



**PROVISION OF INFORMATION REGARDING APPROPRIATE ASSESSMENT SCREENING
PROPOSED REHABILITATION
TULLYKANE QUARRY, KILMESSAN, CO. MEATH.**

**PREPARED FOR RME ENVIRONMENTAL
ON BEHALF OF KILSARAN INTERNATIONAL**

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1 Introduction

This report which contains information required for the competent authority (in this instance Meath County Council) to undertake a screening exercise for Appropriate Assessment (AA), was prepared by Scott Cawley Ltd. It provides information on and assesses the potential for the proposed rehabilitation of Tullykane Quarry to significantly affect Natura 2000 sites (hereafter “European sites”¹).

The information in this report should be read in conjunction with the documentation accompanying the application for proposed rehabilitation works to the existing inactive Tullykane Quarry in Kilmessan, Co. Meath.

It is necessary that the proposal has regard to Article 6 of the *Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora* (as amended) (hereafter “the Habitats Directive”). This is transposed in Ireland primarily by the *European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011)* (hereafter the Birds and Habitats Regulations) and the Planning and Development (Amendment) Act, 2010 as amended.

An AA is required if likely significant effects on European sites arising from a proposed development cannot be ruled out at the screening stage, either alone or in combination with other plans or projects.

Following the preparation of this report it may be objectively concluded that there is no likelihood of any significant effects on any European sites arising from the proposed development, either alone or in combination with other plans or projects. Therefore, it is our view that an Appropriate Assessment is not required in this instance. The information in the tables below provide a summary of the information gathered for this screening exercise and the conclusions made.

2 Methodology

This report was prepared with regard to the following guidance documents, where relevant:

- *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities*. (Department of Environment, Heritage and Local Government, 2010 revision).
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities*. Circular NPW 1/10 & PSSP 2/10.
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission Environment Directorate-General, 2001); hereafter referred to as the EC Article 6 Guidance Document. The guidance within this document provides a non-mandatory methodology for carrying out assessments required under Article 6(3) and (4) of the Habitats Directive.
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC* (EC Environment Directorate-General, 2000a); hereafter referred to as MN2000.
- *Guidance Document on Article 6(4) of the 'Habitats Directive' 92/43/EEC. Clarification of the Concepts of Alternative Solutions, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence*. Opinion of the European Commission (European Commission, January 2007).

¹ Natura 2000 sites are defined under the Habitats Directive (Article 3) as a European ecological network of special areas of conservation composed of sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II of the Habitats Directive and Annex I of the Birds Directive. The aim of the network is to aid the long-term survival of Europe's most valuable and threatened species and habitats. In Ireland these sites are designed as *European sites* - defined under the Planning Acts and/or Birds and Habitats Regulations as (a) a candidate site of Community importance, (b) a site of Community importance, (c) a candidate special area of conservation, (d) a special area of conservation, (e) a candidate special protection area, or (f) a special protection area. They are commonly referred to in Ireland as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

- *Guidelines for Good Practice Appropriate Assessment of Plans under Article 6(3) Habitats Directive*. Findings of an international workshop on Appropriate Assessment in Oxford, December 2009.
- *Communication from the Commission on the precautionary principle*. European Commission (2000b).

The above referenced guidance sets out a staged process for carrying out Appropriate Assessment. To determine if Appropriate Assessment is required, documented screening is required. Screening identifies the likely effects on European sites, if any, which would arise from a proposed plan or project, either alone or in combination with other plans and projects, and further considers whether these effects are likely to adversely affect the integrity of any European sites.

If the conclusions at the end of screening are that there is no likelihood of significant effects occurring on any European sites, as a result of the proposed plan or project, either alone or in combination with other plans and projects, then there would be no requirement to undertake Appropriate Assessment.

However, even if screening makes a finding of no significant effects, and therefore concludes that Appropriate Assessment is not required, these findings must be clearly documented in order to provide transparency of decision-making, and to ensure the application of the 'precautionary principle'².

