May 2018

Non-Technical Summary

Environmental Impact Assessment Report Ballinderry, Co. Kildare

Submitted to:
Environmental Protection Agency (EPA)

REPORT

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1.0 INTRODUCTION

Golder Associates Ireland Limited (Golder) was appointed by GCHL Limited (the 'Applicant') to prepare an Environmental Impact Assessment Report (EIAR) to support a Waste Licence Application to the Environmental Protection Agency (EPA) for a Waste Licence for the recovery of inert soil and stone for restoration of a Site in the townlands of Ballinderry, Carbury, Co. Kildare (referred to as the 'Application Site', 'Site' or 'Project'). The restoration was ordered by the High Court on the 21 November 2016 under Section 160 of the Planning and Development Act, 2000. This order is contained in Appendix A. It is important to note that unless properly managed the existing worked-out sand and gravel pit will continue to have an impact on the general landscape character in the vicinity of the Site, and will remain a potential health and safety concern unless fully restored.

The EIAR will be uploaded as part of the Waste Licence Application process.

1.1 Planning History

The following planning history was summarised from a Condition 12 Report prepared by G.F. Parker & Associates in 2017 prepared on behalf of GCHL Limited for submission to Kildare County Council for the restoration of the pit.

The site was the subject of a planning application made by Declan Brassil and Company Limited (D. Brassil) on behalf of Goode Concrete Limited to Kildare County Council (KCC), the relevant planning authority, in 2002. An Environmental Impact Statement (EIS), prepared by D. Brassil, accompanied the planning application (Register Reference 02/1475). The EIS was received by Kildare County Council's Planning Department on 6 August 2002. On 21 October 2003 KCC refused permission for the proposed development.

The decision by KCC was appealed by Goode Concrete to An Bord Pleanála (ABP) and on 17 September 2004 (file number PL 09.205039) ABP granted planning permission for the following:

PROPOSED DEVELOPMENT: *Extraction of sand and gravel over an area of 7.8 hectares, associated washing and screening plant, new access and access road, shipping office, site office, weighbridge, wheelwash, surface water settlement lagoon, staff facilities and all associated development and landscaping works on an overall site of approximately 13.9 hectares as amended by the revised public notice received by the planning authority on the 9th day of May, 2004 comprising the re-alignment of the county road bounding the north of the site (L5004) to form a new junction with the county road bounding the east of the site (L1002) and a new site access to the re-aligned county road at Ballinderry, Carbury, County Kildare.*

ABP did not agree with the recommendation of its own inspector to refuse planning permission because of the proposed extraction below the water table by Goode Concrete. Instead, the Board granted permission with a condition inserted (Condition 4) that limited the extraction to 1 m above the highest groundwater level recorded at the point of extraction/excavation.

The Planning Permission was subject to 24 conditions. A review of the key conditions relating to the restoration is as follows:

Condition 1 states: *The development should be carried out in accordance with the plans and particulars lodged with the planning authority, including the Environmental Impact Statement, as amended by the documentation received by the planning authority on the 24th day of April 2003 and the 27th day of August 2003, except as may be required in order to comply with the following conditions.*

Condition 2 states: *Subject to compliance with condition 12 of this order, relating to restoration of the site, this permission shall be valid until the 30th day of September, 2012, by which date all development on site shall otherwise be complete.*

Condition 4 states: *No extraction or excavation shall take place below one metre above the highest water table recorded at the point of extraction/excavation.*

Condition 12 states: *The extraction site, reduced in accordance with Conditions 1 and 4, shall be restored in accordance with a phased restoration programme, the final phase of which shall be completed within one year of the cessation of production of materials. A detailed restoration plan shall be submitted to the planning authority for written agreement. The restoration plan shall include the following:*

(a) provision for the removal from the site of structures and plant associated with the extraction operations and of waste materials that are not required for restoration purposes,

(b) details of the nature of any filling materials that may have to be imported on the site for restoration purposes and the method and timing of any filling operation arising from such importation,

(c) provision for the suitable preparation and grading of the area to be restored by the use of imported materials, waste materials or overburden materials,

(d) provision for spreading over the area to be restored, the sub-soil and topsoil or imported sub-soil and top-soil if required,

(e) details of the final surface levels of the restored area, which levels shall be such as to allow satisfactory drainage of and outfall from the site and provision for the restoration of the natural surfaces and sub-soil drainage of the area to be restored,

(f) details of the slopes to which the face of the pit shall be graded. The plans submitted shall be revised to ensure a more natural appearance rather than the engineered finish proposed in the application,

(g) details of the aftercare measures, such as cultivation, seeding, planting and subsequent maintenance and management, which it is proposed to take in order to render such area of land restored and its condition suitable for use which shall be appropriate to the area, and (h) a detailed programme for the implementation of the restoration or operations required by this condition, including an indication of the dates relative to the progress of the sand and gravel extraction by which each phase of restoration shall be completed.

Kildare County Council contends that a number of conditions were not complied with, and consequently enforcement investigations and actions were initiated and have been ongoing by the planning authority since August 2010. In addition, Notices of Motion and Draft Orders in relation to this site have been before the High Court since January 2016. In this regard a grounding affidavit to a Notice of Motion dated 18 January 2016 in High Court between Kildare County Council (the Applicant) and LCP Manufacturing Limited (First Respondent) and Goode Concrete Limited - In Receivership (Second Respondent) was prepared by Mr Colm Lynch, Executive Engineer KCC. This affidavit, dated 8 December 2015 contains information in relation to enforcement investigations and actions, alleged non-compliances with the planning permissions and other related matters. Mr Lynch asserts that Conditions 1, 2, 4, 10, 12, and 23 have not been complied with by the Respondents.

Mr Barry Goode on behalf of the Second Named Respondent replied to Mr Lynch's affidavit via his own affidavit dated 12 February 2016. He asserts that Condition 1 was complied with. He accepts that Condition 2 was not complied with because there was a need to continue with the extraction because Goode Concrete was in financial difficulty. In regard to Condition 4 it is now a matter of fact that extraction has taken place below the water table. However, as outlined by Mr Barry Goode an assessment of the impact of this on groundwater and surface water was carried out by Trinity Environment on behalf of Goode Concrete and a report was prepared by Trinity in October 2015. This report was attached to Mr Barry Goode's 12 February 2016 affidavit (Exhibit BG2).

Mr Goode indicated that Condition 12 was not complied in so far as the site has not been restored, but asserts that a Condition 12 proposal was submitted to the planning authority for its agreement by John J Cross Architects via a letter and drawings dated 18 June 2013. Mr Barry Goode states that no reply from the planning authority to this restoration proposal letter was ever received. However, there is a KCC a reply letter dated 24 June 2013 on file that states: "*Thank you for your recent correspondence. We will revert to you in due course. This matter is being dealt with by Development Management & Compliance section.*"

The legal matters described, in brief, above were brought before the High Court several times in 2016. A court order was issued to the respondents on 21 November 2016 under Section 160 of the Planning and Development Act 2000 and the relevant elements of the Order that was agreed between the parties and handed into the Court at the last hearing of the case relating to the restoration of the site is presented below:

THE COURT DOTH ORDER:-

1) The Respondents their successors and assigns to cease forthwith the unauthorised quarry development being carried out at the property situate at Ballinderry, Carbury in the County of Kildare, part of which property is comprised in Folio no KE9702 and as depicted in aerial photograph, taken on the 30th September, 2015, and which appears at annex 1 herein (hereinafter referred to as the "property") consisting of the following;

   i) The unauthorised development and use of a quarry for the excavation and processing of quarry materials consisting of sand and gravel.

   ii) Breaches of conditions 1, 2, 4 and 12 of Planning permission register reference 02/1475.

2) An Order directing the unauthorised use of the property, consisting of the excavation and processing of quarry material on the property, together with the importation of subsoil and inert material into the property to cease forthwith pending the Respondents their successors and assigns being in receipt of the appropriate Article 27 permission, licence, permit, authorisation, permission, approval or consent, as required by the EPA.

3) The respondents their successors and assigns or one or other of them, shall within a period of 12 weeks from the date of service of the within court order on the respondents, send to the EPA all appropriate documentation in respect of the remediation and rehabilitation of the property together with a request that the Environmental protection agency consider and decide whether any article 27 permission, licence, permit ,authorisation, permission ,approval or consent is required for the restoration and rehabilitation of the property.

4) If the EPA decide that any Article 27 permission, licence, permit, authorization, permission, approval or consent is required to be carried out by suitably qualified personnel on behalf of the Respondents, their successors and assigns or one or other of them, the Respondents, their successors and assigns or one or other of them, shall submit to the EPA all necessary applications for such licences, permits, authorisations, permission, approvals or consent within six weeks from the date of such decision by the EPA.

