oil and lubricant changes for both wheeled and tracked plant will be undertaken at existing maintenance sheds.

Staff employed at the waste recovery facility will use pre-existing facilities used by Roadstone Dublin's former quarry staff.

A waste inspection and quarantine area will be established at an existing shed which is constructed over a sealed concrete slab. Visual inspection, in-situ monitoring and testing of imported waste materials will be undertaken by Roadstone Dublin staff as inert waste materials are end-tipped, spread and placed at the active backfilling area. Should there be any concern about the nature of the soil materials being end-tipped it will be loaded onto a truck and re-directed to the waste inspection and quarantine area for closer examination and inspection. Any suspect or unacceptable waste identified will be placed in covered skips which will be removed off-site as required when filled.

Temporary haul roads across backfilled areas of the former quarry will be constructed using small quantities of imported inert concrete and brick or recycled inert construction and demolition waste (secondary aggregate) sourced from the Applicant's permitted waste recovery facility at Huntstown Quarry.

Surface water run-off at the site collected in sumps at various low points and pumped via settlement ponds (where suspended sediment will be removed) to the stream that runs along the northern site boundary. The proposed site infrastructure layout is shown on Figure 2.

### 2.3 Waste Recovery Activities

Backfilling of the former quarry will proceed in several phases and on completion, the site will be restored to former agricultural use. A summary of the proposed phasing and final ground level contours are shown in Figure 3.

It is currently envisaged that backfilling of the existing void will be undertaken in a number of 'lifts' from the existing quarry floor. Each phase of backfilling will generally correspond to the depth and extent of existing worked-out quarry benches. Any temporary additional or replacement infrastructure required to facilitate the proposed works will be constructed and/or installed at the outset of the first phase of backfilling.

On completion of the final restoration phase, a cover layer of subsoil and topsoil will be placed and graded across the backfilled soil. This will then be planted with grass in order to promote stability and minimise soil erosion and dust generation.

It is estimated that the average rate of importation of inert materials to the quarry void will average around 250,000 tonnes per annum. The corresponding duration of backfilling activities is of the order of 7 years.

### 2.4 Environmental Monitoring

Up to relatively recently, a programme of environmental monitoring was undertaken at the application site to record air and water emissions from quarrying and associated value-added activities (principally concrete production). It is envisaged that this programme will form the basis of a monitoring programme to be implemented as and when the proposed waste recovery facility is established. This monitoring programme will comply with requirements set by any waste licence issued by the Environmental Protection Agency.

Environmental sampling, monitoring and testing for noise, dust, surface water and groundwater will be undertaken by in-house staff and/or independent external consultants as required. Records of environmental monitoring and testing will be maintained on-site and will be forwarded to the EPA / Fingal County Council as required.

### 3 HUMAN BEINGS

Quarrying and concrete production activities were undertaken at Roadstone Dublin's existing landholding for some extended period of time up to late summer of 2008. The impact of the proposed waste recovery activities on human beings, principally those arising from backfilling of the former quarry, will be similar to those which existed previously when the quarry was operational.

While there will be negligible or no impact on much of the local residential housing around the application site, there may be some very minor impact at the residences closest to the application site (most notably those fronting onto the R127 Regional Road) when the backfilling and restoration works are being undertaken at the northern and western ends of the facility.

The importation of inert / construction and demolition materials via the existing local road network may (depending on importation rates) result in an increase in the number of HGV movements along the R127 Regional Road. A number of measures are proposed to enhance traffic safety along the existing access route to the site.

The principal long-term impact of backfilling the existing quarry void will be the restoration of the application site to its former agricultural use and removal of an unsightly feature in the landscape. Once waste recovery activities at the site are complete, there will be a reduction in traffic movements over the local road network leading to and from the site, with consequent improvement of the human environment.

### 4 ECOLOGY

Backfilling of the existing void space will result in the loss of any flora and disturbance of any fauna that may have naturally re-colonised the existing bare ground and/or exposed limestone rock.

A peregrine falcon, a protected species was found to be nesting on the residual quarry faces at the site. The proposed quarry restoration plan makes provision for a permanent suitable roosting and nesting area for the Peregrine Falcon to be retained on an area of existing rock face.