Screening for Appropriate Assessment involves the following:

- Determining whether a project or plan is directly connected with or necessary to the conservation management of any European sites³;
- Describing the details of the project/plan proposals and other plans or projects that may cumulatively affect any European sites (see Table 1);
- Describing the characteristics of relevant European sites (Table 2); and
- Assessing the likelihood and significance of effects on relevant European sites (see Table 2).

The screening exercise was based on a desktop study carried out on the 16th January 2017, as well as a site visit completed on the 26th September 2016. Information relied upon included the following information sources, which included maps, ecological and water quality data:

- Ordnance Survey of Ireland mapping and aerial photography available from www.osi.ie;
- Online data available on European sites as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie;
- Information on land-use zoning from the online mapping of the Department of the Environment, Community and Local Government <http://www.myplan.ie/en/index.html>;
- Information on water quality in the area available from www.epa.ie;
- Information on the Eastern River Basin District from www.wfdireland.ie;
- Information on soils, geology and hydrogeology in the area available from www.gsi.ie;
- Information on the status of EU protected habitats in Ireland (National Parks & Wildlife Service, 2013a & 2013b);
- Information on the conservation status of birds in Ireland (Colhoun & Cummins, 2014).

² One of the primary foundations of the precautionary principle, and globally accepted definitions, results from the work of the Rio Declaration. Principle #15 declaration notes:

"In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

³ In this instance the proposed development is not directly connected with or necessary to the conservation management of any European sites.

The following planning and policy documents were relevant to the subject lands, in particular with regard to the assessment of other plans and projects with potential for cumulative effects:

- *National Biodiversity Plan 2011 – 2016 (Department of Arts, Heritage and the Gaeltacht, 2011);*
- *Meath Development Plan 2013-2019 (Meath County Council, 2013);*
- *Draft Meath Heritage Plan 2015-2020 (Meath County Council, 2015);*
- *Draft Meath Biodiversity Plan 2015-2020 (Meath County Council, 2015);* and;
- *Eastern River Basin District, River Basin Management Plan 2009-2015.*

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Table 1 Overview of the Proposed Development and its Receiving Environment

<p>Brief Site Description</p>	<p>The proposed development site is located at an existing inactive bedrock quarry in Kilmessan, Co. Meath (Grid Ref: 689895, 756969). The floor of the quarry has a ground elevation of between c. 72.5 and 73.7 Ordnance Datum (OD). The quarry has not been active since 2012. It is generally comprised of spoil and bare ground, recolonising bare ground, exposed rock, areas of hardstanding, dry meadows and grassy verges and artificial ponds. Calcareous groundwater-fed springs were identified within the proposed development site on lands located on top of the cliff-faces within the northern section of the site. The site's environs are agricultural in nature with small residential dwellings scattered along minor roads nearby. The village of Kilmessan is located c. 715m to the west of the site.</p>
<p>Features of the Surrounding Environment</p>	<p>The desktop study found no known records of any species for which European Sites (listed in Table 2) are designated, within or immediately adjacent to the proposed development site. The nearest record⁴ for species (within 2km of the proposed development site) for which European Sites (listed in Table 2) are designated was Otter <i>Lutra lutra</i>, recorded c. 1.4km west of the proposed development site on the Skane River in 1980.</p> <p>The proposed development site is located within the Boyne River catchment. According to the EPA Map Viewer, the Balreask stream flows directly adjacent to the northern boundary of the site for c. 1.6km until it reaches the Skane river. During the site visit, this stream was also noted along the northern section of the eastern boundary of the proposed development site. Another unnamed stream that flowed into the Balreask stream was noted along the western boundary of the proposed development site. High earthen berms are located between the Balreask stream and unnamed stream to the west and the existing quarry void. From the confluence of the Balreask stream and the Skane river, the Skane river flows for c. 6.5km until it reaches the River Boyne in Dowdstown. At present, the quarry void is being continuously dewatered by two existing sumps of surface water and groundwater, under a 'licence to discharge trade effluent to waters' (Register D/L 13/07, Meath County Council). A condition of this licence is the monthly monitoring of water quality and volume from the quarry at the discharge point and the monitoring of local surface water quality upstream and downstream of the quarry. This monitoring will continue during the backfilling phase and for a period of two years thereafter. The total flow of the Balreask Stream is predominantly made up of the water discharge from the quarry (Hydro-Environmental, 2016). Based on data collected as part of a previous planning application (Planning Permission Reference No. TA/8027131, Meath County Council), the Balreask stream is ephemeral and only flows in response to rainfall.</p> <p>According to this monitoring data, Total Suspended Solids (TSS) and Biochemical Oxygen Demand (BOD) recorded at the discharge point are both significantly below the Freshwater Fish Directive (2006/44/EC) for both Salmonid and Cyprinid waters (i.e. 11.8mg/L TSS on average from 2001–2013 and 1.37mg/L on average from 2001 to 2006). According to the EPA Map Viewer, the water quality of the Skane river is described as 'Poor', as recorded at both the bridge north-east of Balgeeth monitoring station (located c. 2.3km downstream of the Balreask stream and Skane river confluence) and the Athronan Bridge (located c. 4.6km upstream of the Balreask stream and Skane river confluence). The groundwater body area, in which the proposed development site is located, is classified as 'Trim' and is described as 'Productive fissured bedrock'.</p> <p>According to GSI Map Viewer, the level of vulnerability to groundwater contamination from human activities across the site ranges from 'X –</p>

