JSPE

J Sheils Planning & Environmental Ltd

KIERNAN SAND & GRAVEL LTD.

FOXTOWN QUARRY

FOXTOWN TOWNLAND

SUMMERHILLL

Co. MEATH

Waste Management Licence Application

W0262-01

ENVIRONMENTAL IMPACT STATEMENT

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1. INTRODUCTION

1.1 GENERAL BACKGROUND

Projects likely to have significant effects on the environment *by virtue of their nature, size and location* are subject to the requirement for an Environmental Impact Assessment (EIA). The EIA is a systematic process undertaken to identify and evaluate the potential environmental impact of proposed projects. The EIA also seeks to consider alternatives and propose mitigation measures to ensure the development is carried out within recognised and accepted standards. Thus, the EIA is a dynamic process in which environmental consideration delivers significantly improved project configurations in respect of environmental protection and sustainability. The Environmental Impact Statement (EIS) is the formal statement or document produced as a result of that process.

This EIS pertains to the continued operation of a Waste Recovery Facility (WRF) located at Foxtown Townland, Summerhill, Co. Meath. Kiernan Sand and Gravel Ltd are a family run business that has been supplying building materials in the form of aggregates in County Meath since the early 1960's. The existing quarry is being operated and restored using imported inert soils in accordance with conditions imposed under Section 261 (6)(a)(i) of the Planning and Development Act 2000 i.e. P.A. Reg. Ref QY/48 (QC 17.QC2113). The quarry site is being progressively restored in accordance with a Phased Restoration Scheme using imported soil and stone subject to a Waste Management Permit granted by Meath County Council (Ref. No. WMP 2007/22).

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The principal activity is Class R5 (recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials) of the Fourth Schedule of the Waste Management Act 1996, as amended. Other activities include Class R13 of the Fourth Schedule (storage of waste pending any of the operations numbered R 1 to R 12).

The nature of the development is the continued phased restoration of a sand and gravel pit using imported inert soils, stone, and recovery of inert construction and demolition waste.

It was proposed in the original Waste Licence application that circa 74,000 cubic metres per annum of inert materials was to be accepted to site. It was estimated that c. 20,000 tonnes per annum of inert construction and demolition waste was to be recovered at the facility. Recovered material will be used for internal haul roads and/or dispatched offsite.

Due to the economic recession the actual volumes received to date were considerably less than originally envisaged. The actual void space backfilled has been estimated at c.142,500 m3 since 2008 as opposed to the estimated void space in the original waste licence application of 502,500 m3. It is expected that volumes will increase as the economic recovery continues but it is expected that the volumes will still be relatively less, say up to c. 40,000 cubic metres per annum of inert materials will be accepted to site. It is estimated that only c. 10,000 tonnes per annum of inert construction and demolition waste will be recovered at the facility. Recovered material will be used for internal haul roads and/or dispatched off site. Any small

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quantities of timber, plastic, paper and steel will be separated for recovery and/or disposal offsite.

Changes in Waste Management legislation which came into effect in June 2008 (S.I. No. 821 of 2007, and S.I. No. 86 of 2008), now require a Waste Management Licence issued by the Environmental Protection Agency (EPA) in order to operate a waste recovery facility with a lifetime total intake volume in excess of 100,000 tonnes.

The waste licence application (W0262-01) was submitted on 13/02/2009. In accordance with Section 40 (2A)(C) of the Waste Management Acts (1996-2013), the Agency has assessed the information submitted and considers that the application must be made subject to an environmental impact assessment (EIA). As such the environmental impact statement will be submitted to the Agency with the application.

A copy of the application for a waste licence, environmental impact statement and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the application, will, as soon as practicable after receipt by the Agency, be available for inspection or purchase at the headquarters of the Agency.

The EIS has been prepared and compiled under the supervision of John Sheils, (B.Eng. (Mining), MSCS, MRICS) on behalf of the applicant, Kiernan Sand & Gravel. John Sheils is the principal of "J Sheils Planning & Environmental Ltd", a company that provides planning, environmental services and specialises in the area of minerals extraction and inert waste management.

In addition to the studies within the EIS carried out by J Sheils Planning & Environmental Ltd, some additional technical studies have been carried out by independent consultants. These studies are incorporated within the EIS or are attached to the EIS as appendices.

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1.2 SITE LOCATION

The site is located within the Townland of Foxtown, c. 6km southeast of Trim, and c. 4.5km north northeast of Summerhill, and c. 1.75km west of Kiltale, on the west side of an unnamed local road, (Refer to Figure A1.0, *EIS Section 2 Figures*). The unnamed road runs from Scurlockstown Townland, c. 2.5km east of Trim in a southeasterly direction, following a meandering topographic ridge known as the Trim Esker, except near its southern terminus in Arodstown Townland c. 4km east of Summerhill. The road connects the L2204 near Trim to the L2210 near Summerhill and runs roughly equidistant between Regional Roads R154 and R158.

The site lies c. 10km west of Junction 6 of the M3 motorway at Dunshaughlin, whilst Ratoath and Ashbourne are a further 6.5 and 10km, respectively to the east. Navan lies c.15km to the north, Kilcock c. 14km to the south, Maynooth c. 18km to the south southeast, and Dunboyne c. 18km southeast. Access to the site is gained from the unnamed local road adjoining the eastern site boundary. Thìs Local Road leads to the R154 Regional road at the village of Kiltale. A branch Local Road leads from this Local Road to the R158 Summerhill to Trim road.

The site is situated at approximately 70-80m AOD in a predominantly rural area of south County Meath. The surrounding landscape constitutes lowland with minor hills lying off to the

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east and south. The Trim Esker, on which the quarry is developed, forms a narrow, meandering, topographic ridge running for c. 14.5km in a NW-SE direction. The Esker is crosses the SW-NE oriented Galtrim Morraine, creating a marked topographic high at Ballynamona.

The Boycetown River flows in a roughly SE-NW direction c. 1km east of the site, whilst an unnamed tributary of the Boycetown River flows c. 500m west of the western boundary of the site. Both the Boycetown and Knightsbrook Rivers drain north into the Boyne River at Scurlockstown, near Trim.

The site of the quarry and WRF comprise the entire landholding of c. 5.2 ha, owned by the applicant Kiernan Sand and Gravel Ltd. The site is in the shape of a sinuous ribbon that is c. 300 in length and c. 40m wide, ranging from roughly 25m wide in the north to a maximum of 60m in width in the south. The eastern boundary of the quarry site is defined by the unnamed local road. The workings are effectively screened by a steep natural bank running along this public road and the lands are not open to significant views from outside the lands. This bank also provides considerable attenuation of noise and dust associated with the existing development. Intervening hedgerows and trees, much of which is relatively mature and dense, also assist in screening the workings from nearby residence and public view along the road.

Outside of the immediate environs of the towns, the settlement pattern can be described as low-intensity rural settlement. Residential property in the area typically comprises one-off single residences and farmsteads along public roads or at the end of lanes off the latter (Refer to Figure B 2.2, Rev. A, *EIS Section 2 Figures*, for locations of residences). Although there are no residences within the landholding, there are four nearby residences within 75m on the eastern side of the unnamed local road (Refer to Figures No A 1.0and B 2.2 Rev. A, for site location details). Furthermore, there are an additional 12 (i.e., total of 16) residences within 500m of the site.

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Land-use in the area consists of a patchwork of agricultural fields that are classed as pasture and subordinate non-irrigated arable land, reflecting medium-high intensity agricultural. The area has a history of sand and gravel working and restoration of workings using imported inert materials.

1.3 LEGISLATION

1.3.1 ENVIRONMENTAL LEGISLATION

As a member State of the EU, Ireland is required to transpose EU directives into Irish Law within specified periods of their enactment. The EIA process is covered by the EIA Directive (85/337/EEC), which has been amended three times, and more recently consolidated in the Directive 2011/92/EU. In particular, Annex I of the directive specifies projects requiring an EIA, whilst Annex II specifies those projects where the Member state decides on the thresholds in terms of project scale, as to whether an EIA is required.

Prior to 2000, the rules in respect of EIA contained in the various EC directives were brought into force by the European Communities (EIA) Regulations 1989 and the EC (EIA)

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(Amendment) Regulations, 1999 and the Local Government (Planning & Development) Regulations 1999. These were largely consolidated within the terms of Part X of the Planning & Development 2000 Act, and Part 10 of, and Schedules 5, 6 and 7 of the 2001 Regulations. Therefore, under Irish Law, proposed developments are required to comply with the Planning and Development Acts, 2000-2010 and related secondary legislation in the form of Statutory Instruments or Regulations. These pieces of legislation require an EIA to be conducted, typically by specialist consultants on behalf of the developer, before consent is given for projects likely to have significant effects on the environment by reason of their *size, nature or location*.

In respect of the Planning & Development Regulations S.I. No. 600 of 2001, Schedule 5, Part 1 specifies projects requiring an EIA (reflecting Annex I of the EIA Directive), and Schedule 5, Part 2 specifies those projects where the Member state decides on the thresholds in terms of project scale, as to whether an EIA is required (reflecting Annex II of the EIA Directive). Schedule 6 specifies information to be contained in an EIA, whilst Schedule 7 specifies the criteria used for determining Sub-Threshold projects that for reasons of location and characteristics of the development and related impacts, require an EIA.

1.3.2 WASTE LEGISLATION

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The Waste Framework Directive 2008/98/EC, which repealed previous Waste Directives 75/439/EEC, 91/689/EEC and 2006/12/EC, establishes a legal framework for the treatment of waste within the EU, excepting certain waste categories, such as radioactive elements, waste water, animal by-products, etc. The Directive seeks to protect the environment and human health through the prevention of the harmful effects of waste generation, and through waste management. Article 13 requires Member States to take measures to ensure that waste is managed while safeguarding human health and the environment, and in particular:

- without risk to water, air or soil or to plants or animals
- without causing a nuisance through noise or odour
- without adversely affecting the countryside or places of special interest

In order to address the whole waste cycle, Member States are required to implement legislation in accordance with a hierarchy for the treatment of waste, set out in Article 4, which ranges from prevention, reuse, recycle, energy recovery to disposal (i.e., analogous to Landlink's Ladder). The Directive also addresses issues of waste management, permits and registration, and the establishment of national waste management plans.

The management of waste in Irish Law is codified principally in the Waste Management (WM) Acts, 1996 and 2001, and Part 3 of the Protection of the Environment Act, 2003, which may be cited together as the Waste Management Acts, 1996, as amended. The European Communities (Waste Directive) Regulations, 2011 (S.I. 126 of 2011) represents the transposition of the Waste Framework Directive, 2008 into Irish Law, and amends these Acts.

The 2011 Regulations apply the definition of 'waste' established in the 1996 WM Act as "any substance or object belonging to a category of waste specified in the First Schedule or for the time being included in the European Waste Catalogue (EWC) which the holder discards or intends or is required to discard, and anything which is discarded or otherwise dealt with as if it were waste shall be presumed to be waste until the contrary is proved".

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The Waste Management Acts, as amended, require that any person, with few exceptions, carrying out the recovery or disposal of waste shall hold a waste license, a waste facility permit or a certificate of registration, depending on the nature and extent of the activity. This requirement for waste disposal and recovery activities to be authorised is provided for in Part V, Section 39 of the Waste Management Acts. Sub-section 39(1) states that all such activities require a waste licence, except those classes of activities for which waste permit regulations have been provided under subsection 39(4). Sub-section 39(5) sets out that the waste permit regulations shall provide specifics on the quantities of waste that may be disposed or recovered under waste permits, and that waste permits or waste certificates, as opposed to waste licences, are obtained from the local authority, for privately operated waste facilities, or the Agency.

The Waste Management (Facility Permit and Registration) Regulations 2007 (S.I. 821 of 2007), as amended (i.e., S.I. 86 of 2008), governs waste facility permits and certificates of registration. Schedule 3, Part I of the 2007 Regulations specifies the types of waste activities subject to a waste facility permit. Class 5 covers the recovery of excavation spoil, comprising natural materials (e.g., clay, gravel, etc.), and which constitutes inert waste, through deposition for the purposes of the improvement or development of land. This class of activity has a threshold of 100,000 tonnes for the total waste intake over the lifetime of the facility.

Where there are several classes of waste activities being undertaken within a facility, the quantity of waste for the purpose of the statutory thresholds refers to the total quantity of waste accepted at the facility (i.e., total of all classes of activity) and compared to the threshold for the principal class (EPA 2008). However, as Class 5 is the dominant class of activity at Foxtown, and the expected lifetime intake volume exceeds the 100,000 tonnes threshold for a Waste Permit, the operator is required to apply for a Waste Management Licence.

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In order to continue the phased restoration of the quarry, Kiernan Gravel and Sand Ltd. therefore applied to the EPA for a Waste Management Licence to replace the existing Waste Management Permit granted by Meath County Council in 2007 (Reg. No. WMP 2007/22).

According to Article 3(4) of the 2007 Regulations, “A waste permit granted under the Regulations revoked in respect of an activity which does not fall within part I of the third schedule and which requires a waste licence in accordance with the Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004), as may be amended from time to time, shall remain valid if an application for a waste licence is made to the Agency within 180 working days of the coming into operation of these Regulations, until such time as a decision is taken to grant or to refuse a waste licence under article 34 of the Waste Management (Licensing) Regulations 2004, as may be amended from time to time, at which point the waste facility permit will lapse.” Thus, the WRF at Foxtown has continued to operate under the conditions of the existing Waste Permit (Reg. No. WMP 2007/22), whilst the application for a Waste Management Licence remains undecided.

The principal activity is Class R5 (recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials) of the Fourth Schedule of the Waste Management Act 1996, as amended. Other activities include Class R13 of the Fourth Schedule (storage of waste pending any of the operations numbered R 1 to R 12).

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1.4 SCREENING

An EIA is a systematic process to identify and evaluate the environmental impact of proposed projects, developments and programmes, and is a key environmental policy instrument of the European Union (EU). The process requires proposed developments likely to have a significant impact on the environment to gain consent from the competent authority prior to proceeding with the project.

As stated above, in Irish Law, the principal Acts under which EIA's are regulated are the Planning & Development Acts, 2000-2010. The Act consolidates previous Planning Acts and much of the Environmental Impact Assessment Regulations, where the latter is covered in Part 10 of the Act. In addition, secondary legislation consisting of Statutory Instruments or Regulations, made under the Planning & Development Act are also applicable.

Screening is the initial phase of the EIA process, whereby the proposed project is evaluated to determine if an EIA is required. Projects requiring EIA are listed in Part 1 and 2 of Schedule 5 of the Planning and Development Regulations (PDR) 2001 (S.I. No. 600 of 2001) as amended,. Part 1 lists projects for which an EIA is obligatory under European law (specified in Annex 1 of the EIA Directive 2011/92/EU). In contrast, Part 2 lists projects for which an EIA is required, based on criteria and/or thresholds determined by the Member State, Ireland in this case (reflecting Annex II of the EIA Directive 2011/92/EU).

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Any development which is seeking a waste licence which has not previously been subject to an Environmental Impact Assessment (EIA) is screened by the EPA to determine whether a waste licence application should be made subject to an EIA.

During the EPA waste licensing process, the legislation relating to EIA was revised subject to European Union (Environmental Impact Assessment) (Waste) Regulations 2012 (S.I. No. 283 of 2012). In accordance with Section 40(2A) of the Waste Management Act 1996, as amended, and with regard to Section 42(11) of the Act, as amended, the Agency has, as part of its consideration of the waste licence application determined that the application should be made subject to an Environmental Impact Assessment (EIA) as regards the matters that come within the functions of the Agency.

The EPA have determined that the activity to which the licence application relates exceeds the threshold under Section 11(b) of Part 2, of Schedule 5 of the Planning and Development Regulations (PDR) 2001, namely "Installations for the disposal of waste with an annual intake greater than 25,000 tonnes not included in Part 1 of this Schedule."

1.5 SCOPING & CONSULTATION

Scoping should ensure that the constituent environmental studies of the EIA provide all of the relevant information, particularly with respect to: (1) significant impacts of the project; and (2) alternatives to the project. As such, the scoping process identifies the issues that are likely to be important during the EIA and eliminates those that are not. The information can be

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compiled through a formal process, whereby the competent authority is asked to consult with relevant agencies to draw up an opinion about the scope of the coverage required. More informal scoping can also be carried out to ensure that all relevant issues are identified and addressed to an appropriate level of detail.

A scoping exercise has been carried out in order to identify the range of impacts that may be associated with the proposed development, the likely concerns of local residents and landowners, and to assess the information and detail that is required to be included within the EIS.

Consultation for the purpose of an EIA provides an opportunity to solicit expertise and advice from a wide range of organisations and interested parties. Consultation has also taken place with sub-consultants appointed to prepare studies on specialised subjects. These include geologists, ecologists, traffic and archaeological consultants. Consultations were held with professional staff from the EPA as part of the scoping process.

In preparation of this application consultations were held with Dr. Sarah Gately, Head of Geological Heritage & Planning Programme, Geological Survey of Ireland (GSI) and their appointed consultant quaternary consultant, Dr. Robbie Meehan who has first-hand knowledge of the Trim esker and environs (Refer to EIS Section 3.3.5).

In particular, a meeting was held with Patrick Geoghean and Brian Meaney, Senior EPA Inspectors at the Agency headquarters on 12th May 2014. Following on from this meeting it was decided to proceed with the Waste Licence Application (W0262-01). The inspectors outlined their requirements with respect to preparation of the EIS and that the EIS should be prepared in light of the Agency's guidance documents on EIS (Refer to Section 1.6 below).