The existing perimeter hedgerows along the site boundary act as a visual and acoustic barrier and will remain in place for the duration of waste recovery activities at the application site. If hedgerows are covered in dust as a result of placement, spreading and compaction of the inert soils and stones, it may impede their growth and reduce their habitat value for mammals and birds. A number of mitigation measures are to be implemented to eliminate and/or minimise the impact of waste recovery activities on hedgerows.

As backfilling works are completed, the site will be restored to agricultural pasture lands. This will be in keeping with the surrounding area, which is composed predominately of improved agricultural land. The expected ecological diversity of the restored land is likely to be low, similar to that of the surrounding farmland. The arable farmland which is located immediately beyond the boundary of the application site will not be directly affected by the proposed waste recovery activities.

### 5 SOILS AND GEOLOGY

Topsoil (the upper layer of soil capable of sustaining vegetation and crop growth) was previously stripped from the site in order to facilitate the development of the former quarry and is currently stockpiled (with subsoil) in mounds across and around the existing quarry site. Soils in the vicinity of the site are suitable for a wide range of agricultural activity and are generally used for tillage purposes.

Published geological maps indicate that the natural subsoils at the site principally comprise glacial till and that the underlying rock comprises limestone. The available ground investigation information indicates that the general undisturbed (ie. unexcavated) subsoil profile across the site comprises varying depths of filled ground over limited thickness of glacial till (typically <5m). There is no evidence of soil contamination at the site.

The Geological Survey of Ireland has confirmed that there are no proposed geological National Heritage (pNHA) sites in the immediate vicinity of the site. The nearest such site is 2km to the east south-east along the coastline at Loughshinny.

The backfilling and restoration of the site to former ground level will largely eliminate existing rock exposures, though these are considered to be of little geological interest value. It will also improve the visual appearance of a locally prominent hill within the landscape and re-establishment of productive agricultural soil across the site.

The importation of soil, stones and inert construction and demolition waste introduces a risk of potential soil contamination at the site. Assuming best practice management procedures are employed in operating the facility, this risk of soil contamination is considered to be small.

## 6 WATER

The application site is indicated to occur across an area of thin subsoil cover, with several rock exposures. Where subsoil is present, it comprises glacial till derived from limestone and shale. The underlying bedrock, in which the existing quarry is developed, comprises limestone of Carboniferous age (approximately 330million years old).

The limestone bedrock is classified as a locally important karstified aquifer. There are no karst features within 1km of the application site. Maps published on the EPA indicate that the site is located in an area with high to extreme groundwater vulnerability status. This reflects the potential for rapid groundwater movement through the thin soil cover into the underlying bedrock aquifer. Recent ground investigations indicate that groundwater quality at the site is generally good, with former quarry operations shown to have had no significant impact on existing groundwater quality.

The proposed waste recovery facility is also located immediately south of a minor watercourse, the Mill Stream. Up to relatively recently, surface water run-off collected across the quarry was discharged (via existing buried drainage infrastructure) to this stream, beyond the north-eastern site boundary. Records from the Office of Public Works indicate that the site is not at risk of flooding.

Potential impacts of backfilling the former quarry with inert materials have been assessed and it is considered that in the absence of mitigation measures, the development could have the potential to negatively impact groundwater and surface water quality, particularly if contaminated soils were placed at the site or if fuel or chemical spillages occurred.

It is therefore proposed that a number of mitigation measures be incorporated into the scheme, including site management measures, particularly in respect of fuelling and maintenance activities, review of waste types entering the site and placement of specific waste types in particular areas.

The proposed backfilling activities could also have a negative impact on surface water quality, most notably, discharge of sediment laden run-off to the Mill Stream. It is therefore proposed that a surface water management system will be established at the waste recovery facility which will ensure that all surface water run-off at the site is collected and routed via pumps and/or drainage channels through settlement ponds (to remove sediment) prior to discharge via existing drainage infrastructure to the Mill Stream.

## 7 AIR QUALITY

Given the inert nature of the materials being used to restore the site and the absence of biodegradable (organic) wastes, no landfill gas emissions will arise at this site.