⁴ Records with associated dates were taken from the NBDC Map Viewer on the 17th January 2017.

Table 1 Overview of the Proposed Development and its Receiving Environment

	<p><i>Rock at or near surface or Karst</i>’ in the western section to <i>‘Extreme’</i> in the eastern section. This rating of <i>‘Extreme’</i> for groundwater vulnerability is applicable as the quarry void is absent of soils and subsoils as a result of rock extraction (Hydro-Environmental, 2016). It is also described as a <i>‘Locally Important Aquifer – Bedrock which is generally moderately productive’</i>. The bedrock of the area is classified as <i>‘Dark micrite & calcarenite, shale’</i>. The proposed development site is considered to be hydrogeologically disconnected from all European sites, due to the substantial distance between the two (Hydro-Environmental, 2016) i.e. c. 5.4km.</p>
<p>Description of the Proposed Development</p>	<p>The proposed development comprises of backfilling c. 51.44ha of the current quarry void with inert soil and stone (EU Waste Class 17 05 04⁵) under a Waste License, which will be applied for from the Environmental Protection Agency. The backfilling will be undertaken at a rate of c. 400,000 tonnes per annum over a 14 year period and a total of c. 5.6 million tonnes of inert soil and stone will be imported to the site over that period. A small quantity of concrete/bricks/tiles and ceramics/mixed construction & demolition material will also be accepted to be used to construct internal roads to facilitate the placing of the soil and stones. A small quantity of concrete (EWC Code 17 01 01⁶) will also be used to construct internal roads into the proposed community park <i>‘The Skane Valley Amenity Park’</i>, which will be located in the south-western section of the proposed site. Temporary haul roads entering the existing quarry will also be constructed with materials categorised as EWC Code 17 01 01, 17 01 02, 17 01 03 and 17 01 07⁷). The proposed park will be for local amenity use and will include a playground, a playing pitch, other green areas, vehicular entrance, paved car parks and paved walk ways throughout. In the event where a properly constituted body does not come forward to take ownership of the park prior to construction, within a predefined period, the area will remain undeveloped and will be reclaimed to an agricultural after-use in keeping with the balance of the reclaimed quarry.</p> <p>The quarry void is currently being continuously dewatered by two existing sumps of surface water and groundwater, which are then discharged into the Balreask Stream under a <i>‘licence to discharge trade effluent to waters’</i> (Register D/L 13/07, Meath County Council). As part of the proposed development, these sumps will be upgraded and all existing quarry floor drains that feed into the sumps will be blocked in order to ensure that during the backfilling process only groundwater will enter the sumps. Surface water drains will be constructed to divert stormwater into a series of constructed settlement ponds for removal of suspended sediments. Settlement ponds will be constructed from low permeability imported soils. As the backfilling operations raise the ground in the quarry void, new settlement ponds will be constructed. Treated surface water from the settlement ponds will be pumped to the existing final settlement pond, oil interceptor and v-notch weir before discharging via the outflow channel. It will then be discharged to the Balreask Stream. (Hydro-Environmental Services, 2016). Once the backfilling is completed, the groundwater level will be allowed to recover to its natural level. It is estimated that the final fill level will be at least c. 8-10m above the recovered groundwater level (Hydro-Environmental Services, 2016)</p>