The court order has directed such restoration to be completed in accordance with the appropriate waste authorisation in order to comply with Condition 12 of the ABP Planning Permission (file number PL 09.205039).

1.2 Waste Licence Application

The Site is a worked out sand and gravel pit and there are insufficient materials on site to restore the pit in any meaningful capacity. It is intended to restore the pit to an agricultural end use, as existed prior to the quarrying activities on the Site, and tie in with surrounding land contours. Materials for restoration of the pit to these contours are required to be imported from external sources. In accordance with the provisions of the Waste Management Act,1996 SI No 10 of 1996 and Waste Management (Licensing) Regulations, 2004 to 2011, the Site will require a Waste Licence for this activity as the tonnage to be used for the restoration of the Ballinderry pit exceeds the threshold of 100,000 tonnes.

1.2.1 Classes of Activity

GCHL is applying to the Environmental Protection Agency (EPA) for a Waste Licence to recover ca.1,234,335 tonnes of inert soil and stones for restoration of the Ballinderry Pit. The proposed backfilling of the quarry void using inert soil comprises the following classes of waste activity in accordance with the fourth schedule of the Waste Management Acts 1996 as amended:

- Class No. R5 - recycling and reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials (Principal Activity). This activity is limited to the recovery of inert soil and stone through deposition, for the purposes of improvement or development of land.
- Class No. R13 (storage of waste pending any of the operations R1 to R12). This activity will be limited to the storage of imported wastes for recovery purposes at the facility (e.g. stockpiles of inert soil).

It is envisaged that the following wastes (EWC codes) will be deposited (or recovered) at the facility:

- 17 05 04 Soil and stones other than those mentioned in 17 05 03.
- 17 05 06 Dredging spoil other than those mentioned in 17 05 05.

1.3 BAT Reference Documents

The EIAR and Waste Licence Application have been prepared in accordance with the EPA's "Final Draft BAT Guidance Note on Best Available Techniques for the Waste Sector: Landfill Activities" (EPA 2011). The restoration will use the waste acceptance methodology and criteria outlined in the EPA's draft guidance document which addresses the licence requirement for licensed Soil Recovery facilities to have Waste Acceptance Criteria (EPA 2017). Only uncontaminated soil and stones from green-field sites and non-green-field sites where the risk of contamination from chemical or solid materials is low will be accepted. The proposed waste acceptance criteria outlined in this guidance and to be adopted for Ballinderry establishes soil trigger values that are reflective of natural concentrations of key parameters, e.g. virgin soil. Furthermore, soil accepted for recovery should be free of anthropogenic contaminants such as organic compounds and asbestos fibres which are key contamination indicators in non-greenfield soils.

As a recovery facility for inert uncontaminated soil and stones, Control of Major Accident Hazards involving Dangerous Substances Regulations (2006) do not apply.

No derogation under Section 86A (6) is being sought.

1.4 Site Location and Context

The Application Site ('the Site') is located in the townland of Ballinderry, Carbury, Co. Kildare, approximately 5 km north of Carbury and approximately 3.5 km south of the M4 junction near Broadford. The Site measures ca. 13.9 hectares in total and comprises a former worked out sand and gravel pit with three ponds of varying size on site.

The landform within the study area is generally low lying and gently undulating. The nearest elevated terrain is in the southeast portion of the study area in Calfstown, which rises to ca. 110 m AOD, about 20 m above the ground level at the site entrance. The site itself is contained on a gentle southeast facing slope. The River Glash is a redirected minor watercourse which flows past the eastern side of the site in a northerly direction and a source of the River Boyne occurs in the southern portion of the study area.

The lands are abounded to the south by agricultural lands and to the west by an existing sand and gravel quarry (County Kildare Reg. Ref. 99/1200). The eastern and northern boundaries are formed by the local road network. The eastern boundary is also formed by a tributary of the River Glash flowing from south to north passing under the L1002 on the northern boundary at Clonuff Bridge. The L1002 runs along the eastern boundary in a north - south direction, where it crosses over the M4 motorway and joins a Regional Road, the R148 to the north (Moyvalley) and the R402 to the south, a Regional Road which runs between Johnstown Bridge and Edenderry) (Figure NTS-1). The lands are accessed from the L1002. The regional Site Location Plan is presented in Figure NTS-1 below.

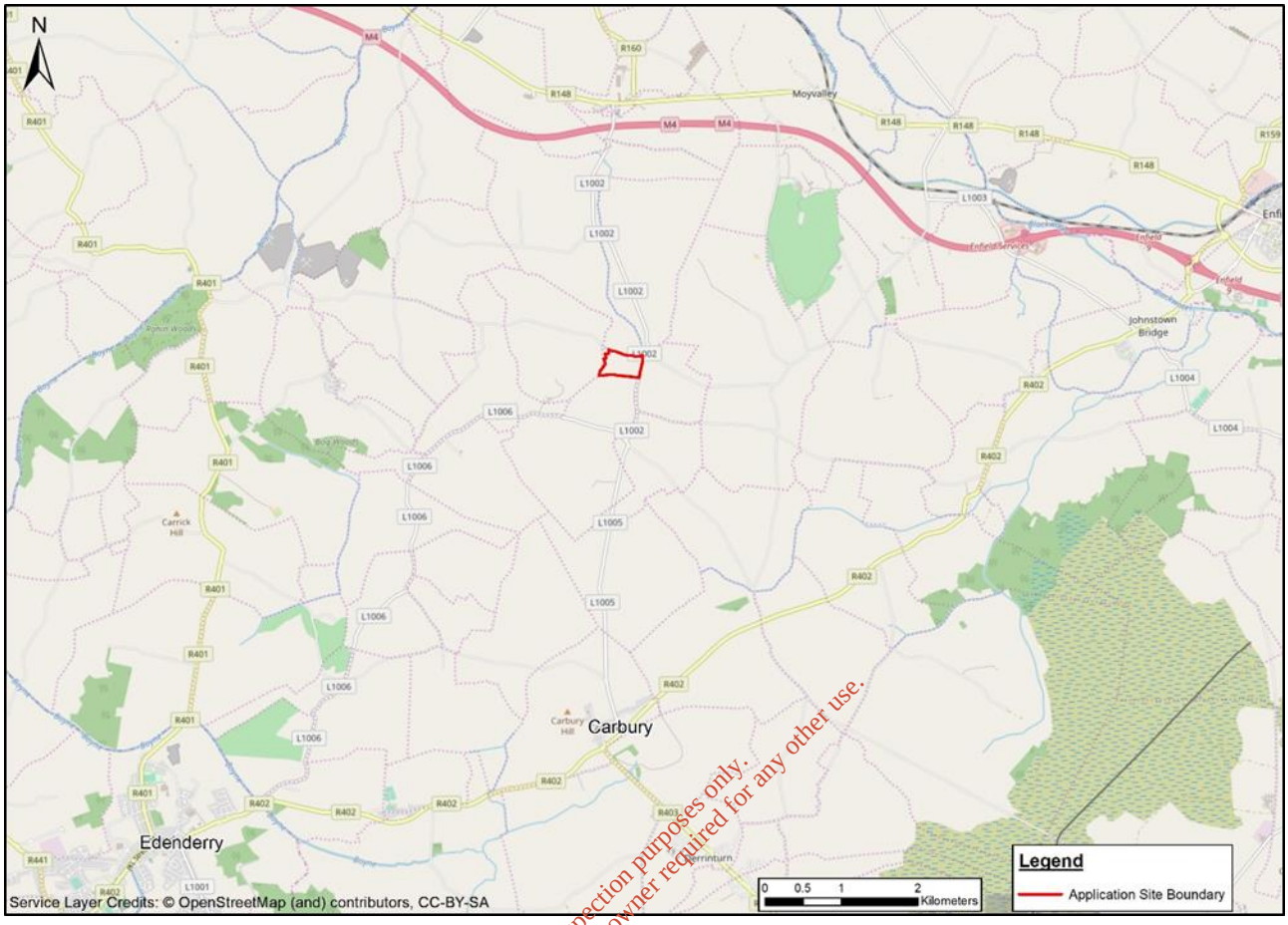

Figure NTS-1: Site Location

Other lands surrounding the Application Site can be characterised as rural in nature, with land uses in the area being agricultural and single-house residential. The lands to the north, south and eastern boundaries of the Site are in agricultural use, both tillage and pasture lands. A number of farmsteads and one-off houses are located within 250 m and 500 m radius of the Site (Figure NTS-2). A number of industries are also located within 2 km of the Site. Moyvalley Meats, an EPA licenced abattoir and boning hall, lies ca. 500 m to the east of the Site and a peat processing operation lies approximately 2 km due south of the Site.