The principal air quality impact associated with the continued operation of the inert waste recycling facility is fugitive dust emission. Emissions are likely to arise during dry periods from

- (i) trafficking by HGVs over unpaved soil surfaces
- (ii) end-tipping of inert soil and stone and
- (iii) handling / compaction of inert soil.

In order to control dust emissions, a number of measures will be implemented, principally

- (i) spraying of water from a tractor drawn bowser on dry exposed soil surfaces
- (ii) construction of internal haul roads using minor quantities of imported inert concrete and brick or secondary (recycled) aggregate with low silt and clay content
- (iii) routing all HGVs leaving site through a temporary wheelwash facility at the end of the paved internal road leading to the waste recovery facility and
- (iv) planting the restored surface with grass as soon as practicable after placement of cover soils to minimise soil erosion and dust emissions.

The amount of dust or fines carried onto the public road network will be further reduced by periodic sweeping of the paved internal access road and the existing local road in front of the site.

## 8 NOISE

Noise monitoring at the site indicates that average ambient noise levels at the application site typically range between 43dBA  $L_{Aeq}$  and 49dBA  $L_{Aeq}$ . These noise levels are consistent with daytime levels in rural areas within the Greater Dublin Area, away from busy national roads. They are also significantly lower than those which pertained up to relatively recently when quarrying and related value added production activities were undertaken at the site.

The worst case scenario in relation to potential temporary noise impact arises at residences immediately beyond the site boundary, when quarry backfilling activity takes place close to the existing quarry faces. Spreading and compaction plant and HGV trucks will be at the shortest distance from the adjoining residences at this time. Noise assessment indicates that in a worst case scenario, cumulative noise levels arising from intensive backfilling activities and operation of the crushing / screening plant 100% of the time would remain below recognised permissible noise threshold limits of 55 dB(A)  $L_{Aeq}$ .

Predicted (maximum) future noise levels at nearby receptors are comparable to existing levels, making it unlikely that any exceedence of threshold noise levels will be noticed by nearby residents.

It is proposed to monitor average noise levels during the operation of the waste recovery facility at the Milverton site. Should these indicate that average noise levels exceed permitted limits (or likely to be exceeded them), provision will be made for a combination of one or more of the following in order to reduce noise levels:

- (i) construction of a temporary screening embankment,
- (ii) installation of a temporary noise barrier between noise source and receptor(s)
- (iii) reduction of noise emissions at source
- (iv) management of activities to minimise vehicular movements and/or duration of activities in the vicinity of affected residences.

## 9 CULTURAL HERITAGE

The cultural heritage study in respect of the waste recovery facility at Milverton comprising a paper study and fieldwork was carried out in November and December 2008. A wide variety of paper, cartographic, photographic and archival sources was consulted. Consultation was also carried out with a number of planning consultees. All the lands impacted by the development were visually inspected. A former Bronze / Iron Age burial structure (a'cist') was located immediately east of the site is believed to have been quarried out in the 1970's. The former engine room at the front of the quarry is listed as a protected structure in the Fingal County Development Plan.

Given the history of quarrying and aggregate processing at the site up to relatively recently, it is considered that the proposed recovery of inert soils in backfilling of the former quarry will have no direct or indirect impact on any items of cultural heritage, including archaeological resources and architectural heritage.

## 10 LANDSCAPE

The proposed inert waste recovery facility at Milverton is located within a rural landscape which is described as a 'coastal character area' by the Fingal County Development Plan 2005-2011. Although the area is physically quite open, its rural character has been eroded by some suburban type development in the form of roads, housing and industry. The predominant land use in the surrounding area is agricultural, principally tillage with some pasture.

Given the gently undulating nature of the landscape around and beyond the application site and the presence of boundary hedgerows, there are only limited long-distance views into the site. There are some views into the site from local roads where breaks occur in the line of hedgerows around the site boundary.

The inert waste recovery facility will not have any significant impacts on designated scenic or tourist roads and viewpoints on account of its location, the intervening undulating topography and screening by hedgerows. The application site is too distant and fully screened by intervening vegetation to be perceptible from any designated view or prospect.

The quarry backfilling activities are expected to have only limited temporary visual impact from nearby residences due to the natural screening afforded the site by the surrounding landscape elements, a combination of the undulating topography and existing hedgerows.