⁵ Defined as *‘soil and stones other than those mentioned in 17 05 03’*, i.e. which are *‘soil and stones containing hazardous substances’* (EPA, 2015). The definition of inert waste from Article 2 of the Landfill Directive is as follows: *‘waste that it does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater’*. Therefore, no harmful/toxic contaminants are expected to be present.

⁶ Defined as *‘concrete’* (EPA, 2015).

⁷ Defined as *‘17 01 02 bricks, 17 01 03 tiles and ceramics and 17 01 07 mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06’* (EPA, 2015)

Table 1 Overview of the Proposed Development and its Receiving Environment

	<p>There is an existing wastewater treatment system located at the proposed development site, which treats foul effluent arising from the site office via a secondary treatment system and percolation area and then discharges it to groundwater. The predicted hydraulic loading (i.e. 0.3m³/day) during the construction phase and proposed treatment will ensure that there are no potential impacts on groundwater or surface water quality arising from foul effluent (Hydro-Environmental Services, 2016).</p> <p>Once the backfilling process has been completed, the area will be seeded for the establishment of a grassland. This will be completed as soon as possible in order to avoid erosion.</p> <p>As part of the proposed monitoring plan, the existing network of wells at the proposed development site will be monitored quarterly for groundwater levels and quality to demonstrate that any proposed future backfilling is not impacting on local groundwater quality. It is proposed that the current monitoring of surface water will be continued during the backfilling phase and for a period of two years hereafter.</p>
<p>Defining the Zone of Influence of the Proposed Development</p>	<p>The Zone of Influence (Zoi) is a distance within which the proposed works could potentially affect the conservation condition of QI habitats or species. There is no set recommended distance for which European sites are considered as being relevant (i.e. within the Zoi of proposed works) for AA. Available guidance (NPWS, 2010) recommends that ‘the distance should be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects’.</p> <p>As a general rule of thumb, it is often considered appropriate to examine all European sites within 15km as a starting point. In some instances, where there are far reaching hydrological/hydrogeological connections, a whole river catchment or a groundwater aquifer may need to be included in determining the Zoi. All European sites within 15km of the proposed works are listed in Table 2 below and shown on Figure 1. In this case the distance of 15km exceeds the potential zone of influence of the proposed works and any likelihood of significant effects in relation to European Sites beyond 15km can be ruled out.</p>
<p>Other existing or proposed plans or projects nearby which may lead to cumulative effects on European sites.</p>	<p>Existing habitat loss pressures</p> <p>The subject lands do not physically overlap with any European sites. The terrestrial habitats within the development boundary are dominated by spoil and bare ground, recolonising bare ground, exposed sand and gravel, areas of hardstanding, dry meadows and grassy verges and artificial ponds, none of which are habitats listed under Annex 1 of the Habitats Directive. Therefore no indirect impacts and no cumulative impacts arising as a result of direct habitat loss or disturbance.</p> <p>Existing pressures on water quality within European sites in proximity to the site</p> <p>Some of the habitats for which the River Boyne and River Blackwater SAC [002299] is designated are failing to meet favourable conservation status. For some of these, diffuse surface water pollution from agricultural and forestry activities, household sewage and waste waters and diffuse groundwater pollution from agricultural and forestry activities are considered to be a threat ranked as being of ‘high importance’ to ‘medium importance’⁸ (NPWS, 2013a).</p> <p><i>Pressures on the River Boyne and River Blackwater SAC [002299] and SPA [004232] from groundwater</i></p>

⁸ For example, ‘Alkaline fens’ was of “bad” conservation status (NPWS, 2013a). This habitat was threatened by water pollution and is one of the Qualifying Interest of the River Boyne and Blackwater SAC.