Given the level of discussion with the EPA, including identifying the issues and emphasis that are likely to be important during the EIA, it was not considered necessary to formally request a written opinion ("scoping") on the information to be contained in the Environmental Impact Statement (EIS) in accordance with Section 173 of the Planning and Development Act 2000, as amended.

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1.6 FORMAT OF ENVIRONMENTAL IMPACT STATEMENT

The format and scope of this document has been produced having regard to:

I. Schedule 6 and 7 of Planning & Development Regulation 2001 (S.1. No. 600 of 2001)

II. Meath County Development Plan (2013-2019).

III. Guidelines on the Information to be contained in Environmental Impact Statements, Environmental Protection Agency (EPA 2002).

IV. Advice Notes on Current Practice (in the preparation of Environmental Impact Statements) (EPA 2003).

V. Waste Licensing: Application Guidance Notes for Waste Soils Recovery Facilities (EPA 2012a).

VI. Waste Licensing: Application Guidance Notes (EPA 2012b)

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The EIS takes into account these and other Government and commonly accepted standards and guidelines that affect various aspects of the proposed development.

In order to ensure transparency and public awareness of the environmental implications of development decisions, an EIS is required to contain a non-technical summary according to Article 94 of the PDR 2001 (S.I. No. 600 of 2001). Clause 94(C) specifies "a summary in non-technical language of the information" required to be contained in the EIS by the preceding clauses 94(a) and 94(b). Thus, the non-technical summary includes descriptions of the project, existing environment, impacts and mitigation measures, as well as graphic elements such as location map, site layout plan, etc. Furthermore, the non-technical summary is written in a format and language that can be understood by persons without the appropriate technical background.

In accordance with the guidance, the non-technical summary is provided as a separate, self-contained document, and is available to the public for inspection or purchase at the headquarters of the EPA.

1.7 OBJECTIVES OF ENVIRONMENTAL IMPACT STATEMENT

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Formal environmental assessment enables the environmental effects which may be caused by a development to be systematically identified and evaluated. The EIS presents the results in a manner that enables the importance of the predicted effects, and the scope for modifying or mitigating these effects, to be properly evaluated by the relevant decision-making body prior to deciding with respect to development consent.

This EIS seeks to provide an objective analysis of the possible environmental effects resulting from the continued operation of the Waste Recovery Facility at Foxtown. These effects are assessed against a comprehensive checklist of relevant environmental criteria. The EIS then systematically evaluates the positive and negative impacts of the project on both natural and human environments.

The overall aims of the Statement are:

- To provide relevant and complete environmental information to all project stakeholders, including the general public, in a self-contained and comprehensive document.
- To identify and provide objective analysis of the potential effects of the proposed development on the existing environment, so as to inform the competent authority and other interested parties in the decision-making process.
- To describe available measures to mitigate, either by avoidance, reduction or remediation, any environmental effects that may be identified.
- To assess the likely effectiveness of the mitigation measures, and the acceptability of residual effects.
- To provide a framework for the ongoing monitoring of residual environmental effects.

The EIS is intended to be a self-contained document which addresses all of the potential environmental issues which may arise as a result of the proposed development.

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1.8 LAYOUT OF ENVIRONMENTAL IMPACT STATEMENT

The EIS has been prepared in accordance with 'Guidelines on the Information to be contained in Environmental Impact Statement' published by the Environment Protection Agency. The second reprint of these guidelines was published in 2002. The EIS also takes into account current practice in Environmental Assessment. In addition, the policies contained within the Meath County Development Plan (2013-2019) have been considered and taken into account.

The EIS has been prepared using the "Grouped Format Structure", where each topic is examined as a separate section referring to the existing environment, the proposed development, impacts and mitigation measures.

The Statement is sub-divided into three main sections:

Section 1 sets out general introductory comments concerning the project and a brief explanation of the aims and format of the EIS. It also identifies the various consultees and professional consultants who have contributed to this EIS and any difficulties encountered in preparation of the EIS.

Section 2 describes the details and nature of the proposed development and introduces some of the potential environmental effects which may result. It also explains the need for the proposed development, details any proposed or anticipated growth of the development and possible associated projects. Alternative project locations, designs and processes are also considered.

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Section 3 provides detailed information on all aspects of the existing environment, identifies potential impacts on the environment by the proposed development, and recommends mitigation measures to avoid, reduce or remedy these impacts. They are grouped under the following sub-sections:

- Human Beings
- Flora and Fauna
- Soils and Geology
- Water (Surface and Groundwater)
- Climate
- Air Quality
- Noise & Vibration
- Landscape
- Cultural Heritage
- Material Assets
- Traffic

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- The Interaction of the Foregoing (This section is an examination of any interaction between impacts identified in the previous sub-sections).

The associated references, plates, figures and appendices are provided at the end of each section for Sections 1 and 2 and at the end of each sub-section for Section 3.

1.9 THE PROJECT TEAM

The project has been managed by J Sheils Planning and Environmental Ltd. The principal J Sheils is a chartered minerals surveyor, mining engineer, with a postgraduate diploma in environmental protection, and has considerable experience in the compilation of planning applications and the carrying out of Environmental Impact Assessments (EIA's).

The Flora and Fauna EIS section 3.2 was carried out by the Ecologist, Roger Goodwillie. Roger Goodwillie is a Member of the Chartered Institute of Ecology and Environmental Management.

The Human Beings Section 3.1, Soils and Geology Section 3.3, Water Section 3.4, aspects of the Landscape Section 3.8, and Material Assets Section 3.10were carried out with the assistance of Raymond E. Healy B.Sc., M.Sc., Project Geologist. Mr. Healy has over twenty years' experience in mining and exploration geology, and holds a Specialist Diploma in Environmental Sustainability from NUIG.

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The Cultural Heritage EIS section 3.9 was undertaken by Dermot Nelis, BA ArchOxon AIFA MIAI. Dermot Nelis graduated from Queen's University Belfast, and after gaining extensive fieldwork experience undertook postgraduate studies at the University of Oxford in archaeological consultancy and project management. Dermot has carried out numerous walkover surveys, testing and monitoring programmes. He has completed over 100 Licensed fieldwork programmes and over 150 archaeological, architectural and cultural heritage desk-based assessments and Environmental Impact Assessments.

The traffic section 3.11 was prepared by Tony J. McNulty BE. F.I.E.I, chartered engineer. Tony was previously a Mayo County Council senior engineer and has 40 years' experience in road design, construction & maintenance, preparation of traffic management and safety plans, and traffic sections of Environmental Impact Assessments.

1.10 APPLICANT

Kiernan Sand and Gravel is owned, operated and managed by Messrs. James V. Kiernan and James Kiernan of Foxtown, Summerhill, Co. Meath. The company has been in business for approximately 50 years. Messrs. Kiernan also has six years experience operating and managing the existing Waste Recovery Facility. Mr. James V. Kiernan is the Facility Manager responsible for the overall management of the facility, whilst Mr. James Kiernan is the site foreman and is also responsible for the administration and record-keeping for the facility.

Messrs. Kiernan employ two persons directly. An additional temporary employee is hired occasionally. The WRF requires one person operating a bull-dozer/back-hoe excavator and one general foreman to monitor and inspect the quality and suitability of imported materials

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being brought to the site for recovery. It is expected that an additional general operative will be appointed subject to an upturn in the economy and construction activity.

1.11 ANY DIFFICULTIES IN COMPILING SPECIFIED INFORMATION

No major difficulties arising from either deficiencies in technology, knowledge or expertise were encountered in the preparation of the EIS. The EIS has been prepared by consultants with considerable experience in the compilation of waste licence applications and the carrying out of Environmental Impact Assessments (EIA's) for waste management developments (Refer to Section 1.9).

A Waste Management Licence application for a Waste Recovery Facility at the Foxtown quarry was submitted to the EPA in 2009, and ensured a considerable volume of relevant data was available. The contents of two earlier Planning and Environmental Reports from 2005 and 2008 were also considered in the preparation of this EIS, particularly in those specialist subjects where the baseline data is static in nature.

1.12 REFERENCES

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1 DOECLG (2010) *Planning and Development Acts 2000-2010*, Dept. of the Environment, Community and Local Government (DOECLG), Dublin, Ireland, [Available at Irish Statute Book, Office of the Attorney General http://www.irishstatutebook.ie/home.html]

2 DOECLG (2011) *Planning & Development Regulations 2001 - 2011*, Dept. of the Environment, Community and Local Government (DOECLG), Dublin, Ireland, [Available at Irish Statute Book, Office of the Attorney General http://www.irishstatutebook.ie/home.html]

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4 DOEHLG (2004) *Quarries and Ancillary Activities - Guidelines for Planning Authorities*, Dept. of the Environment, Heritage and Local Government (DOEHLG), Dublin, Ireland, [Available at http://www.environ.ie/en/Publications/DevelopmentandHousing/Planning/], 46 p.

5 DOECLG (1989 - 2006) European Communities (Environmental Impact Assessment) Regulations, 1989 to 2006, [Available at Irish Statute Book, Office of the Attorney General http://www.irishstatutebook.ie/home.html]

6 EPA (2002) Guidelines on the Information to be contained in Environmental Impact Statements, Environmental Protection Agency (EPA), Johnstown Castle, Co. Wexford, Ireland, [Available at http://www.epa.ie/pubs/] 33 p.

7 EPA (2003) Advice Notes on Current Practice (in the preparation of Environmental Impact Statements), Environmental Protection Agency (EPA), Johnstown Castle, Co. Wexford, Ireland, [Available at http://www.epa.ie/pubs/] 140 p.

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8 EPA (2006) *Environmental Management Guidelines - Environmental Management in the Extractive Industry (Non-Scheduled Minerals)*, Environmental Protection Agency (EPA), Johnstown Castle, Co. Wexford, Ireland, [Available at http://www.epa.ie/pubs/] 28 p.

9 EPA (2008) Guidance Manual: Waste Facility Permit and Registration Regulations, Environmental Protection Agency (EPA), Johnstown Castle, Co. Wexford, Ireland, [Available at http://www.epa.ie/pubs/] 372 p.

10 EPA (2012a) Waste Licensing: Application Guidance Notes for Waste Soils Recovery Facilities, Environmental Protection Agency (EPA), Johnstown Castle, Co. Wexford, Ireland, [Available at http://www.epa.ie/pubs/] 22 p.

11 EPA (2012b) Waste Licensing: Application Guidance Notes, Environmental Protection Agency (EPA), Johnstown Castle, Co. Wexford, Ireland, [Available at [Available at http://www.epa.ie/pubs/] 31 p.

12 Meath County Council (2013) Meath County Development Plan (2013-2019), Meath County Council, Navan, Co. Meath, Ireland, [Available at http://countydevelopmentplan.meath.ie/adoptedplan/] Vols. 1-4

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2. DESCRIPTION OF THE DEVELOPMENT

2.1 ALTERNATIVES EXAMINED

Schedule No. 6 of the Planning and Development Regulation 2001 (reflecting Annex IV of Directive 97/11/EC) specifies the information to be contained in an EIS, and requires *"An outline of the main alternatives studied by the developer and an indication of the main reasons for his or her choice, taking into account the effects on the environment"*. Current guidelines and practice for the preparation of environmental impact statements recommend that alternative project locations, designs and processes be considered with regards to environmental effects.

Alternatives to the development proposals are generally considered at three principal levels.

2.1.1 ALTERNATIVE SITES

Environmentally beneficial site reinstatement, such as that proposed at the application site, can only be undertaken where previous land-use activities have created a disturbed and degraded landscape. The existing quarry is being operated and restored using imported inert soils in accordance with conditions imposed under Section 261 (6)(a)(i) of the Planning and Development Act 2000 i.e. P.A. Reg. Ref QY/48 (QC 17.QC2113) and as such it was not considered particularly relevant in this case for the applicant to identify and appraise the merits of alternative sites for the proposed material recovery activity. It is the existence of this requirement for reinstatement using inert materials, and the environmental gain derived therefrom, that constitutes the principal qualification of the application site.

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Notwithstanding the foregoing, quarry restoration is typically ranked favourably in the hierarchy applied, for example by Kildare County Council (2005), to site selection for recovery of inert waste material:

- re-use of material where produced
- **quarry restoration**
- land reclamation
- agricultural/recreational use
- raising of development land
- raising of sites for one-off houses

Reclamation of the Foxtown quarry will result in infilling of a large exposed void and restoration of the disturbed landscape to its original pre-extraction condition, with emplacement of soil cover to protect the underlying groundwater.

The proposed development fully accords with the principles of sustainable development in that:-

- it reduces the negative environmental impacts of the proposed activity in that it is within an existing pit;

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- it offers potential for reduced transport journeys to landfill / recovery sites further afield.
- it conserves limited void space within existing landfill sites

2.1.2 ALTERNATIVE DESIGNS

The design of the facility is driven by the basic processes of recovery of C&D waste, with the recovery by backfilling of otherwise unusable materials to meet the requirement to reclaim the quarry back to the pre-extraction condition. Integration of the waste recovery activity with that of the existing quarry is driven by the numerous common processes of inert material recovery and quarry operations. Because the waste recovery facility will share much of the infrastructure of the quarry, design alternatives are constrained by the design of the existing facility and the imperative of achieving maximum synergy. Allocation of areas for inspection of intake material, quarantine material, and residual waste is an additional requirement of the waste recovery facility. The design and siting of these areas is driven by the need to maximise operational efficiencies and economic return, and offers the greatest latitude in facility design.

2.1.3 ALTERNATIVE PROCESSES

Waste recovery lies at the second lowest tier in the European Waste Hierarchy, and as such is the process of last resort prior to disposal. Process alternatives diminish as we descend the tiers of the hierarchy from the pinnacle of prevention to reduction, reuse, recycling, recovery and ultimately to disposal/landfill at the base.

The opportunities to exploit process alternatives lie further up the waste hierarchy with designers, producers, users and other participants in product lifecycles, and where adoption of the principles of product stewardship could significantly reduce the environmental impact of products, particularly resource utilisation. However, at this point in the product lifecycle, waste recovery and backfilling unusable waste represents the optimum economic utilisation of inert C&D waste. Diverting waste material out of the disposal stream into reuse off-site including secondary aggregates, and the improvement of land as part of the reinstatement of a quarry, with resulting reduction in primary resource utilisation, offer significant environmental gains.

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2.2 CHARACTERISTICS OF THE PROJECT

2.2.1 THE EXISTING SITE

2.2.1.1 GENERAL DESCRIPTION OF SITE AND ENVIRONS

The site is located within the Townland of Foxtown, c. 6km southeast of Trim, and c. 4.5km north northeast of Summerhill, and c. 1.75km west of Kiltale, on the west side of an unnamed local road, (Refer to Figure A1.0, *EIS Section 2 Figures*). The unnamed road runs from Scurlockstown Townland, c. 2.5km east of Trim in a southeasterly direction, following a meandering topographic ridge known as the Trim Esker, except near its southern terminus in Arodstown Townland c. 4km east of Summerhill. The road connects the L2204 near Trim to the L2210 near Summerhill and runs roughly equidistant between Regional Roads R154 and R158.

The site lies c. 10km west of Junction 6 of the M3 motorway at Dunshaughlin, whilst Ratoath and Ashbourne are a further 6.5 and 10km, respectively to the east. Navan lies c.15km to the north, Kilcock c. 14km to the south, Maynooth c. 18km to the south southeast, and Dunboyne c. 18km southeast. Access to the site is gained from the unnamed local road adjoining the eastern site boundary. Thìs Local Road leads to the R154 Regional road at the village of Kiltale. A branch Local Road leads from this Local Road to the R158 Summerhill to Trim road.

The site is situated at approximately 70-80m AOD in a predominantly rural area of south County Meath. The surrounding landscape constitutes lowland with minor hills lying off to the east and south. The Trim Esker, on which the quarry is developed, forms a narrow, meandering, topographic ridge running for c. 14.5km in a NW-SE direction. The Esker is crosses the SW-NE oriented Galtrim Morraine, creating a marked topographic high at Ballynamona.

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The Boycetown River flows in a roughly SE-NW direction c. 1km east of the site, whilst an unnamed tributary of the Boycetown River flows c. 500m west of the western boundary of the site. Both the Boycetown and Knightsbrook Rivers drain north into the Boyne River at Scurlockstown, near Trim.

The site of the quarry and WRF comprise the entire landholding of c. 5.2 ha, owned by the applicant Kiernan Sand and Gravel Ltd. The site is in the shape of a sinuous ribbon that is c. 300 in length and c. 40m wide, ranging from roughly 25m wide in the north to a maximum of 60m in width in the south. The eastern boundary of the quarry site is defined by the unnamed local road. The workings are effectively screened by a steep natural bank running along this public road and the lands are not open to significant views from outside the lands. This bank also provides considerable attenuation of noise and dust associated with the existing development. Intervening hedgerows and trees, much of which is relatively mature and dense, also assist in screening the workings from nearby residence and public view along the road.

Outside of the immediate environs of the towns, the settlement pattern can be described as low-intensity rural settlement. Residential property in the area typically comprises one-off single residences and farmsteads along public roads or at the end of lanes off the latter (Refer to Figure B 2.2, Rev. A, *EIS Section 2 Figures,* for locations of residences). Although there

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are no residences within the landholding, there are four nearby residences within 75m on the eastern side of the unnamed local road (Refer to Figures No A 1.0and B 2.2 Rev. A, for site location details). Furthermore, there are an additional 12 (i.e., total of 16) residences within 500m of the site.