An electricity transmission line traverses southwest to northeast across the Site with one pylon situated on the Site. Drawing 01 Rev A - local Site Location Plan is appended to this report.

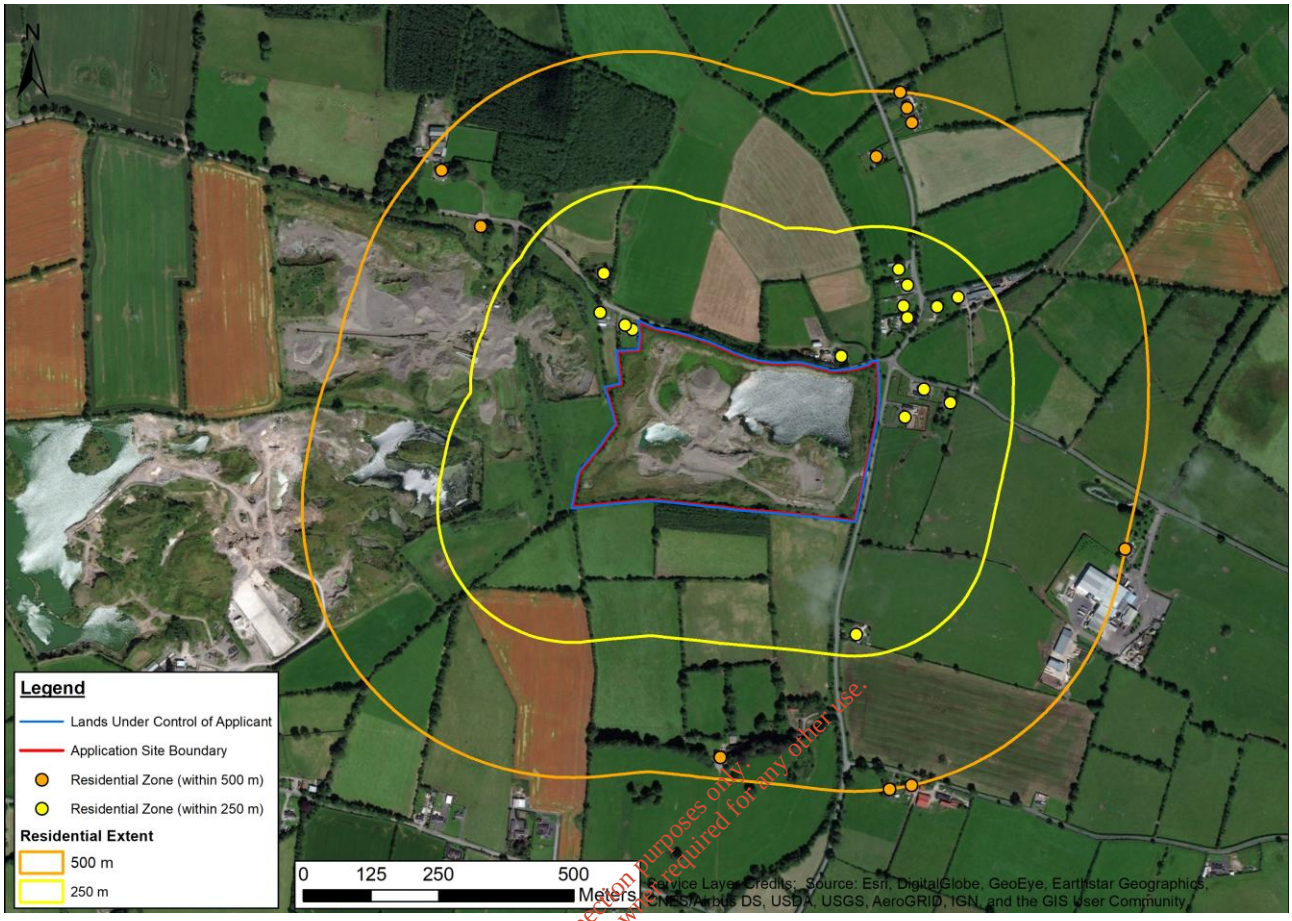

Figure NTS-2: Location of farmsteads and one-off housing within 500m of the proposed development

1.5 Existing Conditions

An existing conditions topographic survey was carried out by Landmark Engineering and Surveying Consultants, based in Johnstown, Naas Co. Kildare in April 2018. A bathymetric survey was also carried out in April 2018 by Murphy Surveys Ltd to provide information on the depth of water in each pond and also to provide void calculations for each of the two ponds to be infilled to allow restoration of the Site to the proposed restoration form. Drawing 03 RevA has been prepared from that survey and it is attached to this Report. Cross-sections, drawn north-south and east-west through the Site show the existing ground levels (refer to attached Drawing 05).

The Site comprises a large worked out sand and gravel pit with a number ponds ranging in size (Figure NTS-3). The pit faces along the northern side of the site, south of road L5004, are steep, with overall inclines of approximately 1.2H:1V to 1H:1V. Soil slopes comprising gravel sand and silt are not likely to be stable in the long term at these slope inclinations and slippage is evident at the base of these slopes. The heights of the pit faces on the west and east are lower and the slope inclinations are not as steep as on the north side. There are mounds and stockpiles of topsoil, subsoil and other aggregates along the western, southern and eastern sides of the pit. The floor of the pit lies at an elevation of ca. 78 m OD, with the surrounding lands to the east and south being ca. 79 to 80 m OD respectively. The ground along the western boundary rises from approximately 80 to 90 m OD and the level of road L5004 along the north side rises from east to west from ca. 79 m OD at its junction with the road L1002 to ca. 90 m OD at the northwest corner of the site.

The central part of the Site is generally flat lying, with the exception of miscellaneous stockpiles of processed materials (mainly stone), and the presence of landscaping berms and soil stockpiles along the western, southern and eastern boundaries. The remaining stone product on the site will be removed offsite and transported to a concrete batching facility owned by GCHL as agreed with the local authority. The estimated volume of processed aggregate on the Site is approximately 37,000 m^3.

It is understood that two ponds on site (B and C) are groundwater fed. Pond A is small in size and is seasonally dry and is considered be fed by surface water. The water levels in Ponds B and C vary between ca. 77.5 and ca. 78.0 m OD (based on seasonal variations).

Excavation of material took place beneath the water table to an estimated maximum depth of ca. 75.0 m OD in Ponds B and C. The largest pond, Pond C, has a surface area of approximately 2.65 ha and a volume of approximately 74,000 m^3 below a reference level of 78.5 m OD. Pond B, has a surface area of approximately 0.29 ha and a volume of approximately 9,000 m^3 also below a reference water level of ca. 78.5 m OD.