Table 1 Overview of the Proposed Development and its Receiving Environment

	<p>There is no potential for the proposed development site to be hydrogeologically connected to the groundwater dependent habitat Alkaline Fens [7230], which is a Qualifying Interest of the River Boyne and River Blackwater SAC (002299), as the proposed development site and the area where these Alkaline Fens associated with the SAC are located are within separate groundwater bodies. According to the Site Synopsis for the River Boyne and River Blackwater SAC (002299) (NPWS, 2014), the main areas of the Annex I habitat Alkaline Fens [7230] are located in the vicinity of Lough Shesk, Freehan Lough and Newtown Lough. These three lakes are located in a different groundwater body to that of the proposed development site and as such are not hydrogeologically connected to the proposed development body (i.e. Athboy in the case of Lough Shesk and Freehan Lough and GWSTE Newtown Lough Fen SAC 002299).</p> <p>The proposed backfilling will not affect the chemical or quantitative status of the groundwater body. It is anticipated that the groundwater vulnerability rating for the existing quarry footprint will improve after the infill, as it will provide additional aquifer protection at the site in the long term. The agricultural after-use will have no significant impacts on groundwater (Hydro-Environmental, 2016).</p> <p><i>Pressures on the River Boyne and River Blackwater SAC [002299] and SPA [004232] from surface water</i></p> <p>There is potential for 'in-combination' effects to arise from proposed plans and projects within the <i>Meath County Development Plan 2013-2019</i> and other county level land use plans which can influence conditions in the River Boyne via rivers and other surface water features. The pollutant content of future surface water discharges in the River Boyne is considered likely to decrease in the long-term. This is because it is an objective of the <i>Meath County Development Plan 2013-2019</i> that all new developments will be required to minimise surface water discharges through Sustainable Urban Drainage Systems, ensuring that all surface water generated from new developments will be either disposed of on-site or attenuated and treated prior to discharge to an approved surface water system. This objective is considered likely to reduce pressures on designated species and habitats in the Meath.</p> <p>The last blast at the quarry took place in 2011 and there will be no further use of explosives at the proposed development site and as such the potential for future impacts on surface waters from introduced ammonium nitrate explosives and residual ammonium nitrate residue in water will be negligible (Hydro-Environmental Services, 2016).</p> <p>During the excavation and backfilling phase of the proposed development, there is a potential risk of the accidental discharge of suspended solids and/or potential pollutants from a hydrocarbon/chemical spillage to local surface waters and groundwater resulting in a deterioration of surface water quality (groundwater at the quarry will be dewatered and discharged to the Balreask stream during the infilling process). Surface water runoff from the quarry floor will pass through a series of settlement ponds prior to discharge to the Balreask to ensure that there is no impact on the water quality of the Balreask stream as a consequence of suspended solids. The following measures will be strictly adhered onsite in order to reduce the likelihood of an accidental pollution event at the site occurring (Hydro-Environmental, 2016):</p> <ul style="list-style-type: none"> ▪ Sourcing material that is proven to be inert prior to transport to the Tullykane site; ▪ Pre-agreed source sites for inert material ensuring; no pollutants, unauthorised material, invasive species. ▪ The site will operated under an Environmental Management System
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Table 1 Overview of the Proposed Development and its Receiving Environment

- All required pollution prevention measures will be implemented at the site.
- The operator will prepare and implement an Emergency response procedure.
- The operator will complete environmental monitoring, including local groundwater and surface water monitoring.
- A phased restoration of the site will be implemented, and end with the closure of site.
- The operator will have a documented waste recording procedure for all material entering the site.
- No unauthorised dumping of waste will be allowed at the site.

In consideration of: these measures; the terrestrial land buffer (i.e. c. 5.4km) that exists between the proposed development site and the River Boyne; and, the potential for dilution in the drainage network, it is not anticipated that any unlikely pollution event would be of such a magnitude that could have significant adverse effects on the Qualifying Interest/Special Conservation Interests of the European sites. There is therefore no potential for cumulative impacts. It is considered that the hydromorphological condition of the Balreask stream will improve from its current state as the stream continuity will be established. An improvement in the hydromorphological condition of this stream will also improve conditions downstream of the River Skane (Hydro-Environmental, 2016).