Land-use in the area consists of a patchwork of agricultural fields that are classed as pasture and subordinate non-irrigated arable land, reflecting medium-high intensity agricultural. The area has a history of sand and gravel working and restoration of workings using imported inert materials.

Mitigation measures to alleviate any adverse impacts from the development on the environment have been incorporated into the design (Refer to Section 2 and Section 3) to ensure that the development can be operated within accepted standards for this type of development.

2.2.1.2 PLANNING HISTORY

The lands have a history of sand and gravel working. The pit is indicated on old OSi maps including 1909 and revised 1959-1960 by the Ordnance Survey of Ireland. The pit has supplied Meath County Council in the past and was worked by Matt Callaghan Concrete in the 1950's

Kiernan Sand and Gravel Ltd are a family run business that has been supplying building materials in the form of aggregates in County Meath since the early 1960's.

The existing quarry is being progressively restored in accordance with the terms and conditions imposed (P.A. Ref. QY/48 PL17. QC2113) under Section 261 of the Planning and Development Act 2000.

The quarry site is being progressively restored in accordance with a Phased Restoration Scheme using imported soil and stone subject to a Waste Management Permit granted by Meath County Council (Ref. No. WMP 2007/22).

Planning permission (P.A. Reg. 93/813) was obtained by Kiernan Sand and Gravel Ltd for the "gravel washing plant and readymix concrete plant" on site. This ancillary facility, comprising manufacturing activity, was not subject to registration under Section 261 of the Planning and Development Act 2000. The concrete batching plant is to be removed as part of the overall restoration scheme for the quarry.

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2.2.2 THE PROPOSED DEVELOPMENT

2.2.2.1 DEVELOPMENT OVERVIEW

Kiernan Sand and Gravel Ltd, Foxtown Townland, Summerhill, County Meath has applied to the Environmental Protection Agency for a waste licence for the continued operation of a waste recovery facility on lands at Foxtown Townland, Summerhill, County Meath (National Grid Reference 285633E 253005N) (Refer to Figure A.1, *EIS Section 2 Figures*).

The principal activity is Class R5 (recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials) of the Fourth Schedule of the Waste Management Act 1996, as amended. Other activities include Class R13 of the Fourth Schedule (storage of waste pending any of the operations numbered R 1 to R 12).

The nature of the development is the continued phased restoration of a sand and gravel pit using imported inert soils, stone, and recovery of inert construction and demolition waste. It was proposed in the original Waste Licence application that circa 74,000 cubic metres per annum of inert materials will be accepted to site. It was estimated that c. 20,000 tonnes per annum of inert construction and demolition waste was to be recovered at the facility. Recovered material will be used for internal haul roads and/or dispatched offsite.

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Due to the economic recession the actual volumes received to date were considerably less than originally envisaged. The actual void space backfilled has been estimated at c.142,500 m^3 since 2008 as opposed to the estimated void space in the original waste licence application of 502,500 m^3. It is expected that volumes will increase as the economic recovery continues but it is expected that the volumes will still be relatively less, say up to c. 40,000 cubic metres per annum of inert materials will be accepted to site. It is estimated that only c. 10,000 tonnes per annum of inert construction and demolition waste will be recovered at the facility. Recovered material will be used for internal haul roads and/or dispatched off site. Any small quantities of timber, plastic, paper and steel will be separated for recovery and/or disposal offsite.

Given the lower than expected volumes the applicant also decided to restore phase 1 to a lower profile than originally anticipated so that these lands could be returned to beneficial agricultural use at the earliest opportunity. Phase 1 is now largely complete (Refer to Figures B.2.1 - Rev A and B.2.4 - Rev A). The remaining phases will be restored to agricultural/ forestry in accordance with the revised phasing scheme (Refer to Figures B.2.4 - Rev A and B.2.5 Rev A).

Redundant structures, plant equipment and stockpiles will be removed from site on cessation of pit activity.

Clean construction and demolition waste will either be placed directly on haul roads or temporarily placed in storage awaiting recovery.

Messrs. Kiernan employ two persons directly. An additional temporary employee is hired occasionally. The WRF requires one person operating a bull-dozer/back-hoe excavator and one general foreman to monitor and inspect the quality and suitability of imported materials

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being brought to the site for recovery. It is expected that an additional general operative will be appointed subject to an upturn in the economy and construction activity.

Mitigation measures to alleviate any adverse impacts from the facility on the environment have been incorporated into the design to ensure that the facility can be operated within the accepted standards for this type of development.

2.2.2.2 THE CLASSES OF ACTIVITY

The Class(es) of Activity at the site, as specified in the Fourth Schedule of the Waste Management Act, 1996 (as amended), are as follows:

Table 2.1 Class(es) of Activity at the site

Fourth Schedule	
Class	Description
R5 *(Principle Activity)*	Recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials
R13	Storage of waste pending any of the operations numbered R1 to R12

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2.2.2.3 DURATION OF DEVELOPMENT

Based on the proposed scheme and an expected backfilling rate of between 35,000 to c. 40,000 cubic metres per annum, it is considered that it will take approximately 8 years to complete the backfilling operations (Refer to Table 2.3). An additional 6 months to a year should be allowed to complete final restoration to agricultural/woodland.

Ultimately the life of the WRF will be determined by demand for recovery of inert C&D waste and therefore be dependent on future market conditions.

2.2.2.4 GOVERNMENT POLICY

The unsustainable levels of resource utilisation and waste generation within the EU have made waste management a central issue for policy makers in the EU (EPA 2012b). Consequently, the EU passed the Waste Framework Directive in 2008. One of the main objectives of the Directive is to provide a framework to transform Europe into a society with high levels of recycling and resource efficiency. The Waste Framework Directive 2008/98/EC established a legal framework for the treatment of waste within the EU, through the prevention of the harmful effects of waste generation, and through waste management. In order to effect this transformation, Member States are required to implement legislation in accordance with a hierarchy for the treatment of waste.

Whilst EU legislation has been a primary driver of change in Ireland's posture with respect to waste management, the landfill levy introduced in 2002 was another key driver of

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change. These measures are driving the options for post-consumption management further up the waste hierarchy, away from reliance on disposal in landfill, and towards more sustainable behaviours (EPA 2012b).

Of particular importance is Article 11.2 of the Directive, which states that "Member States shall take the necessary measures designed to achieve that by 2020 a minimum of 70% (by weight) of non-hazardous construction and demolition waste excluding naturally occurring material defined in category 17 05 04 in the List of Wastes shall be prepared for re-use, recycled or undergo other material recovery (including backfilling operations using waste to substitute other materials)".

2.2.2.4.1 The National Spatial Strategy

The National Spatial Strategy (NSS) was launched by the government in late 2002 and is designed to provide a framework for balanced social, economic and physical development between the regions for the next 20 years (DOELG 2002). The strategy is based on a hierarchy of settlement; Gateways, Hubs and County Towns along with the need to support the role of smaller towns, villages and diverse rural economies.

The NSS provides a framework to promote and balanced regional development and sustainable growth. It also guides policies, programmes and investment. The strategy emphasises continued strong growth in the Greater Dublin Area (GDA), but with significant improvement in the regions outside the capital and more particularly in the nine gateway cities and nine hub towns. Meath has neither a gateway nor hub town and as such will have to compete with higher order cities and towns to secure funding for strategic investment opportunities. Navan is a primary economic growth town with the secondary economic growth towns of Kells and Trim.

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Meath occupies a strategic location in the Greater Dublin Area (GDA) and benefits from a wealth of natural resources. As a constituent of the GDA, it is part of the largest market in the country and at the centre of Ireland's primary economic hub. The transport infrastructure in the County provides easy access to Dublin Airport and Port. Meanwhile the presence in Meath of a large number of national roads facilitates access to the remainder of the country. Meath also benefits from a strategic location along the M1 Dublin-Belfast international corridor, the primary economic corridor in Ireland.

The NSS recognises that quality of life is increasingly important to people and that unbalanced development affects quality of life. The growing trend of long distance commuting, and the dislocation between centres of employment and residential development are economically, socially and environmentally unsustainable. The NSS recognises that the solution lies in balanced regional development, whereby the potential of each area to contribute to the economic, social and environmental wellbeing of the State is developed. Ireland's growing population can be accommodated within existing settlements, by renewing and developing our cities, towns and villages, and ensuring that urban land is used sensitively and efficiently in order to provide attractive, sustainable, compact, public transport friendly forms, whilst avoiding urban sprawl.

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2.2.2.4.2 The National Development Plan 2007-2013

The National Development Plan 2007-2013 sets out a detailed development strategy for the country supported by a multi-annual investment commitment in the key areas of infrastructural development, education and training, the productive sector and the promotion of social inclusion (Dot 2004). The Plan also contains a commitment and accompanying framework for the promotion of more balanced regional development.

The Government committed itself in its Programme for Government to review progress on deficit reduction in order to achieve the objective of reaching the 3% of GDP deficit target by 2015[1]. The Department of Finance carried out a review of Infrastructure Investment Priorities for 2010-2016[2]. The review represents a reappraisal of the Government's Public Capital Programme, designed to re-focus investment plans and ready the Irish economy for a return to growth. Investment in economic infrastructure is a key element in the promotion of competitiveness and the generation of sustainable economic growth and employment. It also contributes to regional development and assists environmental sustainability.

The Government has through the National Development Plan and the National Spatial Strategy made clear its objective to facilitate more balanced social and economic growth throughout the State. Such balanced regional growth will result in an increased requirement for social and economic infrastructure with a consequential increase in demand for recovery and re-use of inert Construction and Demolition waste.

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2.2.2.4.3 National Waste Policy

The waste policy statement entitled "Taking Stock and Moving Forward" published in April 2004 reiterates a commitment to the implementation of the internationally recognised waste management hierarchy. The integrated waste management approach is to implement maximum recycling, recovery of energy from residual waste and moving away from landfill disposal.

A policy direction WIR 04/05 was issued on 3rd May, 2005 in relation to the movement of waste. This was unforeseen in "Taking Stock and Moving Forward" and was intended to address concerns that relevant regulatory authorities were taking an unnecessarily restrictive approach in regard to the inter-regional movement of waste. This guidance is intended to provide greater clarity in regard to the appropriate application of the proximity principle so as to facilitate the provision of environmentally sustainable and economically viable waste infrastructure in accordance with national policy.

Section 21A. (1) of the amended Waste Management Acts 1996 to 2011 states that:-

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[1] Department of the Taoiseach, (April 2011) *National Reform Programme for Ireland under the Europe 2020 Strategy,* Dublin: Department of the Taoiseach.

[2] Department of Finance, (July 2010) *Infrastructure Investment Priorities 2010-2016*, Dublin: Department of Finance.

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The following waste hierarchy shall apply as a priority order in waste prevention and management legislation and policy:

(a) prevention;

(b) preparing for re-use;

(c) recycling;

(d) other recovery (including energy recovery); and

(e) disposal.

Measures at the top of the hierarchy have the inherent potential to be more environmentally beneficial and resource efficient. It implies that higher order strategies should be considered first and used where practicable.

Waste prevention is the top priority and when this has been exercised to its full potential then one should attempt to get the maximum benefit from the remaining waste at minimum environmental cost. This is the basis of the **'3 Rs'** which take account of the next steps in the hierarchy:

Reduction (Minimisation) is top of the list since it is the only complete way to reduce environmental impacts.

Reuse is generally better than recycling since there is no processing stage which would use energy and create its own waste.

Recycling is generally better than recovery of secondary materials or energy since it achieves a greater reduction in the demand for primary resources.

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To increase the likelihood of applying the Reuse, Recycling, Recovery and Treatment strategies to the best potential it is usually important that the various components in the waste stream are segregated as much as possible so as to minimise contamination. This usually requires segregation at source and systems to prevent the mixing of different waste streams.

A new National Waste Management Policy was adopted in 2012, and the new Regional Waste Plans, due to be in place in 2014, are required to reflect this new National Policy (DoECLG 2012). A key objective of waste management plans is to "ensure self-sufficiency of waste management infrastructure within the State". The Plan incorporates several key obligations imposed by the 2008 Waste Framework Directive:

- Application of the Waste Hierarchy as a priority in legislation and policy
- Recovery of waste where practicable, or disposal without risk to environment or human health
- Prohibition of the abandonment or uncontrolled disposal of waste
- Establishment of an integrated network of waste disposal installations and of installations for the recovery of mixed municipal waste - aiming for self-sufficiency
- A system of permits and registration for all those involved in collecting, disposing of, preparing for the recovery of, or recovering waste

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- Cost of waste management borne by original waste producer, through adoption of the polluter pays principle

2.2.2.4.4 Regional Planning Guidelines Greater Dublin Area

The National Spatial Strategy (NSS) for Ireland sets out the basis on which all areas of the country will have the opportunity to develop to their potential within a national spatial planning framework for the period up to 2020 (DoEHLG 2002). The Regional Authorities have been entrusted with the important responsibility of implementing the NSS at regional level.

The Planning and Development Act, 2000 conferred on the Regional Authorities the power to make Regional Planning Guidelines (RPGs) for their functional areas. The RPG, which also incorporate a socioeconomic development strategy, are intended to constitute a strategic planning framework for the period 2010-2022 for the development of each region and for inter-regional cooperation. The strategic policies and objectives set out in the RPG will form the backdrop for socio-economic planning by national and regional agencies and will constitute the policy framework within which county, city, town and local area development plans will be made.

The Regional Planning Guidelines (RPGs) extend the implementation of the National Spatial Strategy (NSS) down to the regional and local levels, by linking national spatial policy with planning by local authorities.

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The Regional Planning Guidelines for the Greater Dublin Area combines two Regional Authority areas - the Dublin Regional Authority and the Mid-East Regional Authority. The Guidelines cover the Councils of Dun Laoghaire-Rathdown, Dublin City, Fingal and South Dublin in the Dublin Region and Kildare, Meath and Wicklow County Council areas in the Mid-East Region.

The Regional Planning Guidelines (RPG's) set out the planned direction for growth within the Greater Dublin Area up to 2022 by giving regional effect to national planning policy under the National Spatial Strategy (NSS).

The RPGs seek to deliver policies integrating land use, transport, economic growth and investment in utilities - water, broadband and energy so that the GDA can move towards becoming a sustainable high quality location for business, residents and visitors.

It is the strategic policy (PIP5) of the GDA to ensure, from environmental, business and public health needs, that waste management remains a priority for local authorities and waste management regions in continuing to invest in promoting and facilitating reuse and recycling by residential and commercial sources and that high standard options for treatment and final disposal of waste are available within the GDA.

The Waste management policy for the GDA needs to:

- Expand policies to promote and support source reduction and reuse, to reduce stresses on waste management infrastructure and to create better synergies between businesses and across sectors;
- Promote improvements to quality of recycling infrastructure to reduce costs;
- Continue to invest in increasing opportunities for recycling and safe disposal of waste;

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- Development of opportunities, as outlined above, shall not compromise the integrity of ecologically sensitive areas, in particular infilling with inert materials which can give rise to fragmentation of habitats. A change in the regulations that effectively exempts land filling once it achieves land reclamation would support this endeavour.

Preservation of the environment and conservation of diminishing natural resources are key principles inherent within the concept of sustainable development. The RPGs support the waste management hierarchy and increased and coordinated effort should be made in the areas of source reduction and re-use of waste across the industrial, commercial and residential sectors of the GDA.

Local Authorities should seek to anticipate burgeoning waste streams, identify opportunities to integrate facilities where appropriate and identify current or future opportunities for re-use of waste, for example, the re-use of secondary aggregates as physical infrastructure construction bases or the potential reuse of suitable soil material in amenity projects or landfill restoration.

Strategic recommendations for the GDA include:

PIR39 The reuse of waste should be encouraged and reinforced through encouragement of business clustering across the GDA. Opportunities to facilitate source reduction, the reuse of wastes, by-products and associated energy throughout the GDA should be examined as part of economic policies. Development of these opportunities shall not compromise the integrity of ecologically sensitive areas, in particular infilling with inert materials which can result in loss and fragmentation of wetlands.

PIR 40 Waste management facilities should be appropriately managed and monitored according to best practice to maximise efficiencies and to protect human health and the natural environment.

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2.2.2.4.5 Regional Waste Management Plan

County Meath is the lead authority for the preparation of the North East Region Waste Management Plan which also includes counties Louth, Cavan and Monaghan. The original Waste Management Plan (WMP) for the North East Region was adopted in 2001. The replacement WMP for the North East Region was developed and covers the period 2005 – 2010 and remains the current plan. This plan sets out the current policy to progress the sustainable waste management of waste arising in the Region.

The Plan was subject to a review in 2012, pursuant to the requirement in the European Communities (Waste Directive) Regulations 2011 (S.I. 126 of 2011). As a result of this evaluation, a replacement Waste Management Plan will be required. The replacement Plan will reflect changes in both legislation and policy direction, regional changes and cross border opportunities and challenges since the original WMP was adopted. It will identify current progress on waste management, the policy vision for future development and the means to implement and monitor future progress.

The waste management regions are also to be reconfigured and Meath will come under the Eastern & Midlands Waste Management Plan. This region includes Dublin City, Dun Laoghaire

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-Rathdown, South Dublin, Fingal, Wicklow, Kildare, Laois, Offaly, Westmeath, Longford, Meath & Louth County Councils. The new Waste Management Plan is scheduled for completion in early 2015 (DCC 2013).