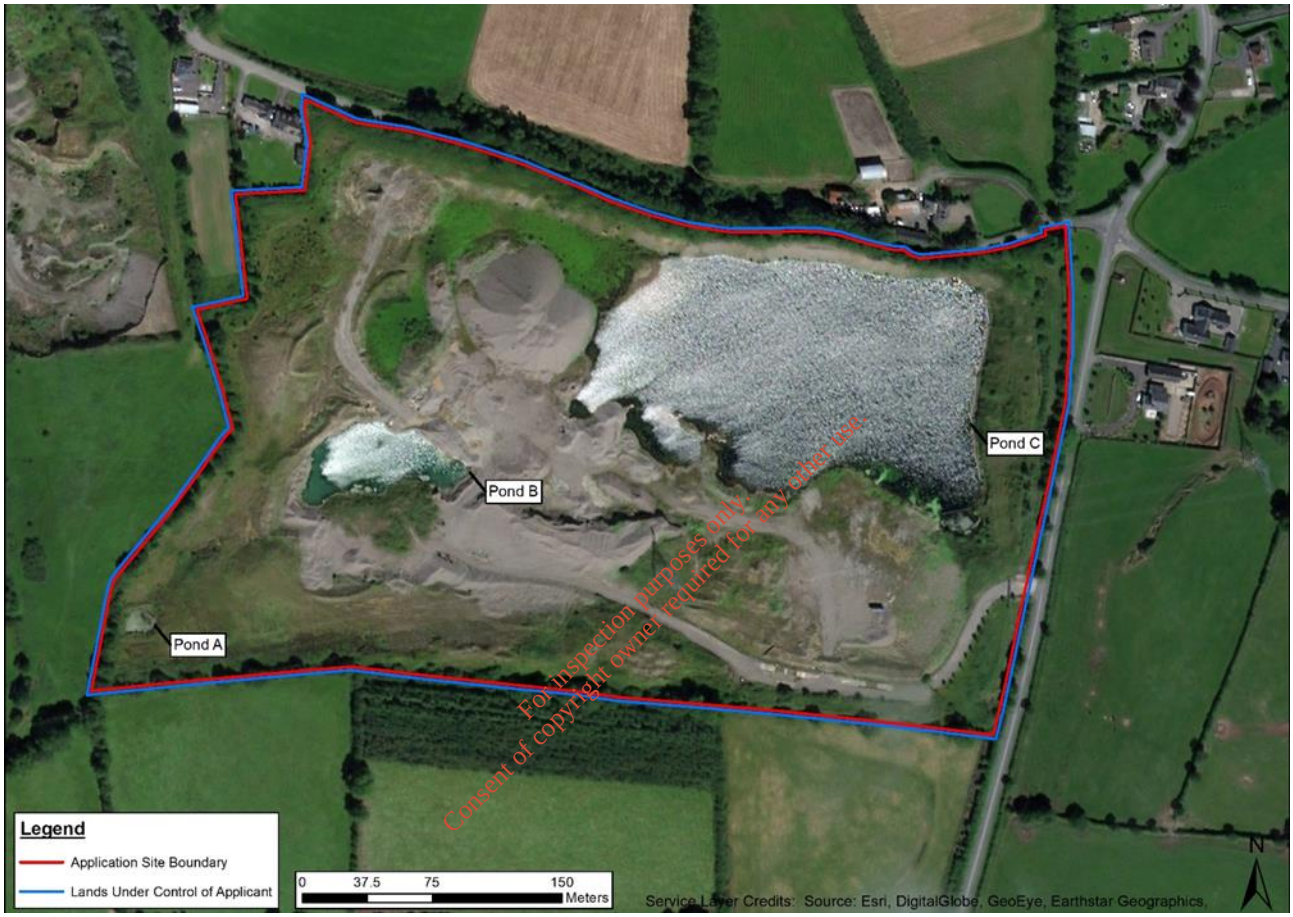

Figure NTS-3: Aerial image showing the current site layout (red/blue = application/ownership boundary)

2.0 PROJECT DESCRIPTION

The applicant for the Waste Licence to restore the Ballinderry Pit is GCHL Limited (GCHL). GCHL are based in Castlewarden, Straffan, Co. Kildare and is owned by the Goode family who are an established concrete manufacturing company with sand and gravel operations in Kildare. The applicant is the land owner and the proposed restoration and inert waste recovery facility will be operated directly by GCHL.

2.1 Proposed Restoration Pan

The Site requires restoration as ordered on 21 November 2016 by the High Court under Section 160 of the Planning and development Acts, 2000 as amended (App No: 2015/383 MCA). GCHL propose to backfill the pit void with imported inert material sourced from various locations (subject to agreement with the EPA). The proposed restoration project and inert soil recovery facility at Ballinderry Pit will involve:

- Acceptance and use of approximately 1,234,335 tonnes of imported inert natural materials, comprising excess soil, stones and / or broken rock, to restore the existing sand and gravel pit to a contoured landform that will be in keeping with the surrounding landscape;

- Installation of temporary site infrastructure and services, including staff welfare facilities, hardstand areas, fuel and water storage tanks, waste inspection and quarantine facility. A weighbridge (with dedicated office) and wheel wash are existing on site;
- Construction and demolition waste (principally concrete, metal, timber, PVC pipes and plastic) imported to site mistakenly co-mingled with inert soils will be segregated prior to removal off-site to authorised waste disposal or recovery facilities;
- Temporary stockpiling of topsoil for re-use as cover material for final restoration surfaces of the site;
- Restoration of the backfilled void to ground contour levels that tie into the surrounding lands and producing a rounded hill that would be similar to the landform that existed prior to the aggregate extraction activities. The previous landform for sand and gravel extraction was an esker deposit with characteristic mound traits;
- Establishment of an agricultural grassland habitat similar to that which existed prior to quarrying of aggregate from the site and in line with existing adjacent habitats and land uses; and
- Environmental monitoring of noise, dust, surface water and groundwater for the duration of the site restoration works and for a limited period post closure.

Backfilling of the Application Site will commence with phased infilling of the 2 larger ponds at the Site. There is a smaller pond (Pond A) to the west of the Site and this is understood to be a surface water pond and is situated outside of the main restoration area. This small pond will remain untouched and serve the Site as a natural water feature to support the biodiversity at the Site. The restoration is discussed further in Chapter 2.0. Drawing No.006 Rev A contained in Appendix B presents the phasing plan for the restoration of the Ballinderry Pit.

The infilling and restoration will progress upwards from the former quarry floor and on completion, the restored landform will merge into the surrounding landscape. An outline of the proposed restoration scheme and the final ground level contours are shown in Drawing 04 contained in Appendix B. In addition to imported materials, some soil in existing screening berms and / or stockpiles across the existing site will be used to backfill the quarry. Cross-sections through the final landform are shown in Drawing 05 contained in Appendix B.

On completion of the quarry backfilling and restoration works, all mobile plant and equipment associated with the waste recovery activities will be removed off-site. Any dedicated site accommodation, infrastructure and/or services will also be progressively decommissioned and / or removed off-site.

The detailed restoration plan including aftercare is discussed in Chapter 2 of the EIAR.

2.2 Working Hours & Employment

The Applicant proposes that the permitted hours of operation for the development are from 07:00 hours to 18:00 hours Monday to Friday and 07:00 hours to 14:00 hours on Saturdays, with the facility being closed on Sundays and Public/Bank Holidays.

The Applicant proposes to employ 2 permanent employees on the Site.

2.3 Volume of Wastes to be accepted

The estimated total volume of material required to restore the pit to final restoration contours is ca. 685,742 m^3. This volume corresponds to approximately 1,234,335 tonnes of inert soils and stone using a bulk conversion factor of 1.8 t/m^3. The backfilled materials will be placed and compacted by tracked bulldozer and placed materials will be further compacted by the weight of overlying material.

The only material requirements in respect of the proposed restoration scheme are the inert uncontaminated soil, stone and rock to be used in backfilling and restoration of the existing pit void. At the present time, it is considered that the principal sources of such materials over the lifetime of the waste recovery facility will be from construction and development related activities in the greater Dublin and Kildare areas.

2.4 Waste Hierarchy

GCHL will employ measures to ensure that waste production is avoided in accordance with the waste hierarchy as set out in Section 21(A) of the Waste Management Act 1996 (as amended) which is as follows:

- Prevention;
- Minimisation;
- Recycling;
- Other recovery (including energy recovery); and
- Disposal.

GCHL Limited is committed to the principles of sustainable production and is aligned with the hierarchy of waste management. Waste will be manged and tracked as part of the environmental KPI (Key Performance Indicators), which are part of the Environmental Management System. Specific objectives and targets to reduce waste will be part of the EMS. Adequate resources will be provided for the management of waste in terms of materials and people – named individuals will have accountability for the management of waste on site.

GCHL will ensure that lifecycle analysis will be completed in repletion to all decisions made in order to prevent waste generation. For example, only inert wastes that are to be accepted at the site and all non-compliant wastes that enter the site be rejected and directed to an appropriate disposal or recovery facility.

All operators will be trained in the principles of waste management, the prevention of waste generation and the appropriate management of waste once generated (e.g. appropriate segregation).

A waste management procedure will describe in detail how waste is to be managed on site and will provide detail on the location of designated skips and quarantine areas etc.

Standard operating procedures (SOP) will be in place for all activities on site and each SOP will detail (as required) how waste must be managed in the task. It is not envisaged that any non-hazardous or hazardous waste will arise from the activities on site.

All canteen waste will be disposed of by an approved waste collector.

3.0 EXISTING ENVIRONMENT AND IMPACTS OF THE FACILITY AND PROPOSED MITIGATION MEASURES

3.1 Human Beings (inc. Traffic)

The region of Kildare has a long history of sand and gravel excavation, with quarrying activities having taken place in the vicinity of the Application Site since the 1950s. Existing quarrying operations in the area include the Roadstone site directly adjacent to the west and GCHL's Kilglass facility ca. 600 m to the south-west. In addition, quarrying activities are currently taking place at a number of facilities to the west of the Application Site by a number of independent operators.

The effects of the proposed development on land use is considered to be 'not significant' to 'imperceptible' due to the current and historical nature of similar activities in the area. Similarly, with respect to social considerations, there has been little or no change to local activities as a result of quarrying activities in the vicinity of the Site. Any increase in employment due to the proposed development at the Application Site will only lead to a 'positive' effect socially.

Given that any existing facilities in the vicinity of the Site have developed in recent years while quarrying has been undertaken, it is unlikely that the establishment of the Application Site will impact the tourist potential of the local area. Retention and enhancement of perimeter hedgerows, berms, and fencing will consolidate the screening of receptors. Consequently, it is concluded that the development will have little or no impact on tourism and recreation in the area once the restoration plan has been affected.