Conclusion for potential in-combination effects from groundwater and surface waters

It is our professional opinion that there will be no likelihood of significant effects on any European sites during the construction or operation of the proposed development, in combination with other plans or projects. This judgement was reached on the basis that:

- It is an objective of the *Meath County Development Plan 2013-2019* that all new developments within County Meath will include the use of Sustainable Urban Drainage Systems to minimise surface water discharges and that surface water runoff is adequately treated prior to discharge to the existing local drainage network;
- According to the Site Synopsis for the River Boyne and River Blackwater SAC (002299) (NPWS, 2014), the main areas of the Annex I habitat Alkaline Fens [7230] are located in the vicinity of Lough Shesk, Freehan Lough and Newtown Lough. These three lakes are located in a different groundwater to that of the proposed development site and as such are not hydrogeologically connected to the proposed development body (i.e. Athboy in the case of Lough Shesk and Freehan Lough and GWSTE Newtown Lough Fen SAC 002299).
- Any unlikely pollution event during construction would not be of such a magnitude that it could have significant adverse effects on the Qualifying Interest/Special Conservation Interests of the European sites; and,
- The significant distance of the proposed development site from the European site and significant dilution and mixing within the receiving waters.

European sites within 1km, 5km and 15km of the proposed development site are shown in Figure 1 overleaf.

Table 2 Analysis of European sites within 15km.

Site name and code	Distance from Proposed Development (approximate)	Reasons for designation ⁹ (*= Priority Habitat) (Sourced from NPWS online Conservation Objectives Generic Version 5.0 for SACs and 4.0 for SPAs, unless otherwise stated).	Relevant source-pathway-receptor links between proposed development and European site? No sites are "Relevant" to the Proposed Development. (European sites are "Relevant" where a relevant source-pathway-receptor link ¹⁰ exists).
Special Areas of Conservation (SACs)			
River Boyne and River Blackwater SAC (002299)	Located c. 5.4km north-west of the proposed development site	<p>Conservation Objectives Generic Version 5.0 (15/08/16)</p> <p>Annex I Habitats:</p> <ul style="list-style-type: none"> • Alkaline Fens [7230] • Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae) [91E0] <p>Annex II Species:</p> <ul style="list-style-type: none"> • Otter <i>Lutra lutra</i> [1355] • Salmon <i>Salmo salar</i> [1106] • River Lamprey <i>Lampetra fluviatilis</i> [1099] 	<p>According to the Site Synopsis for the River Boyne and River Blackwater SAC (002299) (NPWS, 2014), the main areas of the Annex I habitat Alkaline Fens [7230] (a habitat dependent on groundwater) are located in the vicinity of Lough Shesk, Freehan Lough and Newtown Lough. These three lakes are located in a different groundwater body to that of the proposed development site and as such are not hydrogeologically connected to the proposed development body (i.e. Athboy in the case of Lough Shesk and Freehan Lough and GWSTE Newtown Lough Fen SAC 002299). Therefore no significant effects are predicted as there is no potential impact pathway via groundwater present connecting the proposed development site to the European site.</p> <p>Whilst there are possible linkages between the proposed development site and the European site</p>

⁹ "Qualifying Interests" for SACs and "Special Conservation Interests" for SPAs based on relevant Statutory Instruments for each SPA, and NPWS Conservation Objectives for SACs downloaded from www.npws.ie in February 2015.

¹⁰ For significant effects to arise, there must be a risk enabled by having a 'source' (e.g. construction works at a proposed development site), a 'receptor' (e.g. a SAC), and a pathway between the source and the receptor (e.g. a watercourse connecting a proposed development site to a SAC). The identification of a pathway does not automatically mean significant effects will arise. The likelihood for significant effects will depend upon the characteristics of the source (e.g. duration of construction works), the characteristics of the pathway (e.g. water quality status of watercourse receiving run-off from construction) and the characteristics of the receptor (e.g. the ecology including conservation status of the SAC reason for designation). When expert judgment determines, that significant effects are likely to arise, both the pathway, and the European site are considered "Relevant", and an Appropriate Assessment is triggered.