Progress to date shows that implementation of the two Waste Management Plans have been very successful with a significant increase in recycling rates for numerous waste streams and the expansion of integrated waste management infrastructure throughout the North East Region. The waste infrastructure in the region has also grown significantly.

The regional policy objectives included in the Waste Management Plan 2005-2010 are as follows:

a) Waste prevention and minimisation will be a priority and there will be increased focus on the schools, community and business sectors to reduce waste arisings;

b) The region will deliver an effective system meeting the 'polluter pays principle' that meets high standards of environmental performance and all legislative obligations;

c) The region will strive to give access to waste management services across the region, particularly in rural areas;

d) The region will strive to improve collection coverage and participation for households and businesses, reducing uncollected waste;

e) The region will continue to improve the infrastructure for recycling and recovery of waste;

f) The region will maximise positive input of the private sector to help meet plan objectives;

g) The North East Local Authorities will, if necessary and/or appropriate for environmental or other reasons, direct that certain waste streams must be delivered to a certain tier in the waste hierarchy (e.g. reuse, recycling, biological treatment, energy recovery). This will be achieved by means of the Waste Collection Permit system or other appropriate regulatory or enforcement measures.

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Regional waste co-operation is currently in place with waste movement and transfer between the North East and neighbouring regions in accordance with the policy objective outlined within the Waste Plan. The co-ordination and movement of waste to and from Regions, particularly for recycling and recovery operations, is an accepted practice as long as it adheres to all relevant legislation, regulation and policy.

The primary goal of the North East Region in relation to Construction and Demolition Waste (C&D) Management is simply to prevent and minimise C&D waste generation and achieve increased reuse and recycling levels while minimising disposal and associated transportation (MCC 2012).

The Waste Plan identifies the following policy objectives for Construction and Demolition (C&D) waste as applicable to the North East Region;

The Local Authorities will:

- Promote awareness and education to users of recycled construction products through the planning and waste permit systems. (2005 – 2010)

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- Support and promote the on-going producer responsibility initiatives of the construction industry. (2005 – 2010)
- Increase awareness of the opportunities to minimise/ prevent waste and to recycle unavoidable waste, particularly among Small to Medium Sized Enterprises (SMEs) operating in the construction industry. (2005 – 2010)
- Ensure that a C&D Waste Plan is prepared by developers for new construction projects above the threshold limits as set by the NCDWC and that the maximum amount of waste material generated on-site is re-used and recycled. (2007)
- That any new Local Authority construction jobs are assessed for the potential use of recycled aggregates and to encourage the development of end markets for these products by ensuring that the public and private sector developments use recycled construction aggregates and other recycled materials where possible. (2007)
- Facilitate provision of additional C&D Waste Recycling Facilities for recycling of C&D waste – including separation of materials and crushing/grading of rubble for re-use as aggregate (2009).
- Facilitate provision of Recycling Facilities to cater for delivery of C&D waste by small-scale producers, SMEs etc.
- Facilitate provision of additional facilities to cater for C&D waste in the larger urban areas- these should include front-end removal & recycling of recoverable waste, and limited to disposal of non-recoverable waste (soil) only.
- To tighten regulation and control of applications for waste permits and waste permitted facilities for the deposition of soil on agricultural land, to ensure that contaminated loads are not accepted at facilities and improvements are made in the recording of materials accepted at facilities.
- The use of soil material be restricted to beneficial applications where possible, in preference to disposal. Examples of beneficial use include: landfill restoration, amenity projects (parks, golf courses), quarry re-instatement, major reclamation/infill projects.
- Pursue close regional cooperation on regulation and enforcement in conjunction with the Office of Environmental Enforcement and the Gardai. (2005)

The headline indicator target for C&D waste recycling identified in the Waste Plan (85%) was achieved in 2010. In 2009, it was estimated that 100% of the 'soil and stone' fraction of C&D wastes was recovered in the Region and 81% of the 'other' fraction recovered in the same year, indicating achievement of the waste Framework Directive (70%).

Construction and Demolition (C&D) waste can be defined as waste which arises from construction, renovation and demolition activities, together with all waste categories mentioned in Chapter 17 of the European Waste Catalogue (EWC). The construction / demolition industry is one of the largest waste producers in Ireland, amounting to 22% of waste in 2010 (EPA 2012). Landfill has been the traditional disposal mechanism for C&D waste, but in accordance with the waste management hierarchy and having regard to the resource value of the discarded materials and the current exhaustive pressures on landfill space, recycling must take over as the main management route for this waste stream.

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The recycling of C&D waste is recommended in all of the Regional Waste Management Plans, which the local authorities are now implementing. Because of the high recycling potential of C&D waste stream, it is very significant in terms of meeting National and Regional targets. Therefore, local authorities encourage contractors to re-use C&D waste on site, or to transport the waste to a recovery facility.

National policy ('Changing Our Ways') on construction and demolition waste has set an overall target of 85% recycling by 2013. Progress in C&D recovery within the Region has been largely achieved through the reuse of soil and stones for engineering works at landfill sites and in land reclamation activities. Progress in relation to C&D waste prevention and reuse of the 'other' C&D waste fraction (i.e. faction excluding soil and stones) is also increasing with over 80% of 'other' C&D wastes recovered in 2009.

In October 2004, a Construction Voluntary Industry Initiative was launched requiring all industry stakeholders to commit to improved sustainable management practices on site which resulted in the requirement to prepare Project Construction and Demolition Waste Plans. National guidelines to assist contractors and developers in the preparation of the waste plans were launched in 2006 by the DEHLG.

The high C&D waste recovery rates are considered as encouraging and will have positive environmental implications in terms of groundwater, surface water and biodiversity, however regulation and enforcement of land reclamation projects is critical to ensure the protection of biodiversity in all counties.

As the targets of the Plan have been met for C&D waste, there is a need for more ambitious targets to be set.

Greater enforcement is required in terms of C&D waste management plans, the provision of such by developers and the review of these by Local Authorities. Site inspections should also be carried out to ensure waste management practices are being adhered to.

In relation to land reclamation projects, tight regulation and enforcement of waste collection permits and waste facility permits is required to ensure the protection of biodiversity, groundwater and surface waters.

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2.2.2.4.6 Guidelines

The Dept. of the Environment, Heritage & Local Government has published "Quarries & Ancillary Activities – Guidelines for Planning Authorities" in April 2004 (DoEHLG 2004b). In this publication it is stated that as part of best practice.

- the availability of a choice of raw aggregates and C&D waste-derived aggregates for the purposes of new construction would serve to limit the depletion of natural resources.
- Quarries should consider using inert C&D waste arisings, which do not have the potential to displace natural aggregates, for reinstatement and restoration purposes on the quarry site.

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2.2.2.4.7 Meath County Development Plan

The aim of the Meath County Development Plan 2013-2019 is to drive the evolution of the county and to establish a framework for the coordinated and sustainable economic, social, cultural and environmental development of County Meath.

The development plan vision statement is for "*Meath to be a county that fosters sustainability throughout its vibrant communities, dynamic economy and unique cultural and natural heritage".*

The following policy statements in the Meath County Council Development Plan are considered relevant with respect to the Waste Recovery Facility at Foxtown:

WM POL 1	To adopt the provisions of the waste management hierarchy and implement policy in relation to the county's requirements under the current or any subsequent waste management plan. All prospective developments in the county will be expected to take account of the provisions of the regional waste management plan and adhere to the requirements of the Plan. Account shall also be taken of the proximity principle and the inter regional movement of waste as provided for under appropriate Minister Directives from time to time.
WM POL 3	To seek the provision of quality cost effective waste infrastructure and services, which reflect and meet the needs of the community.
WM POL 4	To seek in the Council's dealings with private companies that all waste shall be undertaken in compliance with the requirement of the EPA and relevant waste management legislation and policy,
WM POL 6	To encourage the development of waste infrastructure and associated developments in appropriate locations, as deemed necessary in accordance with the requirements of the Regional Waste Management Plan.
WM POL 7	To encourage the recycling of construction and demolition waste and the reuse of aggregate and other materials in future construction projects.

The following objectives in the Meath County Council Development Plan are considered relevant with respect to the Waste Recovery Facility at Foxtown:

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WM OBJ 1	To facilitate the provision of appropriate waste recovery and disposal facilities in accordance with the principles set out in the appropriate Waste Management Plan applicable from time to time made in accordance with the Waste Management Act 1996.
WM OBJ 7	To promote the implementation of Waste Management Activities in accordance with 'Best Practice' and national policy.
WM OBJ 8	To facilitate the implementation of national legislation and national and regional waste management policy.
WM OBJ 13	To support the development of facilities to cater for commercial waste not provided for in the kerbside collection system such as WEEE, C&D type waste and hazardous materials in accordance with the requirements of the North East Waste Management Plan.
WM OBJ 17	To require developers to prepare construction and demolition waste management plans for new construction projects over certain thresholds which shall meet the relevant recycling/recovery targets for such waste in accordance with the national legislation and national and regional waste management policy.
WM OBJ 18	To seek to ensure in cooperation with relevant authorities that waste management facilities are appropriately managed and monitored according to best practice to maximise efficiencies and to protect human health and the natural environment.

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The proposed facility will involve the recovery/reuse of inert C&D waste, and inert soil and stone, and as such the recovery operations are further up the waste hierarchy, insofar as the wastes are prepared for re-use. Clean, uncontaminated soils are suitable as intake in waste permit facilities such as quarry restoration projects, whereas clean brick, block and concrete rubble are suitable at permitted facilities for recovery/re-use as secondary aggregates and/or in the construction of hard standing areas, access roadways, drainage, etc. The facility will result in a reduction of quantities of such waste being sent to landfill sites in the region, displacing equivalent volumes of virgin material from extraction, and will also enable the lands to be restored to agricultural use in accordance with the restoration scheme proposed.

Areas of Significance or Special Importance (Designated Areas)

The County Council identifies the following amenities and features within the area which warrant protection and preservation under the County Development Plan. In particular, it is the policy of the Council:

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Cultural and Natural Assets

Meath's wealth of built heritage makes it exceptional in Ireland. It includes the UNESCO World Heritage Site of Brú na Bóinne, the seat of the High Kings of Ireland at Tara, the passage tombs of Loughcrew, the largest Anglo- Norman castle in Europe at Trim, the historic towns of Navan, Trim and Kells, great country houses, demesne landscapes, and a significant industrial heritage of canals and mills.

Meath's natural heritage includes scenic river valleys, rolling farmland, a network of mature hedgerows and diverse coastal habitats.

It is the strategic policy of Meath County Council:

CSA SP 1	To ensure that the unique cultural heritage of Meath is protected, conserved and sensitively integrated into the sustainable development of the county for the benefit of present and future generations.
CSA SP 2	To ensure that features of Meath's natural heritage and green infrastructure that provide ecosystem services are protected; that biodiversity is conserved and where possible enhanced, and; that the character of landscapes are maintained and enriched, and that tourist and recreational uses are facilitated in a sensitive manner.
CSA SP 3	To promote the understanding of County Meath's landscape in terms of its inherent and unique character and to recognise what elements should be preserved, conserved or enhanced.
CSA SP 4	To implement, in partnership with the County Meath Heritage Forum, relevant stakeholders and the community, the County Meath Heritage Plan and any revisions thereof.

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Archaeological Heritage

Meath County Council recognises the value and significance of the county's archaeological Heritage. It is the policy of Meath County Council:

CH POL 7	To ensure that development in the immediate vicinity of a recorded monument is sensitively sited and designed so that it does not significantly detract from the monument. Where upstanding remains exist, a visual impact assessment may be required.

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CH POL 9	To inform and seek guidance from the National Museum of Ireland if an unrecorded archaeological object is discovered, or the National Monuments Service of the Department of Arts, Heritage and the Gaeltacht in the case of the discovery of an unrecorded archaeological site, in accordance with National Monuments legislation.

It is an objective of Meath County Council:

CH OBJ 7	To protect archaeological sites and monuments, underwater archaeology, and archaeological objects, which are listed in the Record of Monuments and Places, and to seek their preservation in situ (or at a minimum, preservation by record) through the planning process.

CH OBJ 8	To seek to protect important archaeological landscapes from inappropriate development.

CH OBJ 7	To protect archaeological sites and monuments, underwater archaeology, and archaeological objects, which are listed in the Record of Monuments and Places, and to seek their preservation in situ (or at a minimum, preservation by record) through the planning process.

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CH OBJ 7	To protect archaeological sites and monuments, underwater archaeology, and archaeological objects, which are listed in the Record of Monuments and Places, and to seek their preservation in situ (or at a minimum, preservation by record) through the planning process.

CH OBJ 8	To seek to protect important archaeological landscapes from inappropriate development.

Architectural Heritage – Record of Protected Structures

The Planning and Development Acts place an onus on owners and occupiers of Protected Structures to ensure that the structure, or any element of the structure which contributes to its special interest, is not endangered either through neglect, or by inappropriate works.

It is the policy of Meath County Council:

CH POL 10	To conserve and protect the architectural heritage of Meath.

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It is an objective of Meath County Council:

CH OBJ 13	To protect all structures (or, where appropriate, parts of structures) within the county which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest and which are included in the Record of Protected Structures (See Appendix 8).

Natural Heritage

Biodiversity Action Plan

Meath County Council adopted its first Biodiversity Action Plan in April 2010 in accordance with the first National Biodiversity Plan. The plan provides a framework for the conservation of biodiversity and natural heritage at a local level.

It is the policy of Meath County Council:

NH POL 1	To protect, conserve, and seek to enhance the County's biodiversity.

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NH POL 2	To promote measures to protect biodiversity in the development management process by creating and improving habitats, where possible.

European Sites (Natura 2000)

Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are being, or have been, designated to conserve habitats and species of European importance pursuant to the EU Habitats and Birds Directives. Such sites form part of an EU network of ecologically important sites known as Natura 2000.

Appropriate assessment was introduced by the EU Habitats Directive as a way of determining if a planned project is likely to have a significant effect on one of the Natura 2000 sites so far designated (i.e. the candidate SAC's and SPA's), or their conservation objectives.

Natural Heritage Areas

Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs) are designated under the Wildlife (Amendment) Act (2000) and encompass nationally important semi-natural and natural habitats, landforms and geomorphological features. It is important that the conservation value of these areas be maintained as they contribute to the county's green infrastructure.

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It is the policy of Meath County Council:

NH POL 5	To permit development on or adjacent to designated Special Areas of Conservation, Special Protection Areas, National Heritage Area or those proposed to be designated over the period of the plan, only where an assessment carried out to the satisfaction of the Meath County Council, in consultation with National Parks and Wildlife Service, indicates that it will have no significant adverse effect on the integrity of the site.
NH POL 6	To have regard to the views and guidance of the National Parks and Wildlife Service in respect of proposed development where there is a possibility that such development may have an impact on a designated European or National site or a site proposed for such designation.

It is an objective of Meath County Council:

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NH OBJ 2	To ensure an Appropriate Assessment in accordance with Article 6(3) and Article 6(4) of the Habitats Directive, and in accordance with the Department of Environment, Heritage and Local Government Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities, 2009 and relevant EPA and European Commission guidance documents, is carried out in respect of any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect on a Natura 2000 site(s), either individually or in combination with other plans or projects, in view of the site's conservation objectives.

NH OBJ 3	To protect and conserve the conservation value of candidate Special Areas of Conservation, Special Protection Areas, National Heritage Areas and proposed Natural Heritage Areas as identified by the Minister for the Department of Arts, Heritage and the Gaeltacht and any other sites that may be proposed for designation during the lifetime of this Plan.

In this case only the River Boyne and River Blackwater (Site Code 2299), a river and valley system of European interest, is the only one within 15km of the proposed project.

Screening for Appropriate Assessment was carried out with respect to the licence application and a copy of this report was previously submitted to the EPA. The findings of the screening for Appropriate Assessment were that the activity, individually or in combination with other plans or projects is not likely to have a significant effect on the Natura 2000 network, or the conservation objectives of the sites. A Stage 2 Appropriate Assessment is therefore not required.

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Geological Heritage

Meath County Council recognises areas of conservation value, which include twenty eight geological sites.

It is the policy of Meath County Council:

NH POL 12	To have regard to the geological and geomorphological heritage values of County Geological Sites listed in Appendix 13 and avoid inappropriate development, through consultation with the Geological Survey of Ireland.

A search of the GSI Geological Heritage Database found that the site of the quarry and WRF is located on one of County Geological Sites, namely the Trim Esker (Site Code: MH017; Theme: IGH 7). The impact of the development on the identified geological heritage of the site was assessed with reference to GSI consultation and to the "Geological Heritage Guidelines for the Extractive Industry" developed by the GSI and the Irish Concrete Federation (Refer to EIS Section 3.3.5).

Landscape

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The following development plan policies and objectives are considered relevant with respect to the landscape.

It is the strategic policy of Meath County Council:

LC SP 1	To protect the landscape character, quality, and local distinctiveness of County Meath in accordance with relevant government policy and guidelines and the recommendations included in Meath Landscape Character Assessment (2007) in Appendix 7.

It is the policy of Meath County Council:

LC POL 1	To support and implement the provisions of the National Landscape Strategy.
LC POL 2	To require that any necessary assessments, including landscape and visual impact assessments, are provided when undertaking, authorising, or approving development.