Movements of HGVs from the Site will be limited to the opening times of the facility. The Traffic and Transport Assessment (TTA) addresses the effect of the proposed development on the safe and efficient working of the existing public road network in the vicinity of the Site. Prior to works commencing, the Applicant will make improvements with regards to the sightlines from the proposed quarry access/exit to satisfy the sightline requirements for a design speed of 85 kph.

The TTA indicates that the road network currently operates well within capacity and will continue to do so throughout the life of the proposed development, including during through peak periods and for each of the assessment years 2019, 2024 and 2034.

It is expected that impacts from dust and noise as a result of the proposed development will be not significant, (discussed below). The mitigation measures outlined include the implementation of proven dust and noise management practices including; wet suppression techniques and screening berms to minimise dust and noise emissions.

In terms of the predicted impact on human beings it is noted that the restoration has been designed so that there will be no water discharge from the Site. The proposed waste acceptance criteria will ensure that material accepted will be uncontaminated soil and stone, equivalent to virgin material. It is therefore considered that there will be no impact on human beings as a result.

A Site Manager will be responsible for safety management at the Application Site. Required Health and Safety standards will be maintained on site by regular training and sign posting of safety information on site.

3.2 Biodiversity

The biodiversity component of the EIAR was undertaken to comply with the requirements of international and local legislation, and includes an assessment the ecological resource at the Site and designated ecological sites within a 15 km buffer. It comprised a desk-based study and a field visit, conducted between February and May 2018. The biodiversity chapter is informed by the outcomes of the Appropriate Assessment Screening (AA) report produced by Golder, as well as a previous AA conducted in 2017.

There are four internationally designated ecological sites within 15 km of the Site, as well as four nationally designated sites. Habitats at the Site comprise mainly exposed sand and gravel, bare ground and some areas where vegetation has begun to recolonise. There are two large ponds at the Site created through previous extraction activities that are fed by groundwater. A third, much smaller, pond is also located at the Site, fed by surface water. The habitats on Site do not support species richness. Species identified as regularly using the Site are sand martins, foxes, and rabbits.

No impacts are anticipated upon designated ecological sites within 15 km of the Site.

However, predicted impacts as a result of the proposed restoration works include loss of habitat for sand martins, for which alternative habitat is available in the immediate vicinity (adjacent land). In the long term, the creation of additional terrestrial habitat will potentially support a similar species richness at the Site.

Mitigation proposed for the Site comprises adhering to good construction practice, and avoiding vegetation clearance and disturbing breeding birds during the nesting season (March to August inclusive). This includes a sympathetic schedule for infilling so as not to disturb breeding sand martins. On-going habitat management at the Site, such as preventing vegetation from re-establishing once removed until restoration works are complete, will also be implemented.

3.3 Soils and Geology

Four boreholes were drilled on Application Site to provide information on the underlying geology and groundwater.

Much of the soil across the application site has been removed or excavated by previous quarrying activities. The main soil type on the site, prior to excavation activities, were mapped as shallow Lithosols (BminSW) derived from mainly calcareous parent materials with minor alluvial soils along the eastern and south-easten boundaries following the existing stream. The site is bounded to the north and south by deep poorly drained soils derived from mainly basic parent materials (BminPD).

The subsoils underlying the Site are classified as limestone sands and gravels (GLs) which form part of a formation that runs east-west through the site. Along the eastern and southern site boundaries, following a local stream course, are minor deposits of alluvium. To the north and south of the site are Carboniferous limestone till facies (TLs).

The GSI bedrock 1:500,000 map (www.gsi.ie) shows that the regional geology of the area is comprised of deep marine basinal sediments of the Lucan Formation. The regional geological map for the area indicates that the area is underlain by dark-grey to black limestone and shale (Calp) of Lower to Middle Carboniferous age. Widespread Quaternary glaciation shaped the landscape of the area, leaving behind mainly non-cohesive glacial and fluvio-glacial sediments, which constitute a thick blanket covering the Carboniferous rocks. No major fractures or faults are reported on the GSI map of the area, with the exception of a fault with an East-West direction, which terminates prior to entering the site in its north-west corner.

The nature of extracting overburden and aggregate from the Site has resulted in a direct and irreversible impact on the sand and gravel resource, however these impacts were considered to be a major beneficial economic impact. This application will be to infill the existing excavated quarry at Ballinderry and to rehabilitate the ground to return it to agricultural fields. Backfilling will be conducted using uncontaminated soil and stone, equivalent to virgin material, sourced from locations off-site. Once backfill is completed topsoil will be used to restore the Site to agricultural land.

The following mitigation measures have been adopted for the proposed extraction activities to reduce any potential impacts of the receiving soils and geology (and water) environment:

- The proposed waste acceptance methodology and criteria will ensure that only uncontaminated soil and stone from suitable sites will be imported to the Site for restoration;
- All refuelling of mobile plant will be undertaken with care on a designated fuelling area which will be composed of a hardstanding surface with an associated interceptor;
- Any processing plant and / or mobile plant on the Site be regularly maintained, and where plant is damaged or leaking, this will be dealt with as part of ongoing operational management of the Site;
- Dumping of potentially dust producing material will only occur during the correct environmental conditions;
- Re-handling of topsoil will be kept to a minimum to preserve the integrity of the material;
- Groundwater monitoring of existing wells on site prior, during and after the completion of proposed works; and
- The Site manager will ensure compliance with relevant safety and statutory legislation and best practices.

As a result of the proposed mitigation measures being implement at the Application Site, it is considered that any impacts associated with backfilling related activities undertaken at the Application Site will not contribute to the cumulative impacts of any surrounding developments/quarries within the area.

3.4 Water

There are a number of surface water features and groundwater aquifers in close proximity to the Site. Restoration works which may impact the surface water and groundwater aquifers local to the Site predominantly revolve around the backfilling within the saturated zone (i.e. Ponds B and C), and backfilling and surface restoration works within the unsaturated zone above. The potential hydrogeological and hydrological impacts associated with the proposed development were assessed by means of a desk study, including freely available technical references, and fieldwork.

3.4.1 Surface Water - Hydrology

The Site is located within the Eastern River Basin District and falls within the Water Framework Directive (WFD) catchment area for the River Boyne (SAC). The eastern edge of the Site is bounded by the River Glash and the Balrinnet Stream runs within ca. 100 m of the western Site boundary (which flows north to act as a tributary to the River Glash). The River Glash continues to flow north until its eventual confluence with the River Boyne, approximately 6.5 km downstream of Site.

In 2015, the Balrinnet Stream and River Glash were assigned WFD status of 'poor' and EPA biological quality 'Q' value of 2-3, i.e. 'moderately polluted'. Surface water quality is shown to improve further downstream near Boleykeogh to WFD status 'good' and Q value of 3-4, i.e. slightly polluted. Q values were noted not to have changed from those assigned before quarrying activities began.

There are three on-site ponds located within the footprint of the Site; Ponds A, B and C. Pond A is located in an area where no mineral extraction has occurred and is considered to comprise surface water, intermittently noted as 'dry', whereas Ponds B and C are located in the deepest areas of mineral extraction and are considered to be primarily groundwater fed. A surface water drain is located along the southern edge of the Site, but it is noted to be consistently dry.

The Site is not deemed to be in hydraulic connectivity with the nearby Carbury Bog as the groundwater flow at the Site is away from the direction of Carbury Bog.

Water quality monitoring of Pond B and points upstream and downstream along the tributary to the River Glash have been carried out in order to assess the pre-restoration 'baseline' quality of surface water local to the Site. Screening against water quality assessment criteria indicate elevated results for Hardness, Ammoniacal Nitrogen as NH_4 and Nitrite as NO_2, which are likely attributable to the local geology, land use (arable farming) or via site discharge to the tributary to the River Glash by an industrial facility..

3.4.2 Groundwater - Hydrogeology

The Site is underlain by the River Boyne sand and gravel superficial aquifer, which in turn overlies the limestone (and subordinate shale) bedrock aquifer of the Lucan Formation. Due to the locally unconfined nature of the Lucan Formation, it is considered that the sand and gravel is in hydraulic connectivity with the uppermost weathered section of the limestone aquifer. The sand and gravel and limestone aquifers are considered to be locally important, high yield, and locally important, moderate yield respectively. Groundwater is considered to be of high vulnerability across the Site and to extreme vulnerability in areas where the groundwater is exposed at surface, e.g. Ponds B and C.

There are no source protection zones within the Site boundary, with the nearest source protection areas located approximately 8 km to the south-east and south-west of the Site, at Johnstown and Edenderry respectively. However, there are two private supplies located along the immediate boundary of the Site, to the north-west and north-east.