Table 2 Analysis of European sites within 15km.

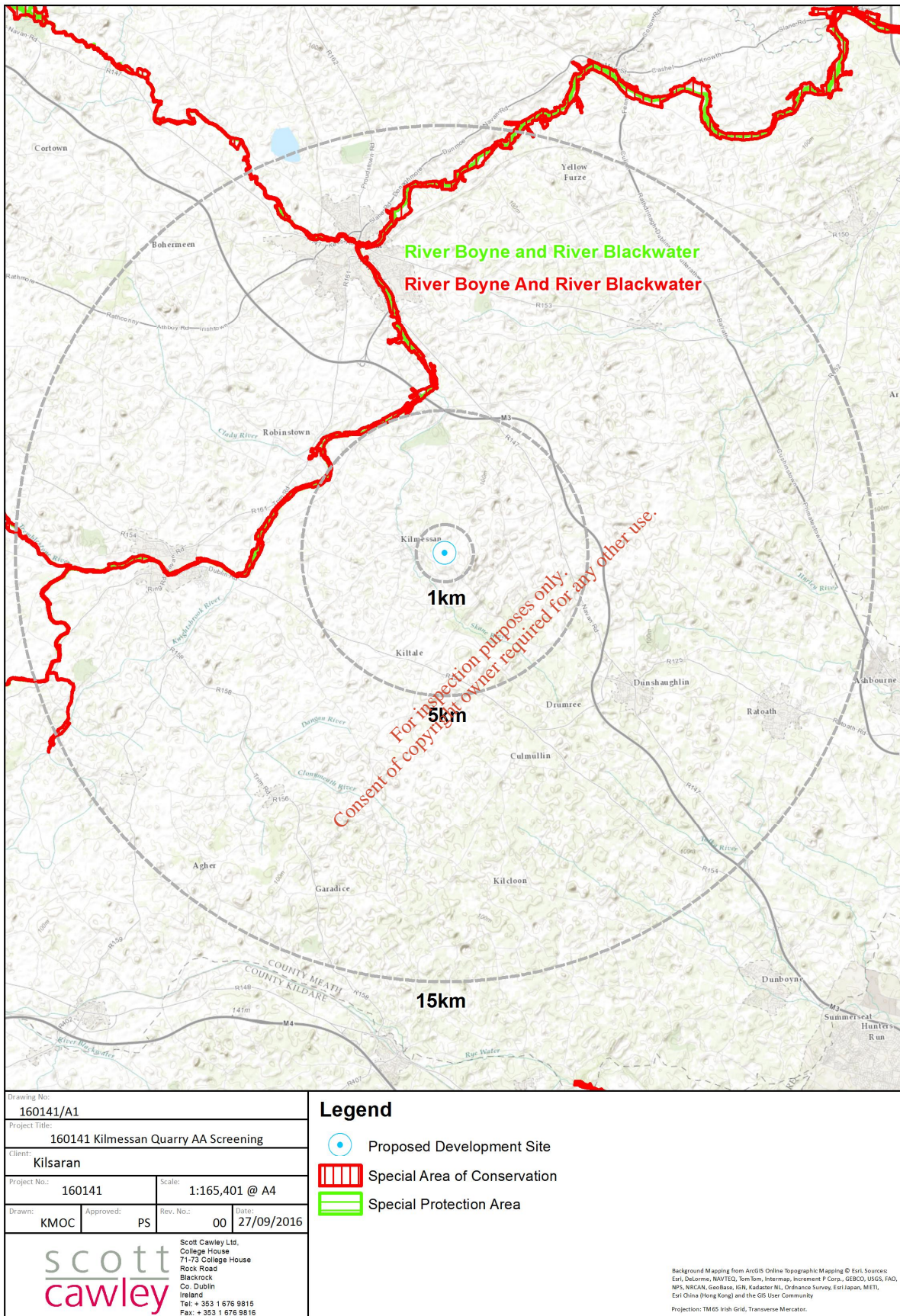
		<p style="color: red; text-align: center; transform: rotate(-45deg); font-size: 12px;">For inspection purposes only. Consent of copyright owner required for any other use.</p>	<p>via surface water, no significant effects are predicted.</p> <p>It is our professional opinion that there will be no likelihood of significant effects on any European sites during the construction or operation of the proposed development, in combination with other plans or projects. This judgement was reached on the basis that:</p> <ul style="list-style-type: none"> ▪ It is an objective of the <i>Meath County Development Plan 2013-2019</i> that all new developments within County Meath will include the use of Sustainable Urban Drainage Systems to minimise surface water discharges and that surface water runoff is adequately treated prior to discharge to the existing local drainage network; ▪ According to the Site Synopsis for the River Boyne and River Blackwater SAC (002299) (NPWS, 2014), the main areas of the Annex I habitat Alkaline Fens [7230] are located in the vicinity of Lough Shesk, Freehan Lough and Newtown Lough. These three lakes are located in a different groundwater to that of the proposed development site and as such are not hydrogeologically connected to the proposed development body (i.e. Athboy in the case of Lough Shesk and Freehan Lough and GWSTE Newtown Lough Fen SAC 002299). ▪ Any unlikely pollution event during construction would not be of such a magnitude that it could have significant adverse effects on the Qualifying Interest/Special Conservation Interests of the European sites. This is due to
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Table 2 Analysis of European sites within 15km.