It is an objective of Meath County Council:

LC OBJ 1	To seek to ensure the preservation of the uniqueness of all landscape character types, and to maintain the visual integrity of areas of exceptional value and high sensitivity.
LC OBJ 2	To assess development proposals having regard to the recommendations contained in the Meath Landscape Character Assessment 2007.
LC OBJ 3	To work in partnership with key stakeholders to promote County Meath as a centre for cultural heritage education and learning.

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Views and Prospects

County Meath contains many vantage points from which views and prospects of great natural beauty may be enjoyed.

It is an objective of Meath County Council:

LC OBJ 5	To preserve the views and prospects and the amenity of places and features of natural beauty or interest listed in Appendix 12 and shown on Map 9.5.1 from development that would interfere with the character and visual amenity of the landscape.

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Rural Development

Insofar as the current regime of landscaping, screening and phased restoration at the quarry site, which encloses the WRF site, is being operated and restored using imported inert soils in accordance with the terms and conditions imposed under P.A. Reg. Ref. QY/48 PL17 .QC2113, sections of Parts 10 and 11 of the CDP dealing with extractive industries are relevant.

Part 10 of the Meath CDP sets out the rural settlement strategy that will be applied by Meath County Council to ensure the continued vitality and viability of the rural area. The Council's goal in terms of Rural Development is "to encourage the continued sustainable development of rural communities without compromising the physical, environmental, natural and heritage resources of the County". In section 10.12, the Council acknowledges the need for extractive industries, but also notes that the industry can cause detrimental environmental and residential amenity effects including traffic generation, vibration, dust, noise, water pollution, visual intrusion and loss of ground water supplies. The goal in respect of extractive industries and building materials production is:

To facilitate adequate supplies of aggregate resources to meet the future growth needs of the County and the wider region while addressing key environmental, traffic and social impacts and details of rehabilitation.

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It is a strategic objective of Meath County Council:

RUR DEV SO 3	To identify and protect known or potential aggregate resources, where feasible, from development which would prejudice their sustainable future usage.

It is the policy of Meath County Council:

RD POL 22	To facilitate the exploitation of the county's natural resources and to exercise appropriate control over the types of development taking place in areas containing proven deposits, whilst also ensuring that such developments are carried out in a manner which would not unduly impinge on the visual amenity or environmental quality in the area.
RD POL 23	To support the extractive industry where it would not unduly compromise the environmental quality of the county and where detailed rehabilitation proposals are provided.
RD POL 24	To seek to ensure that the extraction of minerals and aggregates minimise the detraction from the visual quality of the landscape and do not adversely affect the environment or adjoining existing land uses.

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RD POL 25	To ensure that the extractive industry and associated development minimises adverse impacts on the road network in the area and that the full cost of road improvements, including during operations and at time of closure, which are necessary to facilitate those industries, are borne by the industry itself.
RD POL 26	To ensure that all existing workings shall be rehabilitated to suitable land uses and that all future extraction activities will allow for the rehabilitation of pits and proper land use management. The biodiversity value of the site should be considered in the first instance when preparing restoration plans. Where land filling is proposed, inert material is the preferred method. Each planning application shall be considered on a case by case basis and, where relevant, will be dealt with under the relevant regional Waste Management Plan.
RD POL 27	To ensure that development of aggregates / mineral extraction, processing and associated processes does not significantly impact in the following areas: i. Existing & Proposed Special Areas of Conservation (SACs); ii. Special Protection Areas (SPAs); iii. Natural Heritage Areas and Proposed Natural Heritage Areas; iv. Other areas of importance for the conservation of flora and fauna; v. Areas of significant archaeological potential; vi. In the vicinity of a recorded monument; vii. Sensitive landscapes, and; viii. World Heritage Sites.

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Extractive Industry and Building Materials

Worked-out pits should be rehabilitated to suitable land uses and screened appropriately as part of an aftercare programme.

2.3 CONSTRUCTION

The nature of the development is the continued phased restoration of a sand and gravel pit using imported inert soil and stone, and recovery of inert construction and demolition waste. As such all of the necessary infrastructure in relation to the operation of the WRF is in place. The location of all activities, buildings and facilities at the Recovery Facility are shown on the Site Plan Figure B 2.1 - Rev A.

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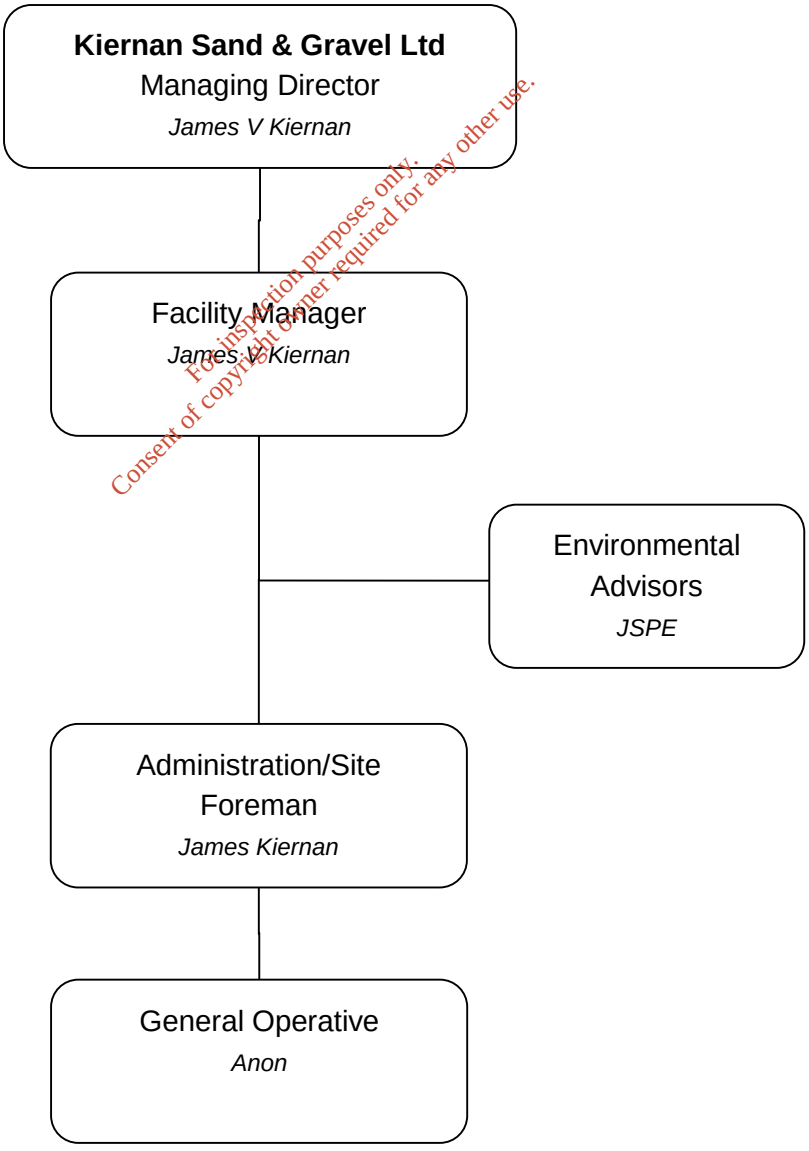
2.4 DESCRIPTION OF THE PROPOSED OPERATIONS

2.4.1 MANAGEMENT OF THE FACILITY

2.4.1.1 TECHNICAL COMPETENCE & SITE MANAGEMENT

Kiernan Sand and Gravel is owned, operated and managed by Messrs. James V. Kiernan and James Kiernan of Foxtown, Summerhill, Co. Meath. The company has been in business for approximately 50 years. Messrs. Kiernan also has six years experience operating and managing the existing Waste Recovery Facility. Mr. James V. Kiernan is the Facility Manager responsible for the overall management of the facility, whilst Mr. James Kiernan is the site foreman and is also responsible for the administration and record-keeping for the facility. The organisational structure is shown by the following organogram.

Table 2.2 Organisational Structure



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2.4.1.2 ENVIRONMENTAL MANAGEMENT AND MONITORING

Currently no Environmental Management System **(**EMS) has been developed for the existing facility. Kiernan Sand & Gravel Ltd will implement an EMS for the facility subject to granting of the Waste Licence.

Mr. James V Kiernan of Kiernan Sand & Gravel Ltd is also responsible for the 'Environmental Management' of the facility. In this role, he has responsibility to ensure that the proposed Environmental Management System, Environmental Objectives & Targets and the Environmental Monitoring Plan are fully implemented.

The EMS will include an 'Environmental Monitoring Programme' for the monitoring of water, dust and noise, and will be subject to compliance with any conditions attached to any decision to grant Waste Licence for the facility. The monitoring programme results will be submitted to relevant regulatory authority on a regular basis, and therefore made available for inspection by interested parties.

2.4.1.3 RECORD KEEPING

In compliance with Condition No. 3.1 of Meath County Council Waste Management Permit No. 2007/22 the following documents are required to be maintained in the site office and are made available for inspection by Meath County Council, or other authorised persons:

- The quantities and types of waste received at the site.
- The quantities and type of waste not accepted at the site, and details of where these wastes were sent.
- The dates and times of all waste deliveries to the site.
- The names of the carriers and the vehicle registration numbers.
- The origin of each delivery of waste.

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Site records are available for inspection by the Local Authority at all times. An annual report is prepared by the site manager and submitted to the Local Authority not later than the 28th February of each year in accordance with the requirements of Waste Management Permit No. 2007/22.

The record keeping will be revised in order to achieve compliance with any conditions attached to any decision to grant permission for a Waste Licence for the facility.

2.4.1.4 WORKING HOURS & EMPLOYMENT

It is proposed that working hours at the application site will be that waste is accepted at the site between the hours of 08:00 hours to 18:00 hours on working days (Monday to Friday) and 08:00 hours to 14:00 hours on Saturday. These hours of operation are as stipulated in Waste Management Permit No. 2007/22. No operations will be carried out on Sundays or public holidays.

Kiernan Sand and Gravel Ltd employ two directly. An additional temporary employee is hired occasionally. The WRF requires one person operating a bull-dozer/back-hoe excavator and one general foreman to monitor and inspect the quality and suitability of imported materials

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being brought to the site for recovery. It is expected that an additional general operative will be appointed subject to an upturn in the economy and construction activity.

2.4.2 SITE INFRASTRUCTURE

2.4.2.1 INTRODUCTION

The facility's infrastructural requirements includes internal roads, plant and machinery, site office, workshop, etc. All of these are already in place and represent common infrastructure shared between the quarry and WRF. Provision of hard standing areas, quarantine material and residual waste is an additional requirement of the MRTF, and will be sited to maximise operational efficiencies. The existing quarry plant including mobile crushing and screening plant will be utilised to process C&D waste to produce saleable aggregates. The proposed facility site layout is shown by EIS Figure D.1.1 – Rev. A.

2.4.2.2 SITE SECURITY

The boundaries of the site are secure being established hedgerows and stock proof fencing. The site benefits from being bounded to the east by the local county road, to the west by agricultural lands. The lands to the north and south are of pasture and a variety of agriculture type activity. The application site is freehold and owned by James V Kiernan and James Kiernan of Kiernan Sand & Gravel Ltd. The site entrance gates are locked outside of normal working hours and public warning notices are posted at appropriate locations along the site boundary.

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2.4.2.3 DESIGN FOR SITE ROADS

Access to the site will be gained through the existing entrance onto the Local Road. The site entrance has been adequately set-back and splayed. All materials will be transported to and from the application site using heavy goods vehicles (HGV's).

Imported clean construction and demolition waste (concrete and brick) is used to construct internal haul roads as required and the remainder is recycled and sold off site.

2.4.2.4 DESIGN OF HARD STANDING AREAS

The only hardstanding area on site relates to the existing workshop on site. The edge of the pavement is finished above or flush with the surrounding ground to allow the water to run-off. The surrounding ground being sand and gravel has adequate soakage capacity to allow for infiltration of surface run-off.

The main site area is of a compacted insitu gravel surface with the effect that there will effectively be no surface run-off at the site and allows the return of runoff to the natural drainage system as soon as possible.

2.4.2.5 PLANT

A Bulldozer, excavator, loading shovel (Sand & Gravel Pit) and sweeper are all used intermittently on site.

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There is no weighbridge on site. Trucks entering the site are typically 4 axle 9 cu.m capacity rigid bodied tippers. Details with respect to truck loads and volume of inert materials received are recorded in a log book at the site inspection office.

2.4.2.6 WHEEL-WASH

The site is serviced by an existing wheelwash unit situated at the entrance to the site.

The wheelwash facility is constructed of a reinforced concrete type structure with access ramps and corrugated shaker bar over a trough type structure which all trucks are required to pass through leaving the site. As trucks enter the wheelwash a number or shaker bars aid the release of mud from tyre grooves.

Water supply is sourced from an on-site well. Water level within the trough is controlled by a ball-cock device and overflow pipe. The wash-water is recycled through a system of containment tanks. The tanks will be periodically cleaned and the silt will be used within the restoration of the site.

2.4.2.7 LABORATORY FACILITIES

Laboratory facilities on site will not be required as the services of an external accredited lab will be used as required.

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2.4.2.8 DESIGN AND LOCATION OF FUEL AND OIL STORAGE AREAS

Diesel Plant on site is refueled using a mobile fuel bowser. Spill kits are provided.

Oil and Waste oil products are stored under cover. All oil barrels and lubricants will be stored on spill pallets/ spill trays.

Spill kits will also be maintained on site and the Company will put in place an emergency response procedure for hydrocarbon spills and appropriate training of site staff in its implementation.

Waste oils are disposed of by a licensed waste contractor and removed off site.

2.4.2.9 WASTE QUARANTINE AREAS

The site has a designated area for the quarantine of any inappropriate materials which may be found within loads accepted at the site. Skips have been provided within the designated quarantine area for the temporary storage of any inappropriate materials discovered (e.g. glass, plastic, timber, steel, etc). The materials are routinely removed by a licensed waste disposal contractor to an appropriate disposal facility.

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2.4.2.10 WASTE INSPECTION AREAS

All truck loads entering the site are given a preliminary inspection on entering the site.

Secondary inspection is carried out after each load is tipped at the restoration infill area within the site. Should a load of material indicate contamination of non-inert material on inspection, the material is reloaded and the driver instructed to remove the load offsite to an approved facility.

Occasionally a load will contain minor contaminants (e.g. plastics, rebar, wood and paper). These items are removed on inspection by a site operative and stored in skips in a designated quarantine area pending removal offsite by a licensed waste disposal contractor to an appropriate disposal facility.

2.4.2.11 TRAFFIC CONTROL

Car parking including visitors parking will be provided at the main site entrance in front of the site office. Trucks entering the site report to the site office where each load will inspected as to its suitability to be recovered on site.

All trucks exiting the site will leave through the existing wheelwash facility.

Traffic direction signs, warning signs, speed limit signs are established throughout the site.

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2.4.2.12 SEWERAGE AND SURFACE DRAINAGE INFRASTRUCTURE

Existing temporary portacabin offices and toilet will be retained on site for the duration of the works. The portacabins will function as the site office and canteen for the duration of the operations.

As only inert materials are to be imported to site there will be no source of possible contamination of surface waters. There are no surface water courses adjoining the site. Surface water-off within the site percolates to ground through the floor of the sand and gravel pit into the underlying limestone bedrock.

Ground water quality monitoring can be carried out in accordance with any monitoring programme agreed with the EPA.

2.4.2.13 ALL OTHER SERVICES

It is proposed to supply the site inspection office facility with heating and lighting from the local ESB network.

2.4.2.14 PLANT SHEDS, GARAGES AND EQUIPMENT COMPOUND

Oil and Waste oil products are stored within the existing workshop on site. All oil barrels and lubricants will be stored on spill pallets/ spill trays.

No major vehicle servicing/repairs are carried out on site.

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2.4.2.15 SITE ACCOMMODATION

The existing site inspection office accommodation comprises of a portacabin (approx 3m x 3m).

2.4.2.16 CONSTRUCTION AND DEMOLITION WASTE INFRASTRUCTURE

Recovery and re-cycling activities at the application site involves tipping of previously stockpiled 'unprocessed' material into a semi-mobile crushing & processing plant using a front-end loader. Material produced by the plant is then transported by front-end loader to 'processed' stockpiles. Recycled material is used for internal haul roads and/or dispatched offsite.

No sorting of materials other than separation of rebar from concrete will be undertaken on site as all material will be sorted and segregated at source before being brought to the application site. Rebar (reinforced steel) separated from concrete will be stored in the designated quarantine area awaiting removal off-site by a licensed scrap merchant.

2.4.3 FACILITY OPERATION

2.4.3.1 UNIT OPERATIONS

The attached Site Infrastructure Plan (Refer to Figure D.1.1 – Rev A) indicates the location of all activities and identifies all buildings and facilities at the Recovery Facility.

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2.4.3.1.1 Delivery, Inspection & Acceptance

Materials to be recovered will only be accepted from approved Contractors who are aware of the need for and who undertake strict segregation and sorting of waste prior to transporting it to the application site;

The applicant will endeavour to visit the construction sites to ensure materials are being properly sorted and segregated at source.

Typically loads of up to 9 cu.m will be imported to site. Only hauliers with the appropriate Waste Collection Permits will be accepted.

All truck loads entering the site will be given a preliminary visual inspection at the site office. If the material is not considered acceptable the haulier will be refused entry and directed to an appropriate Waste Management Facility.