Historically, groundwater has been shown to flow towards the south-east; however, recent monitoring is inconclusive, with a potential groundwater flow-divide to the north-east and north-west been identified. Further groundwater level monitoring is required in order to fully characterise the groundwater flow regime.

Groundwater quality monitoring of boreholes GMW1 to GMW4 has been carried out in order to assess the pre-restoration 'baseline' quality of groundwater local to the Site. Screening against water quality assessment criteria indicate that elevated levels were recorded for Ammoniacal Nitrogen as NH_4, Total Dissolved Iron, Dissolved Manganese and Total Hardness Dissolved (as $CaCO_3$). As there was no blasting carried out at the Site, elevated levels of Ammoniacal Nitrogen are likely attributable to the local arable land use, whilst elevated Iron, Manganese and Hardness are all characteristic of the local groundwater due to the presence of limestone bedrock underlying the Site. Therefore, the results indicate that there has been no perceivable impact upon groundwater by the Site previously.

3.4.3 Site Practices to prevent or reduce emissions

The highest standards of site management will be maintained at the Site and utmost care and vigilance followed to prevent accidental contamination or unnecessary disturbance to the Site and surrounding environment during backfilling and restoration works. The main potential for impacts upon surface water or groundwater stems from the nature of the backfill materials, the condition of the Site plant / refuelling activities and the management of surface water run-off from the Site. Other potential polluting impacts include the domestic wastewater from the toilet facilities, however with the use of portable toilet facilities and the avoidance of a dedicated pipework system the risk of pollution to surrounding water bodies is very low.

It is proposed that the following mitigation measures will be put in place at the Site to ensure that no adverse environmental impacts will occur to surface waterbodies or the underlying groundwater aquifers as a result of the proposed restoration activities:

- Adoption of a proven Environmental Management System (EMS);
- Ponds B and C, and therefore the direct pathway to exposed groundwater, are backfilled with uncontaminated, low permeability material, as outlined by waste acceptance criteria;
- Ponds B and C will be backfilled in a phased approach, allowing each phase to be bunded then dewatered into the next phase until no water remains in the ponds. This allows discharge (and sediment loading) to surface waters to be avoided;
- Backfill and topsoil materials used in restoration of the unsaturated zone will comprise uncontaminated material, comparable to that of virgin ground;
- Although it is thought the backfill materials will be of mixed grain size and well graded (and therefore allow adequate infiltration of rain water); if required, a toe-drain / surface water ditch will be installed at the lowest topographical point to manage potential runoff and sediment loading of surface waters;
- Where required, de-siltation of the drain will occur in order to manage any reduction in drainage capacity;
- Mobile plant will use a dedicated concrete hardstanding apron (with associated interceptor) for refuelling. Static plant or tracked excavators will refuel over a drip tray with an absorbent mat. In addition, spill kits will be maintained on site to deal with all spills and leaks, and spill training will be provided to relevant staff members;
- Any mobile plant or vehicles on the Site shall be regularly maintained. Where plant is damaged or leaking it will be fixed or replaced immediately, as part of the ongoing operational management of the restoration works to reduce the risk of leaks;
- Hydrocarbons will be stored in bunded tanks on an impermeable hardstanding surface;
- Wheel washing is to be carried out in alignment with the methodology employed during mineral extraction, where wash water was recycled and no perceivable impacts were noted upon water quality;
- Portable toilet facilities will be located upon concrete hardstanding in order to allow any spillages to be managed. Any emptying of toilet facilities will be undertaken by a licenced contractor and waste disposed of off-site at a licence facility; and
- Six monthly quality monitoring of both groundwater and surface water shall be undertaken to ensure that no pollution of groundwater or surface water is occurring, this will include measurements of groundwater and surface water levels.

Following the plan for restoration works, and continuing good housekeeping during backfilling operations by adhering to best practice within the work area, will mitigate against potential impacts on the surrounding environment. With the successful implementation of mitigation measures at the Site, no cumulative impacts on the local surface water or groundwater environments are envisaged in terms of current and proposed activities at the Site, and in relation to the possible cumulative impacts from other quarries within the vicinity of the Site.

3.5 Air & Climate

The main potential impact with regards to air and climate during development will be due to airborne dust and potential dust deposition outside the Application Site boundaries. During long spells of dry weather, dust emissions can potentially be more elevated, however dust nuisance from the proposed operation is expected to be unlikely if mitigation measures are implemented during production and restoration. Successful mitigation measures employed at other operations will be utilised to abate the main sources of fugitive dust emissions from the proposed development.

Details of mitigation measures that will be employed at the Application Site are summarised below:

- Vegetated buffer zones and berms at the site perimeter will be retained and enhanced;
- Dust monitoring will continue to be carried out monthly at the four designated monitoring locations. The levels of dust and any trends will be monitored by the Site Manager. Through this continuous monitoring, the Site will be able to implement any remedial measure and/or alter operations depending on monitoring results, weather or local site conditions;
- The timing of operations will be optimised in relation to meteorological conditions. As far as practicable processes which have a greater potential to generate dust will be carried out during wetter weather conditions. When this is not possible other dust suppression measures will be employed;
- Material in outdoor stockpiling will be conditioned with water to minimise dust during dry and windy conditions. In addition, stockpiles will be sited to take advantage of shelter from wind;
- Overburden mounds will be grass-seeded and planted to eliminate wind-blown dust;
- Plant and equipment will be regularly maintained;
- Internal haul roads will be compacted and maintained;
- A water bowser/sprayer will be available at all times to minimise dust during dry and windy conditions where it is impractical or inappropriate to operate a fixed water spray/sprinkler system;
- On site speed restrictions (<25 kph) will be maintained in order to limit the generation of fugitive dust emissions;
- All vehicles exiting the site will exit through the proposed wheelwash;
- No vehicles or plant will be left idling unnecessarily;
- Vehicles and plant will be well maintained. Should any emissions of dark smoke occur (except during start up) then the relevant machinery will be stopped immediately and any problem rectified before being used; and
- Engines and exhaust systems will be regularly serviced according to the manufacturer's recommendations and maintained to meet statutory limits/opacity tests.

It is acknowledged that there is an existing quarrying operation located to the west of the Application Area and other quarrying operations within ca. 2 km of the Site. Considering the mitigation measures proposed, is considered that the proposed development will not contribute cumulatively in any significant manner to the local air environment. The overall impact from the proposed development, in terms of dust emissions, is therefore not significant to imperceptible to the air environment.

In the longer term, on completion of the site restoration, the concentration of airborne dust would expect to be reduced from operational levels as the result of covering and seeding of exposed, un-vegetated soil surfaces. This will most likely constitute a positive impact for the local environment.

Monitoring at the Site will be carried out in accordance with the EU Ambient Air Quality and Cleaner Air for Europe (CAFÉ) Directive (2008/50/EC); Environmental Management in the Extractive Industry (2006) and Quarries and Ancillary Activities, Guidelines for Planning Authorities (Department of Environment, Heritage and Local Government, 2004).

3.6 Noise

The principal potential noise impacts arising from any future activities, is nuisance from the movement of inert wastes and the restoration activities. Noise sources that relate directly to the proposed activity will include mobile plant. Mobile plant will include; excavators, a dozer and road trucks delivering the inert wastes. A water bowser may be employed from time to time depending on the site conditions. Baseline noise levels were measured at three locations at the Application Site.

At present the noise environment at the Site is indicative of a rural environment. In general the main noise sources noted are intermittent passing traffic on adjacent roadways and birdsong. Activities in the adjacent quarry and the peat processing operation to the South of the Site were audible from time to time.

A number of noise mitigation measures will be incorporated into the site design, management and working practices to ensure that the noise generated at the site will not have no significant impact on the local environs and nearby noise sensitive receptors. Through implementation of these mitigation measures it is considered that the restoration activities will have no significant impacts at nearby noise sensitive receptors. Measures to reduce potential noise impacts will include:

- A noise monitoring programme will be maintained at the three existing locations annually. This will ensure noise levels are compliant with the 55 dB(A) threshold as specified in the EPA/OEE NG4 Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities;
- Site activities will only take place during the hours of 07:00 and 18:00 Monday to Friday and 07:00 and 14:00 on Saturdays. There will be no activities on site on Sundays or Public Holidays;
- Perimeter screening mounds will be maintained along the site boundary to facilitate noise attenuation;
- Screening mounds are planted with tree and shrub species and will be improved where required;
- All haul routes will be kept clean and maintained in a good state of repair;
- Heavy goods vehicles entering and leaving the existing the Site will have tailgates securely fastened; all mobile plant used at the proposed development will have noise emission levels that comply with relevant guidance;
- Plant will be operated in a proper manner with respect to minimising noise emissions, *e.g.* no unnecessary revving of engines, plant used intermittently not left idling;
- Plant will be subject to regular maintenance, *i.e.* all moving parts kept well lubricated, the integrity of silencers and acoustic hoods maintained; and
- Plant will be fitted with effective exhaust silencers and maintained in good working order to meet manufacturers' noise rating levels. Defective silencers will be replaced.