Ultimately, the worked-out quarry will be returned to beneficial use as agricultural grassland or for tillage. On completion, the site will blend into the surrounding landscape, eliminating any negative visual impact which currently arises.

Landscape mitigation measures will be put in place to minimise any potential visual impact associated with the proposed restoration scheme. These include

- i) retaining all hedgerows along the site boundary and
- ii) removing any temporary plant, infrastructure and paved surfaces on completion of backfilling works.

## 11 MATERIAL ASSETS

Access to the inert waste recovery facility at Milverton is along the R127 Regional Road, along which a number of one-off residential units are located. The main Dublin to Belfast rail line runs immediately east of the site and the nearest rail station, at Skerries, is located approximately 800m north of the site.

There are several residential clusters in the immediate vicinity of the site, mainly located along the R127 Regional Road and other existing local roads. The limestone bedrock exposed at the site and in the surrounding area is classified as a locally important karstified aquifer, although it is understood that houses in the vicinity of the site source drinking water from Local Authority Mains supply.

The level of HGV movements to and from the inert waste recovery facility could increase, depending on the rate of importation of soil and stones. Backfilling activities at the site present a number of risks to groundwater quality. However measures will be implemented to minimize these risks.

There may be some short-term impacts on residential amenity for residents living immediately around the site, most notably an increase in ambient noise and dust emissions when materials are being placed at the nearby quarry face. A number of measures will be implemented to minimize such emissions.

In the long-term, backfilling of the former quarry with inert material will increase protection to, and reduce the vulnerability of, the existing groundwater aquifer. It will also have a neutral, possibly beneficial, impact on land values and/or residential property values.

## 12 TRAFFIC

The proposed waste activities at Milverton entail backfilling the existing quarry void using imported inert soils and stones. HGV trucks carrying soil and stones to the waste recovery facility will travel along the existing R127 Regional Road, almost all will travel north-eastwards from Blakes Cross via the Lusk Ring Road.

Depending on the rate of importation of soil and stone, the number of HGV movements along the R127 Regional Road to and from the waste recovery facility could be greater than that previously associated with the operation of the quarry at the same site.

Assuming an average rate of infilling of approximately 250,000tonnes/year, this could result in an average of 4 additional HGV movements per hour in each direction along the R127, over and above that which existed previously.

In order to mitigate any potential risks arising from increased HGV traffic levels, a number of measures are proposed to improve visibility and signage along the R127 in the immediate vicinity of the application site.

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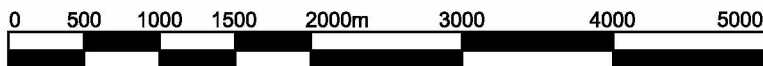


**LEGEND**

— Applicant's Land Interest (c.8.6 ha)

**NOTES**

1. Extract from Ordnance Survey Discovery Map No. 43
2. Ordnance Survey Ireland Licence No. SU 0000709 (c)  
Ordnance Survey Ireland / Government of Ireland



Metres  
1:50,000

0059.00015.18.FIG NTS 1.0.SITE LOC PLAN



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**WASTE LICENCE APPLICATION**