Any Contractor who persistently carries unacceptable waste to the application site will be denied further use of the facility.

Details of all truckloads entering the site are entered into a logbook maintained by the operator. A designated internal haul road will be maintained to direct site traffic to the tipping area.

Accepted materials will be subject to a Second inspection after each load is tipped at the restoration infill area within the site. Should a load of material indicate contamination of non-inert material on inspection, the material is reloaded and the driver instructed to remove the load offsite to an approved facility.

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2.4.3.1.2 Quarantine

Occasionally a load will contain minor contaminants (e.g. plastics, rebar, wood and paper). These items are removed on inspection by a site operative and stored in skips in a designated quarantine area pending removal offsite by a licensed waste disposal contractor to an appropriate disposal facility.

2.4.3.1.3 Recovery of Soils

Following the second inspection the material will be accepted and placed within the restoration (placement by bulldozer) area or in the case of topsoil placed in temporary storage awaiting final placement.

2.4.3.1.4 Phasing of Restoration Works

The nature of the development is the continued phased restoration of a sand and gravel pit using imported inert soils, stone, and recovery of inert construction and demolition waste. It was proposed in the original Waste Licence application that circa 74,000 cubic metres per annum of inert materials will be accepted to site. It was estimated that c. 20,000 tonnes per annum of inert construction and demolition waste was to be recovered at the facility. Recovered material will be used for internal haul roads and/or dispatched offsite.

Due to the economic recession the actual volumes received to date were considerably less than originally envisaged. The actual void space backfilled has been estimated at c.142,500 m^3 since 2008 as opposed to the estimated void space in the original waste licence application of 502,500 m^3. It is expected that volumes will increase as the economic recovery continues but it is expected that the volumes will still be relatively less, say up to c. 40,000 cubic metres per annum of inert materials will be accepted to site. It is estimated that only c. 10,000 tonnes per annum of inert construction and demolition waste will be recovered at the facility. Recovered material will be used for internal haul roads and/or dispatched off site. Any small quantities of timber, plastic, paper and steel will be separated for recovery and/or disposal offsite.

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Given the lower than expected volumes the applicant also decided to restore phase 1 to a lower profile than originally anticipated so that these lands could be returned to beneficial agricultural use at the earliest opportunity. Phase 1 is now largely complete (Refer to Figures B.2.1 - Rev A and B.2.4 - Rev A). The remaining phases will be restored to agricultural/ forestry in accordance with the revised phasing scheme (Refer to Figures B.2.4 - Rev A and B.2.5 Rev A).

Based on the proposed scheme and an expected backfilling rate of between 35,000 to c. 40,000 cubic metres per annum, it is considered that it will take approximately 8 years to complete the backfilling operations (Refer to Table 2.3). An additional 6 months to a year should be allowed to complete final restoration to agricultural/woodland.

The volume of material required to be imported to the site to complete the proposed restoration scheme has been calculated (using the Digital Terrain Modelling Software Package LSS) and is shown below.

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Table 2.3 Volume of Void Space Remaining at Foxtown, Co. Meath

Phase	Void Space (m3)			Life Span Years *Remaining*
	Proposed 2009	Filled	Revised 2014	
1	*201,000*	139,000	*10,000*	0.3
2	*201,000*	-	*192,000*	*5.1*
3	*100,500*	3,500	*78,000*	*2.1*
Totals	*502,500*	142,500	*280,000*	*7.5*

Notes: * Assumes 37,500 m^3 recovered per annum (subject to market conditions).

The lands are to be restored to agriculture/forestry by importation and recovery of inert materials in accordance with a phased restoration scheme.

Designated internal haul roads are used to direct site traffic to the current tipping area. A bulldozer is used to appropriately grade and compact the material to the desired profile as shown by the detailed plans and sections (Refer to Figures B.2.4 - Rev. A and B.2.5 - Rev. A). Typically the soil is placed in 2-3 metre lifts with fill slopes of a safe angle of repose of 1:2.

It is proposed to reclaim the lands to a condition / gradient suitable for agriculture/forestry. Good quality imported soil will be conserved wherever possible to provide the subsoil/top-soil capping. These topsoil's/subsoils will be handled under dry conditions to minimise compaction. For the purpose of restoration to agricultural/forestry the restored soil profile (capping) shall comprise 300mm topsoil over 1200-1350mm of subsoil.

Good quality soil material for final capping will be placed in temporary storage areas. Topsoil and subsoil will be stockpiled separately to maintain the integrity of the soil.

To ensure that damage to these materials is kept to a minimum, movement and placement of topsoil and subsoil for final restoration will only take place during appropriate weather conditions and when the soils are in the optimum condition. This optimum soil condition may be described as moist but friable. No soils will be moved when they are too dry or when there are unusually windy weather conditions. This will help to prevent erosion and any consequential creation of dust. Conversely, soils will not be handled in wet conditions or when the moisture content of the soils is too high. This will ensure that smearing of the soils does not take place and that the soil retains its structure.

Progressive restoration involving tree planting and grass seeding of restored area's shall be carried out on a staged basis to reduce the effects of soil erosion, windblown dust, to aid ground stabilisation and as an effective means of weed control. On completion of each phase of development final restoration including grading, planting/seeding and landscaping will be carried out. Final restoration is dependent on the availability of good topsoil/subsoil and

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subject to suitable weather conditions. In order to allow for continuity of operations it is necessary to have a certain overlap between phases. The final contours and topography for the site is shown by the Final Landform Plan *Figure B.2.4 - Rev A* and Cross *Sections B.2.5 – Rev A.*

Initially for each phase the void will be backfilled to the level of the adjoining public road. These workings will be screened from outside views by the existing steep natural bank running along the public road. The second stage will involve construction of an esker like feature to the final profile as shown by Figures *B.2.4 – Rev A & B.2.5 – Rev A.* In general material will be placed in a series of 2 metre lifts to ensure that the material is properly compacted on placement. The outer berm along the public road will be constructed first and subsequently grassed to provide additional screening of the workings from the nearest residences.

In order to access the pit floor the haul roads shall be constructed using suitable imported material (i.e. brick, block, concrete and stone). The proper construction of the haul road will help minimise the amount of mud and dust generated by lorries entering and leaving the site.

The final landform will comprise a ridge running northwest to southeast which will be similar in profile to the original esker ridge that ran through the lands (Refer to Figure B.2.4 – Rev A).

2.4.3.1.5 Decommissioning

Redundant structures, plant equipment and stockpiles will be removed from site on cessation of pit activity. Plant and machinery will either be utilised by the operators on other sites, or be sold as working machinery or scrap. Any hard standing areas shall be broken up and the material incorporated into the final restoration scheme. The site access will be retained as agricultural access to the restored lands.

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As part of the decommissioning process, all fuel and oil storage tanks will be removed from the site by a licensed waste contractor. The septic tank will also be removed from the site. Therefore there will be no potential for fuel, oil or sewage to cause long-term water pollution following cessation of extraction activities

2.4.3.1.6 Recovery of Construction Materials

It was originally estimate in February 2009 that c. 20,000 tonnes per annum of inert construction and demolition waste would be recovered at the facility. It is now estimated that only c. 10,000 tonnes per annum of inert construction and demolition waste will be recovered at the facility.

Clean construction and demolition waste will either be placed directly on haul roads or temporarily placed in storage awaiting recovery.

Recovery and re-cycling activities at the application site involves tipping of previously stockpiled ‘unprocessed’ material into a crushing & processing plant using a front-end loader (Refer to Figure D.1.1 – Rev A). The processing is undertaken periodically as materials are required using semi mobile crushing and screening plant on site. Material produced by the plant is then transported by front-end loader from production stockpiles around the plant to ‘processed’ stockpiles. Recovered material will be used for internal haul roads and/or dispatched off-site.

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No sorting of materials other than separation of rebar from concrete will be undertaken on site as all material will be sorted and segregated at source before being brought to the application site. Rebar (reinforced steel) separated from concrete will be stored in a skip prior in the designated quarantine area awaiting removal off-site by a licensed scrap merchant.

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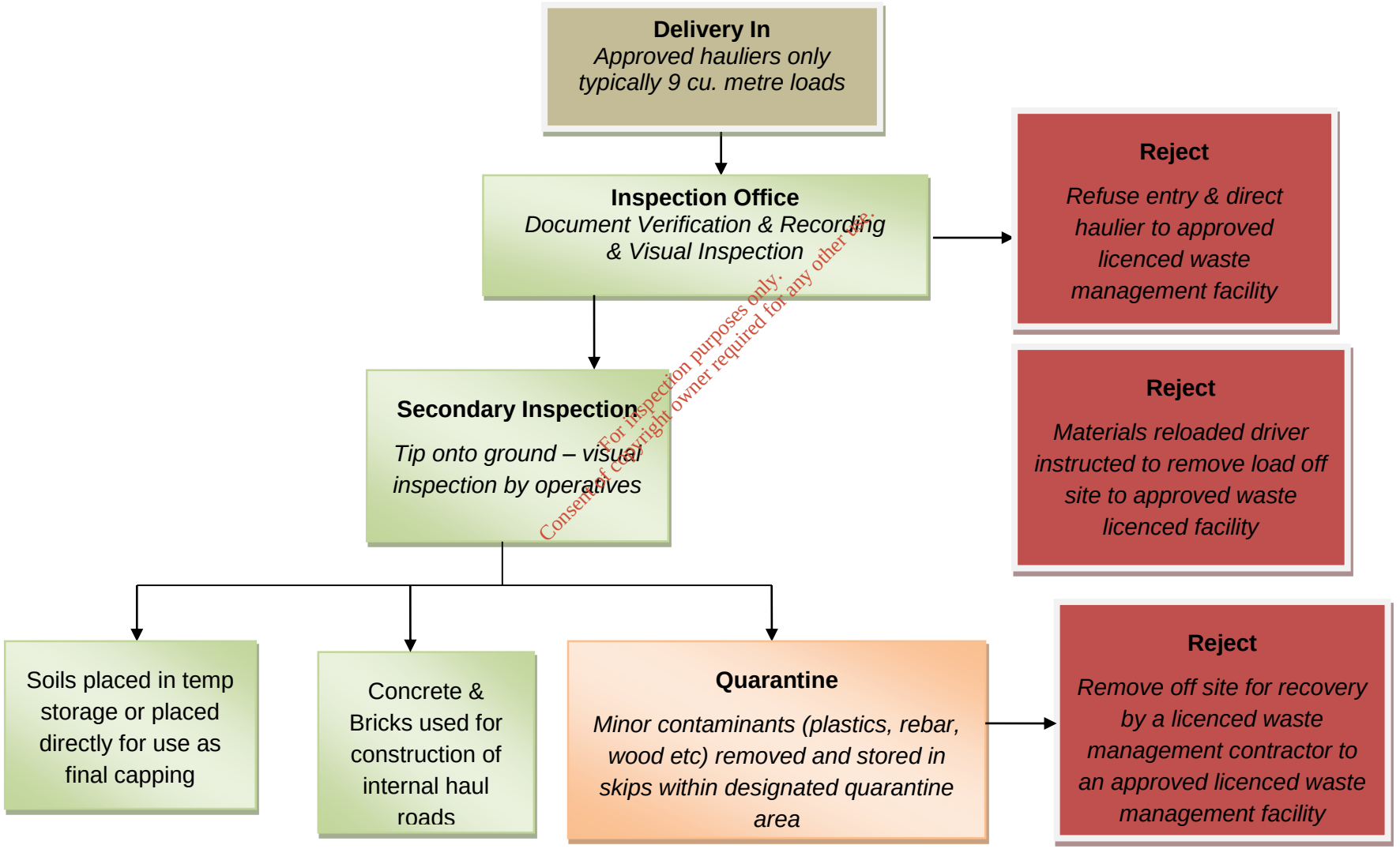
Figure 2.4 **Flow diagram of the whole process, along with a brief description (italics) detailing its management and maintenance plans**



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2.4.4 ENVIRONMENTAL TREATMENT, ABATEMENT AND CONTROL SYSTEMS

The main potential sources of emissions from an inert waste recovery facility would be from noise or dust associated with the movement, handling and placement of materials. Possible other emissions to the atmosphere would be from machinery exhaust fumes and also possible emissions to surface and/or groundwater in the event of a fuel spillage.

2.4.4.1 EMISSIONS TO ATMOSPHERE

The following section details the techniques for preventing, or reducing the emissions from the WRF including treatment/abatement systems as necessary. The following activities may give rise to potential fugitive dust emissions.

- Internal movement of vehicles
- Tipping and levelling
- Loading and unloading vehicles
- Processing area

The materials to be recovered are principally "soils and stone" and inert construction and demolition waste. Any dust generated by the operation will comprise inert particulate matter.

Experience of reclamation workings indicates that mechanical activity is the most significant factor in material erosion and dust generation. Dust emanates from the placement of materials, the movement of vehicles on internal roads and loading and processing operations. However the effect of wind is also an important factor in dust generation and problems may arise at reclamation workings when both factors arise simultaneously.

The impact of fugitive dust will be direct, temporary and non-cumulative and largely confined to the application site.

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The principal measures employed to control fugitive (ground) dust emissions from general site activity, internal haulage and tipping operations are:

- During dry weather the haul roads and stockpiles are sprayed with water to dampen any likely dust blows. A water bowser is maintained on site for this purpose.
- Consideration will be given to location of mobile plant so as to ensure that any principle dust sources cannot adversely affect sensitive off-site locations.
- Static and mobile wet dust suppression systems will be located at strategic points in the process if required.
- Drop heights are kept to a minimum by using short conveyors and maintaining stocks under the head drum load out points.
- A wheel wash facility has been installed on site and all vehicles are required to pass through the wheel wash on exiting the site.
- Main site haulage routes within the site shall be maintained with a good temporary surface.

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- All internal roadways will be adequately drained, to prevent ponding.
- The operator has purchased a road sweeper to ensure that the site entrance and adjoining public roadway is regularly cleaned. The sweeper is readily available at short notice to sweep up any materials which may accidentally fall onto the public roadway.
- Suitable vegetation is to be provided on restored areas at the earliest opportunity

Dust emissions from the facility will be controlled and monitored. Dust emissions and their management will be addressed in the 'Environmental Management System' (EMS) for the Foxtown site.

2.4.4.2 EMISSIONS TO SURFACE WATER/GROUND WATER

As the only material to be imported to site is “Soil and stone” and inert construction and demolition waste there will be no source of possible contamination of surface and/or ground waters.

There are no surface water courses adjoining the site. Surface water-off within the site percolates to ground through the floor of the sand and gravel pit into the underlying limestone bedrock. There is no discharge of surface water run-off from the site.

On site activities will not discharge to any sewerage system. The applicants propose to use the existing toilet facility within the sand and gravel pit. The location of the toilet, septic tank and percolation area is shown on the EIS *Figure D.1.1 – Rev A*, near the southern entrance to the sand and gravel pit. This facility is adequate to meet the continued requirements of the existing development given that the facility will be operated by the existing staff of two to three.

Diesel Plant on site is refueled using a mobile fuel bowser. Spill kits are provided.

Oil and Waste oil products are stored under cover. All oil barrels and lubricants will be stored on spill pallets/ spill trays. Waste oils are disposed of by a licensed waste contractor and removed off site.

Spill kits will also be maintained on site and the Company will put in place an emergency response procedure for hydrocarbon spills and appropriate training of site staff in its implementation.

The wash-water from the existing wheel-wash is recycled within a self-contained holding tank with overflow to a settlement tanks. The tanks will be periodically cleaned and the silt will be used within the restoration of the site.

A groundwater monitoring programme will also be put in place to ensure that there is no impact on water quality as a result of the recovery operations.

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2.4.4.3 NOISE EMISSIONS

The main source of noise and vibration will be from the movement of trucks on internal haul roads, the tipping of material, placing and grading the infill material, and from the processing plant.

Given the nature of the development the location of the above will vary dependent on area of site being restored (Refer to B.2.1 - Rev A -Site Plan).

The type of mitigation techniques implemented to reduce noise are detailed below:

- The provision of temporary peripheral screen banks to screen site activities from outside views.
- General site activity will be within the existing pit and below the level of the nearest residences.
- The use of designated haul roads to ensure that site traffic is removed from nearest noise sensitive receptors.
- Regular maintenance of all plant and machinery is an integral part of site management and is important in helping to minimise noise impact.
- All plant and equipment will conform to noise emission limits set out in Statutory Instrument No. 320 of 1998 European Communities Construction Plant and Equipment-Permissible Noise Levels (Regulations, 1998) and amendment set out in Statutory Instrument No. 359 of 1996.
- Noise monitoring can be carried out at three noise monitoring stations (N4-N6) in the vicinity of the nearest noise sensitive properties (Refer to Figure F 1.0 –Rev A) in accordance with any monitoring programme agreed with the EPA.

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The results of monitoring to date shows that the development can comply with the noise level threshold as specified and as a consequence the development will have no significant effects regards noise levels in the area. Noise emissions and their management will be addressed in the 'Environmental Management System' (EMS) for the Foxtown site. The issue of noise and the mitigation measures available to reduce noise to acceptable levels is dealt with in detail in EIS Section 3.7 - Noise.

2.4.4.4 ENVIRONMENTAL NUISANCES

2.4.4.4.1 Bird Control

It is not envisaged that birds will be a problem as all infill material is inert and no domestic or municipal waste will be accepted on site. As such there will be no need for any specific controls for birds.

2.4.4.4.2 Dust Control

Refer to EIS Section 2.4.4.1 above with respect to measures to control (abatement) of fugitive (ground) emissions.