			<p>specific measures outlined in Table 1 above; and,</p> <ul style="list-style-type: none"> ▪ The significant distance of the proposed development site from the European site and significant dilution and mixing within the receiving waters.
Special Protection Areas (SPAs)			
River Boyne and River Blackwater SPA (004232)	Located c. 5.4km north-west of the proposed development site	<p>Conservation Objectives Generic Version 5.0 (15/08/16)</p> <ul style="list-style-type: none"> • Kingfisher <i>Alcedo atthis</i> [A229] 	<p>No, for the same reasons set out above for River Boyne and River Blackwater SAC (002299).</p> <p>There is no risk of significant disturbance related impacts to Special Conservation Interest bird species given generally unsuitable habitat located within the majority of the site for Kingfisher and the significant distance between the proposed development and the European site. Kingfisher typically breeds in small to moderately sized fish-rich slow-flowing rivers with some trees and suitable nesting banks, occasionally lakes also estuaries and coasts in winter (Svensson et al., 2009).</p>

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Figure 1. All European sites within 15km of the site



3 Conclusions of the Screening Assessment

Following an examination, analysis and evaluation of the relevant information, including in particular, the nature of the proposed works and their potential relationship with European sites, as well as considering other plans and projects, and applying the precautionary principle, it is the professional opinion of the authors of this report that it is possible to rule out likely significant effects on all European sites. This judgement has been reached for the reasons outlined below.

The AA screening process has identified two European Sites that lie within the potential zone of influence of surface water discharges from the proposed development. However for the reasons outlined below no European Sites are deemed to be at risk of likely significant effects from construction or operation of the proposed development.

No significant adverse effects are predicted due to the following:

- According to the Site Synopsis for the River Boyne and River Blackwater SAC (002299) (NPWS, 2014), the main areas of the Annex I habitat Alkaline Fens [7230] are located in the vicinity of Lough Shesk, Freehan Lough and Newtown Lough. These three lakes are located in a different groundwater to that of the proposed development site and as such are not hydrogeologically connected to the proposed development body (i.e. Athboy in the case of Lough Shesk and Freehan Lough and GWSTE Newtown Lough Fen SAC 002299).
- Any unlikely pollution event during backfilling would not be of such a magnitude that it could have significant adverse effects on the Qualifying Interest/Special Conservation Interests of the European sites. This is due to specific measures outlined in Table 1 above; and,
- The significant distance of the proposed development site from the European site and significant dilution and mixing within the receiving waters.

For these reasons, it is the professional opinion of the authors of this report that the application for planning permission for the proposed development does not require an Appropriate Assessment.

However, the authors of this report acknowledge that it is for Meath County Council, as the competent authority, to carry out a screening for AA and to reach one of the following determinations:

- a) AA of the proposed development is required if it cannot be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a significant effect on any European sites;
- b) AA of the proposed development is not required if it can be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a significant effect on any European sites.

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