Mitigation measures for noise control will be included in a site specific Environmental Management System (EMS) with Best Practicable Means being adopted for site activities. The effective application of these mitigation measures will also be monitored during any future restoration activities.

EPA's 2017 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (Draft).

Noise impacts have been assessed over the medium term, however it is noted that operations and noise generating activities are limited to the opening hours of the quarry. Noise impacts from quarry operations can be considered to be 'Not Significant', (an effect which causes noticeable changes in the character of the environment but without significant consequences). In addition, cumulative impacts related to the noise environment are not envisaged, and as such, there will be no discernible effect in cumulative noise anticipated as a result of proposed activities at the Application Site.

4.0 LANDSCAPE

The landform within the study area is generally low lying and gently undulating. The nearest elevated terrain is in the southeast portion of the study area in Calfstown, which rises to ca. 110 m AOD, approximately 20 m above ground level at the site entrance. The site itself is contained on a gentle southeast facing slope. The River Glash is a redirected minor watercourse which flows past the eastern side of the site in a northerly direction and the source of the River Boyne occurs in the southern portion of the study area.

The surrounding countryside is predominantly contained in pastoral farming within a matrix of small to medium sized geometric fields defined by broad leaf hedgerows. However, immediately to the west of the site there is evidence of other quarries. There is a conifer forestry plantation just to the northwest of the site as well as on the fringes of bogs situated in both the northern (Ballina Bog PNHA) and southern portions of the study area. These bogs appear to host both commercial and domestic production. There is evidence of an historic demesne landscape to the south of the site.

In terms of physical impacts on the site, the proposal is seeking the backfill and restoration of an existing, exhausted quarry. The waste will be formed into a subtle mound, thereby echoing the esker that previously existed on this site. In effect the landscape is being reinstated and returned to its former agricultural land use and the end-use mound will not appear incongruous in this landscape setting, particularly as part of the former esker remains in place just beyond the site as a reference. The physical impact on the site is therefore considered to be positive in nature.

During the restoration phase there will be a considerable amount of activity within the site in the form of workers and earth moving machinery, though most of this activity will remain below surrounding ground / berm levels and therefore out of site until the near final finished levels are achieved. Thus, effects from site related activities will be temporary in nature and of low magnitude.

In addition to site activity, there will also be a considerable number of HGV movements required along surrounding local roads, to and from the site entrance, as they import the inert waste material to be utilised for in-fill operations (see Chapter 3 Traffic and Transport for details). It is anticipated that there will be around 160 HGV moments to and from the site across the course of a 10-hour day. This will occur six days per week for 3-4 years until such time as the in-fill operations are complete – a 'short-term' impact by definition (EPA Guidance). This off-site HGV will add to the general activity within the vicinity of the site and each movement will cause momentary visual impacts as HGVs pass surrounding dwellings. However, it should be noted that the momentary visual impact of HGV traffic is commonplace along many local roads throughout the country and particularly those in productive rural areas with forestry, peat extraction, agriculture, and quarrying activities in the vicinity such as this. Furthermore, the visual impacts of such traffic tend to be of much less concern to local residents than the potential for dust, noise vibration and safety issues.

Once the restoration is complete and grassland has been restored to the infill mound, there will be little or no discernible impact on the local landscape character other than a positive one in comparison to the existing quarry.

On the basis of the factors discussed above it is considered that the magnitude of landscape impact will be low during the restoration phase and negligible / positive once restoration is complete.

With reference to the significance matrix (Table 3 in the Appendix A), the Low landscape sensitivity judgement attributed to the study area coupled with a Low magnitude of landscape impact (restoration phase) it is considered to result in a Slight imperceptible significance of landscape impact. Post-restoration landscape impact significance is considered to be imperceptible / positive.

4.1 Material Assets

Geological Resource and Local Economy

The activities undertaken at the Application Site included the extraction and processing of sand and gravel for general use primarily in the construction industry, although there is no further planned extraction at the Application Site with the intention to move directly to backfilling and restoration works. There are two further gravel extraction and processing facilities located to the immediate west and south-west of the Application Site.

In the long-term, there will be no deleterious effects caused by the activities on-site, once the restoration measures as proposed are undertaken. The proposed development will contribute to local and regional economies, by contributing to direct employment at the Site and creating indirect employment in a number of service areas and industries.

Land Resources, Water Resources and Local Agriculture

The Application Site comprises approximately 13.9 ha. Lands in proximity to the Application Site are largely rural in nature, with a mixture of farmland and ribbons of residential developments along adjacent roads. Agricultural land is used as both tillage and pasture. Some isolated residential units are also found throughout the landscape, and in close proximity to the Site boundary. There a number of surface water features, such as ponds, and the Rivers Glash and Boyne and Balrinnet Stream in close proximity to the Site. Given the prevalence of agricultural land in the area, the final restoration plan proposes to return the Application Site to agricultural land-use.

This will create a landform in keeping with the surrounding landscape, and is likely to significantly improve biodiversity potential. The current proposal for the Site is considered in line with the principles of sustainable development.

Backfilling and restoration works are due to occur within both the saturated and unsaturated zones. However, following the design and mitigation measures outlined in the EIAR, there will be no impact of site activities on the downgradient groundwater and surface water environment; nor will there be any impact to local water supplies.

Road Network and Access

The routes to and from the Site are expected to witness a negligible difference in traffic flow due to the proposed development, and as such, the will remain a suitable haul route (north then eastwards only via the L1002 and R148) for materials to and from the Site.

Scenic Routes

A number of scenic views, routes and hilltop views are located within the area of the proposed development. However, the proposed phased restoration of the Site does not pose significant visual impacts from both distant and close views of the restoration activities, with the establishment of perimeter screening berms and areas of screen planting prior to restoration taking place. The site will be restored to contour levels that are in keeping the surrounding landscape.

Property Values

Property in the locality of the Site largely consist of agricultural land, extraction of aggregates and ribbon development on local roads. The proposed activities are predicted to have a minor positive impact as the general character of the area will not be altered, and will have an overall positive impact in restoring the current pit which is a scar on the landscape.

Public Utilities

Public utilities at in the vicinity of the Site are limited to an electrical supply line running through the southern Site area and groundwater abstraction at Clonluff to the north-east of Site. The proposed backfilling and restoration works will not impact public utilities provided mitigation measures are implemented.

4.2 Cultural Heritage

The cultural heritage and archaeological component of the EIAR was undertaken to comply with the requirements of Directive EIA 2014/52/EU, and includes of an assessment of the known and potential cultural heritage resource within 1 km of the Site. It comprised a desk-based study and a field visit, conducted between February and March 2018.

There is a burial ground (SMR KD003-034----) situated within the Site that was identified during the monitoring of a quarry extension in 2005 and has been preserved *in situ*. This burial ground is not listed on the Record of Monuments and Places (RMP). There are no other cultural heritage or archaeological assets recorded within the Site. There are three sites listed on the RMP that are located within 1 km of the Site. There are also three buildings recorded within 1 km of the Site that are listed on the National Inventory of Architectural Interest (NIAH), two of which are listed on the Record of protected Structures for Co Kildare. There are no direct or indirect impacts predicted on any cultural heritage or archaeological assets within the Site or within the study area. In order to preserve the burial ground (SMR KD003-034----) *in situ*, no development works should be carried out in the area to the south and east of the entrance road where the burial ground is situated.

4.3 Interactions

Human Beings and Air

Baseline dust deposition rates recorded on the Site are generally below the recommended guidelines level of 350 mg/m^2/day. The overall impact from the proposed activities at the Site, in terms of dust emissions, will be slight to imperceptible to the air environment as stringent mitigation and operational procedures will be put into place.

Human Beings and Noise

At present the noise environment at the Site is indicative of a rural setting. Any impacts on the local community resulting from proposed restoration and related activities at the Site are considered to be slight as stringent mitigation and operational procedures will be put into place.

Human Beings and Landscape

The development of proposed restoration activities at the Site will result in a positive impact on the landscape of the area in the long term. Construction of vegetated screening berms will reduce the visual impacts to local residences and people using the road network. Restoration will be undertaken on a phased-basis to contours that are in keeping with the surrounding landscape. On the cessation of backfilling operations, site closure will allow the lands to be restored to agricultural land and be assimilated back into the landscape/ environment thus resulting in a negligible impact in the longer term.