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2.4.4.4.3 Fire Control

The only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste. As such it is not expected that the site activities concerned are likely to give rise to any significant risk of fire.

2.4.4.4.4 Litter Control

The only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste. As such it is not expected that the site activities concerned are likely to give rise to litter.

The site entrance gates remain locked outside of normal working hours and public warning notices are posted at appropriate locations along the site boundary. The site is also monitored with CCTV at the entrance. These measures are to ensure that there is no unauthorised dumping of unacceptable wastes outside of operating hours likely to give rise to nuisance.

A daily site inspection including site boundaries adjoining public roads shall be carried out. Any litter observed will be removed as soon as possible and disposed of to a suitable Waste Management Facility.

Waste oils, batteries, scrap metal, etc, will be removed from site for recycling by approved licensed contractors. A licensed waste collection contractor will remove any domestic waste requiring disposal to a licensed waste management facility.

Occasionally a load will contain minor contaminants (e.g. plastics, rebar, wood and paper). These items are removed on inspection by a site operative and stored in skips in a designated quarantine area pending removal offsite by a licensed waste disposal contractor to an appropriate disposal facility.

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2.4.4.4.5 Traffic Control

Car parking including visitors parking is provided at the site entrance. Trucks entering the site report to the site office where each load is inspected as to its suitability to be recovered on site.

The site entrance has also been designed to ensure that queuing for vehicles entering the site is accommodated within the curtailage of the site entrance.

All trucks exiting the site leave through the existing wheelwash facility.

Traffic direction signs, warning signs, speed limit signs are established throughout the site.

2.4.4.4.6 Vermin Control

The only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste. As such the site activities concerned will not give rise to a need to introduce vermin control.

2.4.4.4.7 Road Cleansing

The existing wheelwash facility will be maintained and continue to be operated for the duration of the development. The wheelwash is constructed of mass concrete, which forms a trough

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type structure which all trucks are required to pass through leaving the site. As trucks enter the wheelwash a number or shaker bars aid the release of mud from tyre grooves.

The site access road comprises of clean compacted sand and gravel which is free draining. Imported clean construction and demolition waste (concrete and brick) is used to construct internal haul roads as required on site. The Operator has purchase a road sweeper which is readily available at short notice to sweep up any materials which may accidentally fall onto the public roadway, this is periodically carried out during the course of the working week.

In the event of material being spilled on the public road the operator will ensure that spilled material is removed from the road surface in a safe and timely manner, as soon as they notice or are notified that a spillage has arisen.

2.4.4.5 ENVIRONMENTAL MONITORING

2.4.4.5.1 Air - Dust

Dust deposition monitoring is carried out in accordance with condition No. 8 of P.A. Reg. Ref. QY 48 (QC. 17.QC 2113) "*total dust deposition (soluble and insoluble) from the on site operations associated with the development shall not exceed 350mg/sq.m/day, averaged over a continuous period of 30 days.*"

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In order to comply with this condition the operator has set up a dust monitoring programme using Bergerhoff Dust Gauges. Two dust monitoring stations (A2-4, A2-5) were established at the site boundary (Refer to Environmental Monitoring Plan Figure F 1.0 – Rev A, *EIS Section 2 Figures*).

Dust fall is measured using the Bergerhoff method as set out in German Standard VDI 2119. The normal recommended standard for dust emissions for this type of development is that "dust deposition shall not exceed 350 mg/m^2/day measured at the site boundaries and averaged over 30 days". This limit refers to total dust (using DIN method).

The above standard is also in accordance with guidance issued by both the Department of the Environment and the EPA in relation to dust deposition monitoring for these types of developments and will continue to be applied.

This programme will allow on-going monitoring of fugitive dust emissions from the site, thereby assisting in ensuring compliance with any future requirements or regulations.

2.4.4.5.2 Surface Water

The nearest significant watercourse to the application site is the Boycetown River which is approximately 750m from the boundary of the site. There are no surface water courses adjoining the site.

There is no discharge of surface water run-off from the site. It is not considered necessary to monitor surface water in the area.

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2.4.4.5.3 Groundwater

There are three wells on site (Refer to Environmental Monitoring Plan Figure E 1.0 – Rev A).

It is proposed to monitor these wells in accordance with the conditions as attached to the waste licence for the facility.

2.4.4.5.4 Noise

It is proposed to continue to carryout noise monitoring at the three locations (N4 to N6) which includes the nearest noise sensitive locations (Refer to Figure F.10 – Rev A, EIS Section 2 Figures). It is proposed to carryout noise monitoring on a bi-annual basis. Details with respect to noise monitoring for the site are provided in EIS Section 3.7.

The noise levels measured on site must be in compliance with P.A Reg. Ref. QY 48 (QC. 17.QC 2113) i.e. Condition No.6 - *"the noise levels associated with day to day activity, when measured from any house in the vicinity of the quarry, shall not exceed 55 dB (a) leq over a measured time interval of one hour by day time and shall not exceed 45 dB (A) leq over a measured time of 15 minutes by night time. These levels may be exceeded to allow temporary but exceptionally noisy phases in the extraction process or for short term construction activity which is required to bring long-term environmental benefits following written consent by Meath County Council".*

The results of monitoring to date shows that the development can comply with the noise level threshold as specified and as a consequence the development will have no significant effects regards noise levels in the area. Noise emissions and their management will be addressed in the 'Environmental Management System' (EMS) for the Foxtown site.

This programme will allow on-going monitoring of noise emissions from the site, thereby assisting in ensuring compliance with any future requirements or regulations.

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2.4.4.6 RESOURCES USE & ENERGY EFFICIENCY

The only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste. As such the material does not undergo any form of processing involving the use of chemicals or additives.

The potable water supply for the proposed temporary site office will be met by bottled water.

Water used for dust suppression, where possible, will be sourced from collection of surface water run-off and/or from an existing borehole on site. It should be noted that in Ireland rainfall occurs on a daily basis about 50% of the year. On days requiring dust suppression water usage would amount to 5 to 10 m^3 per day.

The only raw materials used on site are diesel, hydraulic oil and engine oil which will used to operate diesel powered plant on site.

The only raw materials used on site are diesel, hydraulic oil and engine oil which will used to operate diesel powered plant on site. As only a single bulldozer is used on site to place and grade the inert fill material and a semi-mobile crushing unit served by a loading shovel used to produce secondary aggregates the quantities of fuel oil used on site are relatively small.

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Other plant on machine serving the sand and gravel pit includes a loading shovel, screening unit and on occasion a back-hoe excavator.

Electricity will be used on site to power the site office, on site lighting and security camera. Energy requirements are low equivalent to a small domestic property.

Energy efficiencies will be achieved by using modern plant and equipment and servicing the equipment on a scheduled basis. Plant and equipment not in use will be shut off.

2.4.4.7 WASTE ARISINGS

The applicant will endeavour to visit the construction sites to ensure materials are being properly sorted and segregated at source.

The facility generates small volumes of office and canteen wastes which are stored in wheelie bins awaiting collection. A licensed waste collection contractor has been appointed to remove any canteen waste requiring recovery/disposal to a licensed waste management facility.

Occasionally a load will contain minor contaminants (e.g. plastics, metal, wood and paper). These items are removed on inspection by a site operative and stored in skips in a designated quarantine area pending removal offsite by a licensed waste disposal contractor to an appropriate recovery/disposal facility.

Waste oil products are stored within the existing container on site. Waste oils are disposed of by a licensed waste contractor and removed off site. All oil barrels and lubricants are stored on spill pallets/ spill trays. Spill kits are also maintained on site and the Company will put in place an emergency response procedure for hydrocarbon spills and appropriate training of site staff in its implementation.

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Details with respect to the appointed waste recovery/disposal contractor including waste collection permit number and destination (waste licence/permit register number, licensing/permitting authority) are maintained.

2.4.4.8 GROWTH – POTENTIAL FOR FUTURE EXPANSION

Continuation of waste recovery operations in accordance with the scheme proposed will provide for the security of the existing business of the Applicant for the foreseeable future. The client owns the land and as such has a direct interest in ensuring the lands are returned to a beneficial after-use at the earliest opportunity in accordance with the progressive restoration scheme proposed.

2.4.4.9 ASSOCIATED DEVELOPMENTS

There are no required or apparent opportunities for any associated developments at this time.

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2.4.4.10 CUMULATIVE IMPACTS

There were previously a number of nearby inert soil recovery operations and pits in operation (2008). Most of these have since ceased although planning permission has recently been granted for a waste recovery facility for soils and stones to enable restoration of part of an old quarry site to agricultural use at Mithchelstown, Trim, Co. Meath. It is proposed to import 96,600 tonnes of waste soil and stone (EWC Code 17 05 04) over a period of 5 years. This site is c. 1km to the northwest of the facility at Foxtown. It is therefore considered that the site is sufficiently removed from other activities so as there will be no significant cumulative impact with respect to the operation of the proposed WRF within the existing quarry.

Indirect or cumulative impacts associated with other similar developments within the area are dealt with where necessary under the relevant environmental topic in Section 3 of this EIS.

The proposed development will also be operated within acceptable standards for this type of development.

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2.6 SECTION 2 - FIGURES

Figure No.	Revision	Title	Scale	Size
A 1.0	-	Site Location Map	50000	A4
B 2.1	A	Site Plan	2000	A3
B 2.2	A	Location Map (500m)	5000	A3
B 2.4	A	Site Restoration Plan	2000	A3
B 2.5	A	Site Cross Sections	2000	A3
D 1.1	A	Site infrastructure	2000	A3
F 1.0	A	Environmental Monitoring Plan	5000	A3

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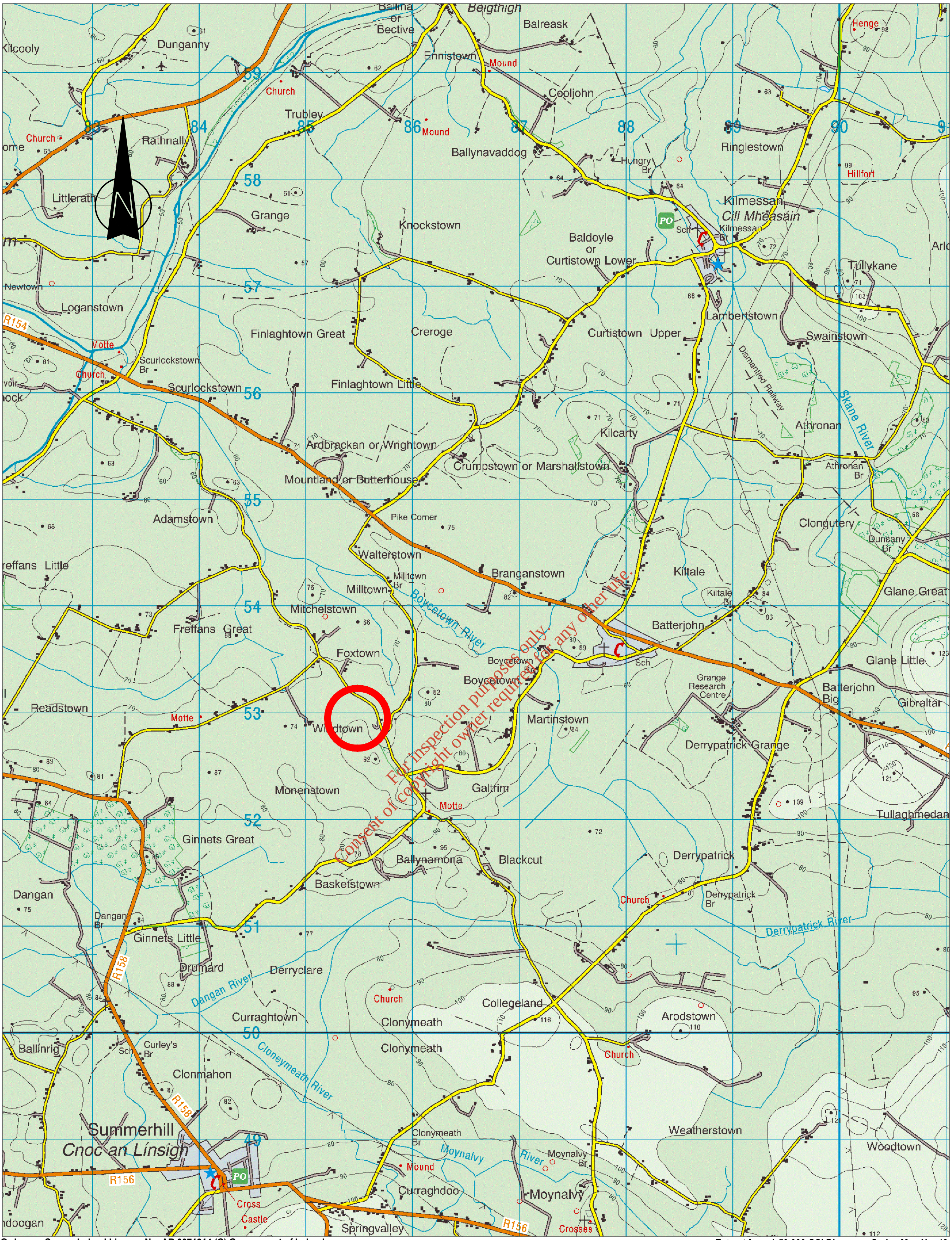

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Extract from 1:50,000 OSI Discovery Series Map No. 42

Scale: 1:50,000

0m 500m 1km 2km

Legend

Site Location

JSPE
31 Athlumney Castle,
Navan, Co Meath
Phone/Fax: 046 9073997
Mobile: John Sheils 087/ 273 0087
Email: john.sheils@jspe.ie

J SHEILS PLANNING & ENVIRONMENTAL LTD

Site Location Map
Kiernan Sand & Gravel Ltd
Foxtown
Summerhill
Co. Meath

Author: John Sheils	Job No. JSPE 172
Date: 21/09/14	Ref No. A 1.0

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HEAVY VEHICLES CROSSING

ROAD SWEEPING IN PROGRESS

Main Entrance

Carparking

Mobile Site Office

Wheel Wash

GW2 Well

Mobile Processing Plant (relocated)

HEAVY VEHICLES CROSSING

CAUTION HEAVY VEHICLES CROSSING

Skips for removal of deleterious material (i.e. Steel, Timber, Plastic)

Restored Lands

Mobile Crushing Plant *(moved as required)*

Screening Plant

Shed

GW1 Well

Workshop *(retain for duration of works)*

Readymix Batching Plant *(being removed)*

Mobile Site Office *(to be relocated to main entrance)*

GW3 Well

Existing Entrance (No Exit)

Site Office with toilet (portacabin)

Septic Tank & Percolation Area

HEAVY VEHICLES CROSSING

CAUTION HEAVY VEHICLES CROSSING

ROAD SWEEPING IN PROGRESS

HEAVY VEHICLES CROSSING

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Legend

- Applicants Ownership (c. 5.2 ha)
- Application Area (c. 5.2 ha)
- Residences
- Traffic Circulation - Temporary haul roads will be constructed of imported concrete, brick and stone as necessary.
- Contours (mAOD)
- Cross Section
- Signage
- Phasing
- GW 1 WELL — Well
- Stockpiles Preocessed/ Unprocessed

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Digital Raster Extract Ordnance Survey Data 2500 mapping
OS Sheets 2781
NG Centre Point Coords X, Y = 285633, 253005

0m 40m 120m — Metres

Scale: 1:2000

JSPE
31 Athlumney Castle,
Navan, Co Meath
Phone/Fax: 046 9073997
Mobile: John Sheils 087/ 273 0087
Email: john.sheils@jspe.ie

J SHEILS PLANNING & ENVIRONMENTAL LTD

CLIENT	Kiernan Sand & Gravel Ltd
DRAWING	SITE PLAN
LOCATION	FOXTOWN TOWNLAND Summerhill, Co. Meath.