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**WASTE RECOVERY FACILITY,**  
**MILVERTON, SKERRIES, CO. DUBLIN**

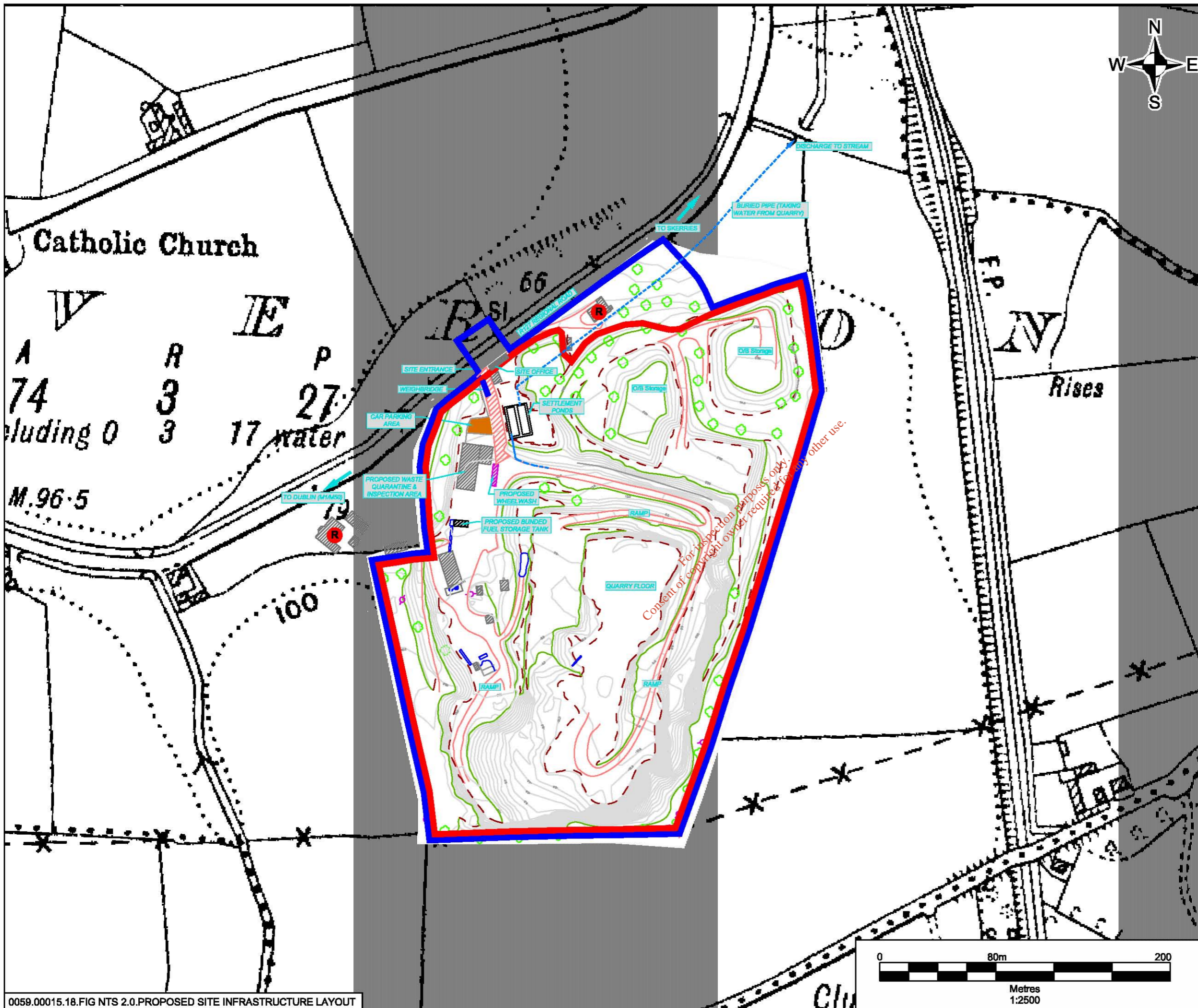
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**SITE LOCATION PLAN**

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**FIGURE NTS 1**

Scale 1:50,000 @ A4	Date AUGUST 2009
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**NOTES**

- Based on OSI 25inch Dublin Sheet No. 5 & 5a
- Ordnance Survey of Ireland Licence No. SU 0000709 (c) Ordnance Survey of Ireland & Government of Ireland

**LEGEND**

	Applicant's Land Interest (c. 8.6ha)
	Waste Licence Application Area (c. 7.9ha)
	Buried Pipe
	Top of Bank
	Bottom of Bank
	Road
	Contour Line
	Building
	Internal Unpaved Road
	Internal Paved Road
	Location of Residence