Human Beings and Archaeology & Cultural Heritage

The assessment of the Application Site, using documentary, cartographic and aerial photographic sources as well as a walk-over survey, indicate that the proposed development will have no direct impact on the cultural heritage landscape.

Human Beings and Material Assets

The traffic assessment indicates that the existing road network has the capacity to meet the predicted increase in traffic volumes projected throughout the life of the development. The impact of the Application Site on the existing road network is therefore considered to be neutral.

Biodiversity and Air Quality

There is no evidence to suggest that dust 'blow' will have an adverse effect on the Flora and Fauna in the area.

Biodiversity and Noise

There is no evidence to suggest that noise will have an adverse effect on the Flora and Fauna in the area.

Soils/Geology and Water

Backfilling of the quarry void is expected to have a potentially negligible effect on the water environment in the short term, during the initial phases of site restoration as Ponds B and C are filled in. However, as the proposed backfilling operation will be largely above the water-table adding an additional level of protection to the groundwater aquifer, will provide a positive benefit to the aquifer in the long term.

Soils/Geology and Landscape

Backfilling at the Application Site will occur below the surrounding ground levels therefore the potential impacts are limited. The backfilling operations will fill the quarry void on site thus, there is considered to be a positive landscape impact. Placing of vegetated screening berms along the perimeter of the Site and additional planting 'to' existing hedgerows and the implementation of a final site restoration plan following cessation of backfilling operation will also reduce any visual impacts from the Application Site.

Soils/Geology and Material Assets

The proposed restoration activities can have an impact on the environment. The proposed restoration will involve the phased backfill and restoration of an existing sand and gravel quarry using uncontaminated soil and stone. The proposed restoration will use the waste acceptance methodology and criteria to establish soil trigger values that are reflective of natural concentrations of key parameters and ensure the restoration activities do not introduce new hazards to the Site. Furthermore, once the proposed restoration plan is completed, there will be no direct pathway to groundwater. Mitigation measures will be adhered to which will reduce any potential impacts on the receiving environment and it is expected that there will be no long-term deleterious impacts on the remaining aggregate, bedrock or groundwater at the Site.

Water and Material Assets

The backfilling operations at the Application Site will largely take place above the water-table and as such will have a potentially negligible impact the water environment during the initially backfilling of Ponds B and C. However, as the proposed backfilling operation will be largely above the water-table adding an additional level of protection to the groundwater aquifer, will provide a positive benefit to the aquifer in the long term.

Landscape and Material Assets

Only during the restoration phase is there considered to be any discernible landscape and visual impacts and these will principally relate to on-site infilling activities from earth moving machinery and from HGV movements to and from the site. Such effects are 'temporary' or 'short term' in duration and of low magnitude. Consequently the significance of restoration phase landscape and visual effects is considered to be slight-imperceptible in this robust landscape context.

Visual impacts have been assessed from 6 no. representative viewpoints using photomontages that depict the end use, grassed mound. In all instances, the effect on infilling and restoring the existing quarry to agricultural grassland is deeded to result in an imperceptible / positive significance impact.

Material Assets and Archaeology& Cultural Heritage

The assessment of the Application Site, using documentary, cartographic and aerial photographic sources as well as a walk-over survey, indicate that the proposed development will have no direct impact on the cultural heritage landscape.

5.0 LIKELY SIGNIFICANT AFFECTS

A summary of likely significant impacts are tabulated in table NTS -1 below. No significant effects were identified during the EIAR process. Other less significant effects are discussed in the relevant chapters of the EIAR.

Table NTS - 1: Likely Significant Effects of the Activity

Environmental Factors	Likely effects identified	Brief description of effect	Mitigation Measures to control effects
Human Beings	None	Not Applicable	Not Applicable
Biodiversity	None	Not Applicable	Not Applicable
Soils & geology	None	Not Applicable	Not Applicable
Water	None	Not Applicable	Not Applicable
Air	None	Not Applicable	Not Applicable
Climate	None	Not Applicable	Not Applicable
Landscape	None	Not Applicable	Not Applicable
Material Assets	None	Not Applicable	Not Applicable
Cultural Heritage	None	Not Applicable	Not Applicable

APPENDIX A

Court Order

THE HIGH COURT
App No: 2015/383MCA

SECTION 160 OF THE PLANNING AND DEVELOPMENT ACTS, 2000 AS AMENDED

Between/

KILDARE COUNTY COUNCIL

Applicant

-and-

LCP MANUFACTURING LIMITED TRADING AS LEINSTER AGGREGATES AND GOODE CONCRETE LIMITED (IN RECEIVERSHIP)

Respondents

ORDER

THIS MATTER coming on for hearing this the 21st day of November, 2016 **WHEREUPON** reading the Notice of Motion dated the 14th December 2015 and the Affidavit of Colm Lynch, sworn on the 8th day of December, 2015 and hearing what was urged by Ms. Deirdre Hughes B.L Counsel for the Applicant and Matthew Jolley BL, Counsel for the Respondent, the Court doth make the following Order with the Consent of the parties;

THE COURT DOTH ORDER:-

1. The Respondents their successors and assigns to cease forthwith the unauthorised quarry development being carried out at the the property situate at Ballinderry, Carbury in the County of Kildare, part of which property is comprised in Folio no KE9702 and as depicted in aerial photograph, taken on the 30th September, 2015, and which appears at annex 1 herein (hereinafter referred to as the "property") consisting of the following;

   i) The unauthorised development and use of a quarry for the excavation and processing of quarry materials consisting of sand and gravel.
   ii) Breaches of conditions 1, 2, 4 and 12 of Planning permission register reference 02/1475.

2. An Order directing the unauthorised use of the property, consisting of the excavation and processing of quarry material on the property, together with the importation of subsoil and inert material into the property to cease forthwith pending the Respondents their successors and assigns being in receipt of the appropriate

Article 27 permission, licence, permit, authorisation, permission, approval or consent, as required by the EPA.

3. The respondents their successors and assigns or one or other of them, shall within a period of 12 weeks from the date of service of the within court order on the respondents, send to the EPA all appropriate documentation in respect of the remediation and rehabilitation of the property together with a request that the Environmental protection agency consider and decide whether any article 27 permission, licence, permit ,authorisation, permission ,approval or consent is required for the restoration and rehabilitation of the property.

4. If the EPA decide that any Article 27 permission, licence, permit, authorization, permission, approval or consent is required to be carried out by suitably qualified personnel on behalf of the Respondents, their successors and assigns or one or other of them, the Respondents, their successors and assigns or one or other of them, shall submit to the EPA all necessary applications for such licences, permits, authorisations, permission, approvals or consent within six weeks from the date of such decision by the EPA.

5. In the event that an article twenty seven permission, Licence, permit, authorization, permission, approval or consent is required and that same is granted by the EPA in respect of the property, the Respondents, their successors and assigns or one or other of them, shall carry out the actions specified in such article 27 Permission, License, permit, authorization, permission, approval or consent within the time limits so provided by the EPA .

6. The Respondents, their successors and assigns or one or other of them, shall make available the property, for access to the Applicant and the representatives and agents of any party for all purposes required for the implementation of the Order herein and to permit the monitoring by the Applicant and the EPA, and their representatives and agents.

7. An Order restraining the Respondents, their successors and assigns their servants, agents, licensees or any person acting in connection with them or on their instruction, and all persons having knowledge of the granting of any Order herein from continuing the said unauthorised development of the said property.

8. That the Respondents their successors and assigns do pay the Applicant's costs and expenses of the within proceedings in the sum of €26,427.38 within a period of six months from the date of the within Order.

9. Liberty to apply and re-enter.

10. That the Respondents their successors and assigns do the acts and things outlined in paragraphs 1 to 2 above within a period of one week following the personal service of the Order herein upon the Respondents their successors and assigns or in the alternative in the event that the Applicant is unable to successfully personally serve the Order herein upon the Respondents , their successors and assigns that the Respondent is directed by this Honourable Court to do the acts and things outlined in paragraphs 1 to 8 above within a period of one week following the Order herein being affixed to the property herein.

Dated this 21st day of November,, 2016

BY THE COURT

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Counsel for the Plaintiff: Deirdre Hughes, B.L.
Solicitors for the Plaintiff: Regan McEntee & Partners
Counsel for the Respondents: Matthew Jolley, B.L
Solicitors for the Respondents: John Reidy & Associates

WARNING: If you your servants, or agents act in disobedience of this Order, you will be liable to committal to Prison by this Honourable Court and will also be liable to have your estate sequestered.

CHIEF REGISTRAR