Drawn by: John Sheils	Scale: 1 /2000	
Checked by: John Sheils	Job No.: JSPE 172	
Date: 20/09/14	Figure No.: B 2.1	Rev: A

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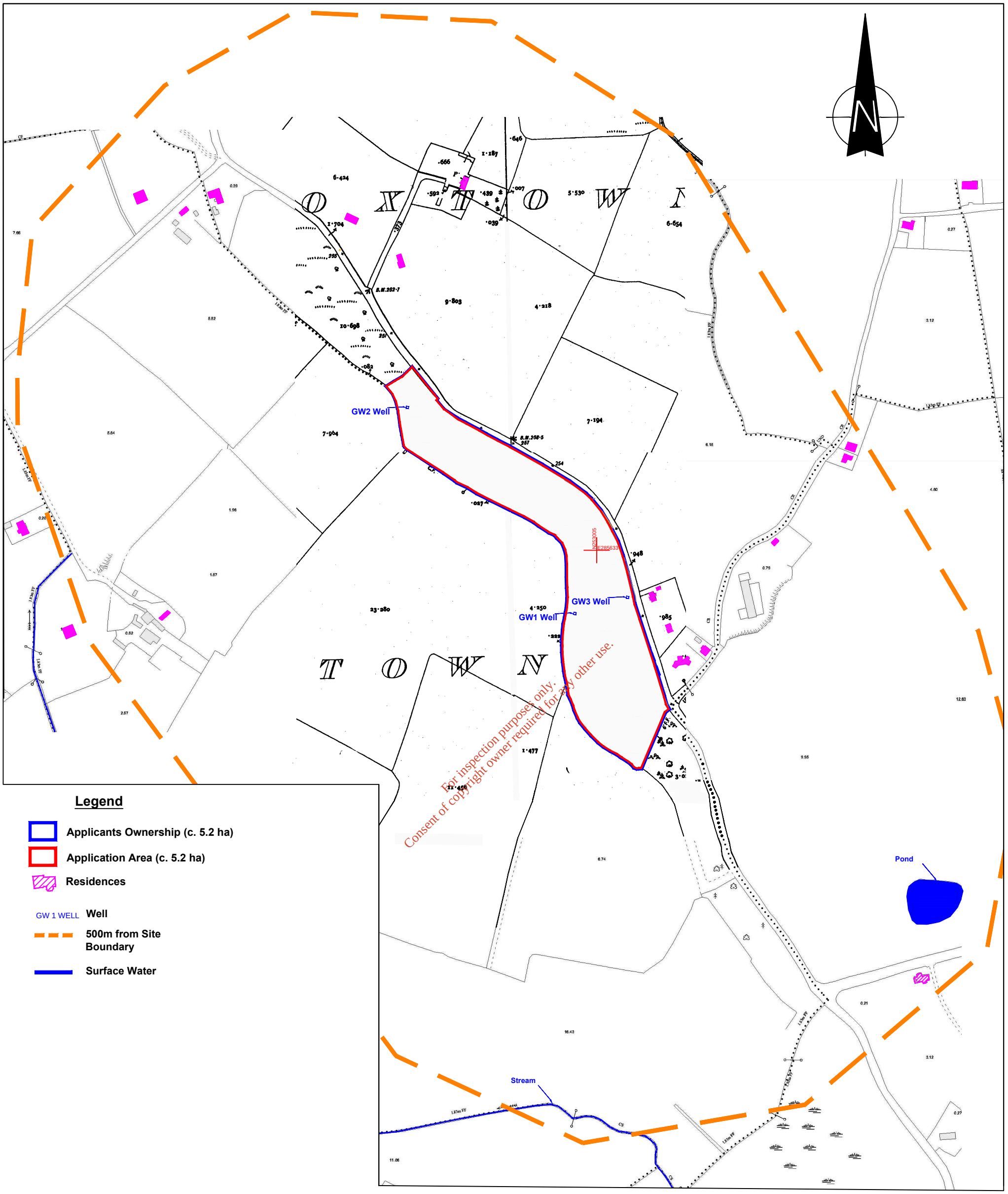

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OS Sheets 2781
NG Centre Point Coords X, Y = 285633, 253005

0m 80m 240m Metres

Scale: 1:5000

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Phone/Fax: 046 9073997
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Email: john.sheils@jspe.ie

J SHEILS PLANNING & ENVIRONMENTAL LTD

CLIENT	Kiernan Sand & Gravel Ltd
DRAWING	LOCATION MAP (500m)
LOCATION	FOXTOWN TOWNLAND Summerhill, Co. Meath.

Drawn by: John Sheils	Scale: 1 /5000	
Checked by: John Sheils	Job No.: JSPE 172	
Date: 20/09/14	Figure No.: B 2.2	Rev: A

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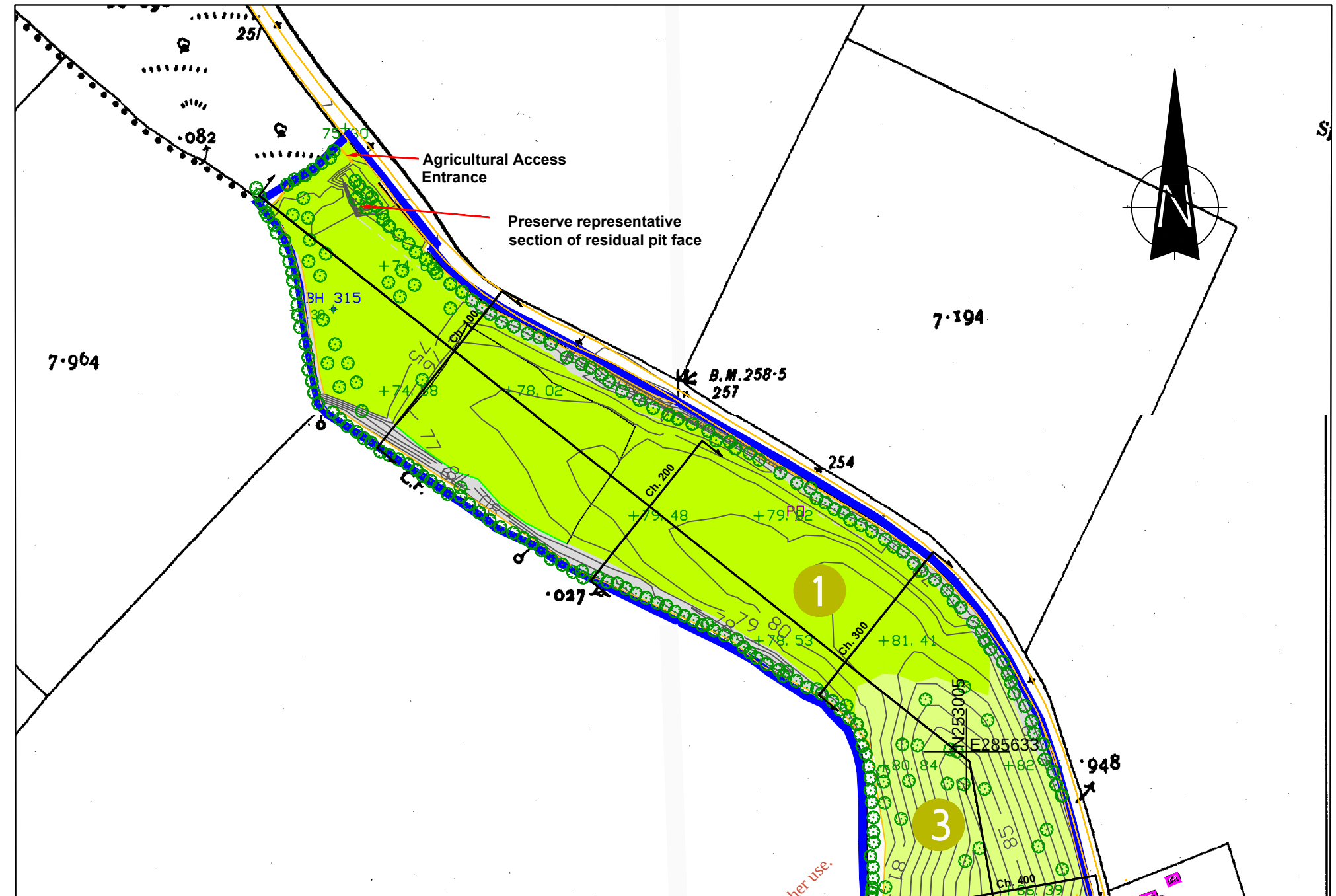
Agricultural Access Entrance

Preserve representative section of residual pit face



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Legend

- Applicants Ownership (c. 5.2 ha)
- Application Area (c. 5.2 ha)
- Residences
- Carriageway
- Proposed trees and scrub
- Contours (mAOD)
- Cross Section
- 2 Phasing

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NG Centre Point Coords X, Y = 285633, 253005

0m 40m 120m Metres

Scale: 1:2000

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Email: john.sheils@jspe.ie

J SHEILS PLANNING & ENVIRONMENTAL LTD

CLIENT	Kiernan Sand & Gravel Ltd
DRAWING	RESTORATION PLAN
LOCATION	FOXTOWN TOWNLAND Summerhill, Co. Meath.

Drawn by: John Sheils	Scale: 1 /2000	
Checked by: John Sheils	Job No.: JSPE 172	
Date: 20/09/14	Figure No.: B 2.4	Rev: A

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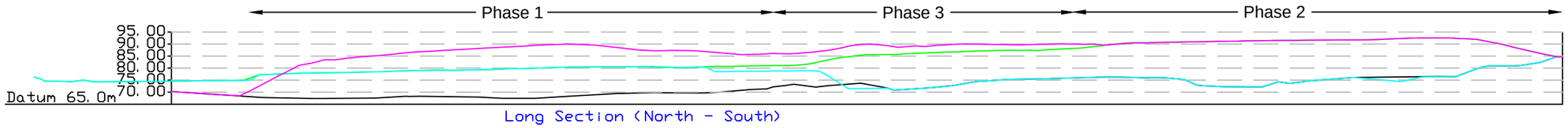
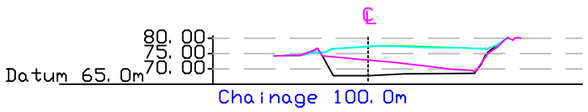
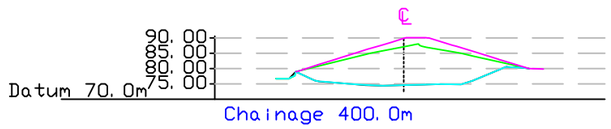


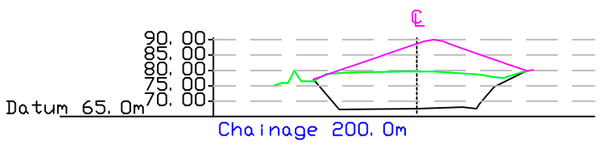
Long Section (North - South)



Chainage 100. 0m



Chainage 400. 0m



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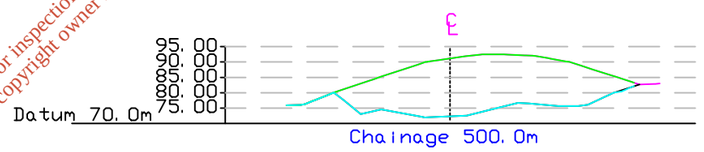

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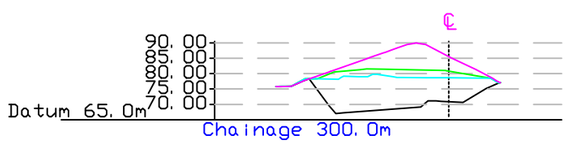
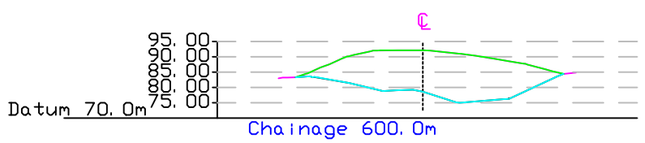


Chainage 300. 0m



Chainage 600. 0m

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Legend

- Final Landform Profile (mAOD) (Proposed 2009)
- Final Landform Profile (mAOD) (Proposed 2014)
- Existing Ground Profile (mAOD) - 2009
- Existing Ground Profile (mAOD) - 2014

Minimum Fill Depth <1m
Maximum Fill Depth 20m
Average Fill Depth 10 to 15m

Scale 1:2000

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Email: john.sheils@jspe.ie

J SHEILS PLANNING & ENVIRONMENTAL LTD

CLIENT: **Kiernan Sand & Gravel Ltd**

DRAWING: **CROSS SECTIONS**

LOCATION: **FOXTOWN TOWNLAND
Summerhill, Co. Meath.**

Drawn by: John Sheils	Scale: 1 /2000	
Checked by: John Sheils	Job No.: JSPE 172	
Date: 20/09/14	Figure No.: B 2.5	Rev: A

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HEAVY VEHICLES CROSSING

ROAD SWEEPING IN PROGRESS

Main Entrance

Carparking

Mobile Site Office

Wheel Wash

GW2 Well

Mobile Processing Plant (relocated)

HEAVY VEHICLES CROSSING

CAUTION HEAVY VEHICLES CROSSING

Skips for removal of deleterious material (i.e. Steel, Timber, Plastic)

Restored Lands

Mobile Crushing Plant *(moved as required)*

Screening Plant

Readymix Batching Plant *(being removed)*

Mobile Site Office *(to be relocated to main entrance)*

GW3 Well

Shed

Existing Entrance (No Exit)

GW1 Well

Workshop *(retain for duration of works)*

Site Office with toilet (Portacabin)

Septic Tank & Percolation Area

ROAD SWEEPING IN PROGRESS

HEAVY VEHICLES CROSSING

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Legend

- Applicants Ownership (c. 5.2 ha)
- Application Area (c. 5.2 ha)
- Residences
- Traffic Circulation - Temporary haul roads will be constructed of imported concrete, brick and stone as necessary.
- Contours (mAOD)
- Cross Section
- Signage
- Phasing
- Well
- Stockpiles Preocessed/ Unprocessed

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NG Centre Point Coords X, Y = 285633, 253005

0m 40m 120m

Metres

Scale: 1:2000

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J SHEILS PLANNING & ENVIRONMENTAL LTD

CLIENT	Kiernan Sand & Gravel Ltd
DRAWING	SITE INFRASTRUCTURE
LOCATION	FOXTOWN TOWNLAND Summerhill, Co. Meath.

Drawn by: John Sheils	Scale: 1 /2000	
Checked by: John Sheils	Job No.: JSPE 172	
Date: 20/09/14	Figure No.: D 1.1	Rev: A

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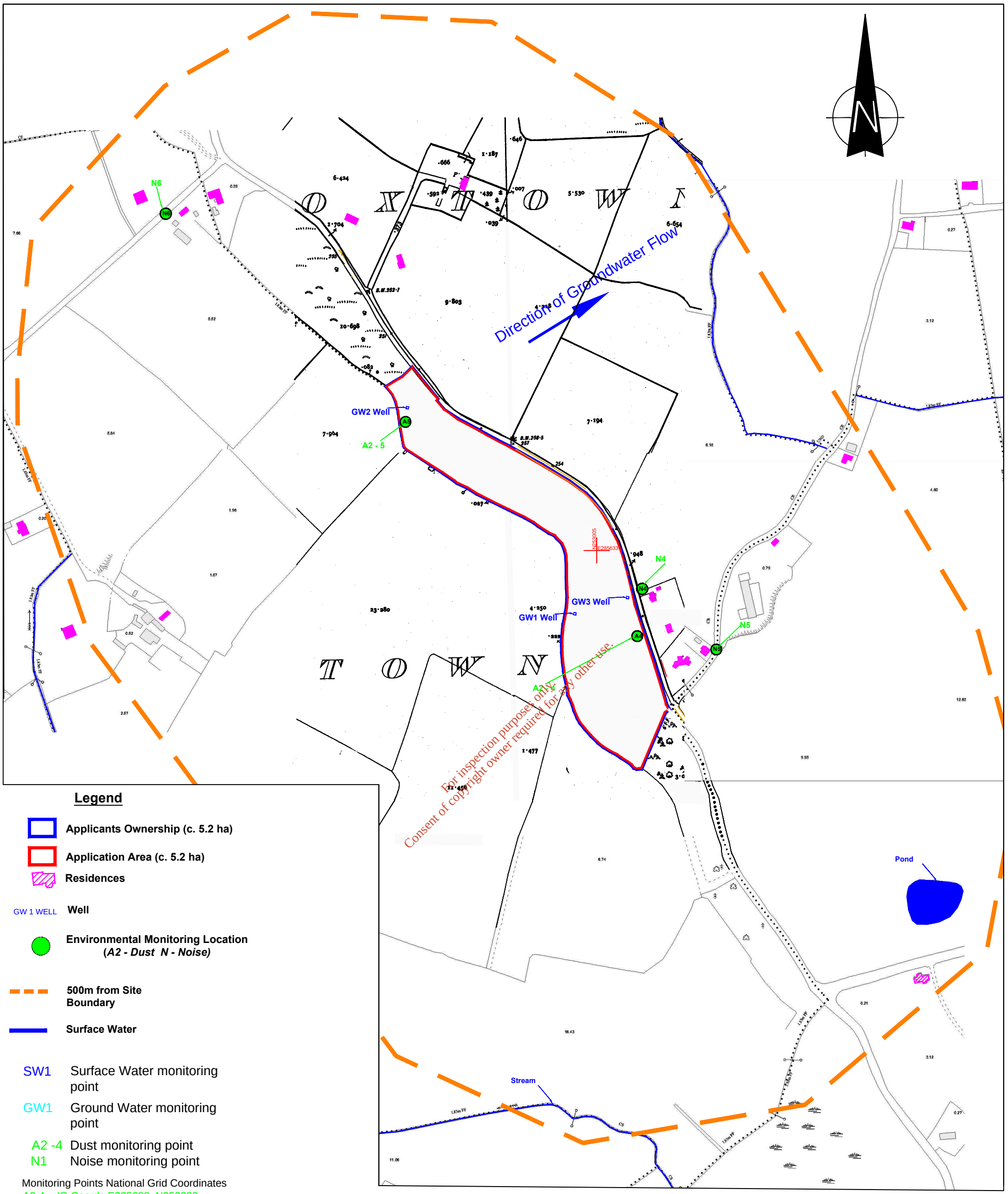

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OS Sheets 2781
NG Centre Point Coords X, Y = 285633, 253005

Scale: 1:5000

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J SHEILS PLANNING & ENVIRONMENTAL LTD

CLIENT	Kiernan Sand & Gravel Ltd
DRAWING	ENVIRONMENTAL MONITORING PLAN
LOCATION	FOXTOWN TOWNLAND Summerhill, Co. Meath.

Drawn by: John Sheils	Scale: 1 /5000	
Checked by: John Sheils	Job No.: JSPE 172	
Date: 20/09/014	Figure No.: F 1	Rev: A

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