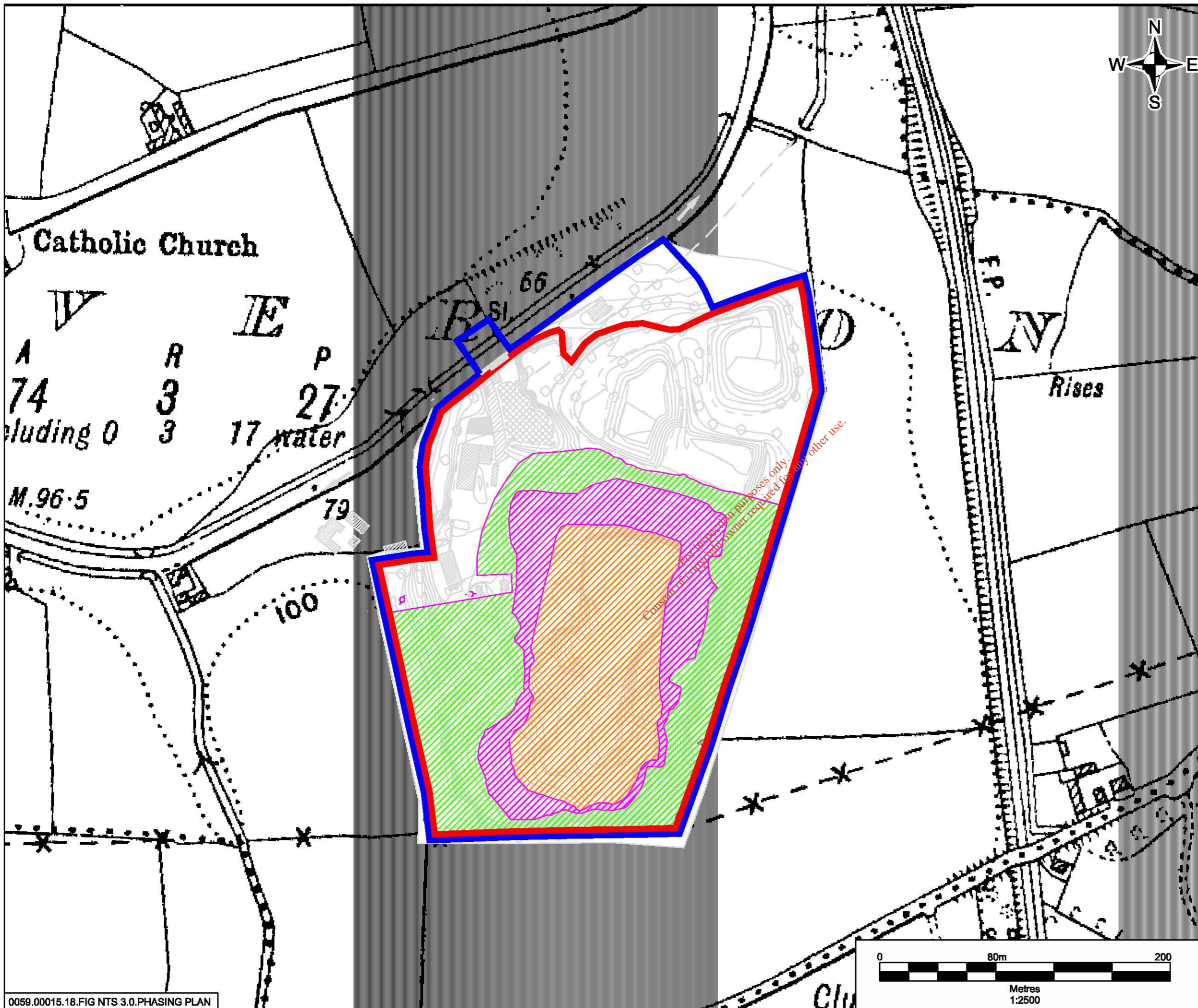
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 PROPOSED SITE  
 INFRASTRUCTURE LAYOUT

**FIGURE NTS 2**

Scale 1:2,500 @ A3      Date AUGUST 2009



**NOTES**

1. Based on OSI 25inch Dublin Sheet No. 5 & 5a
2. Ordnance Survey of Ireland Licence No. SU 0000709 (c) Ordnance Survey of Ireland & Government of Ireland

**LEGEND**

	Applicant's Land Interest (c. 8.6ha)
	Waste Licence Application Area (c. 7.9ha)
	Phase 1 (c. 1.7ha)
	Phase 2 (c. 2.8ha)
	Phase 3 (c. 5.0ha)

0059.00015.18.FIG NTS 3.0.PHASING PLAN

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**WASTE RECOVERY FACILITY,**  
**MILVERTON, SKERRIES, CO. DUBLIN**  
**PHASING PLAN**

**FIGURE NTS 3**

Scale 1:2,500 @ A3 Date AUGUST 2009