



**PROVISION OF INFORMATION REGARDING APPROPRIATE ASSESSMENT SCREENING FOR
PROPOSED BURIAL GROUND AT BOHER, BALLINA, CO. TIPPERARY**

**PREPARED FOR
TIPPERARY COUNTY COUNCIL**

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1 Introduction

The information in this report forms part of, and should be read in conjunction with the documentation accompanying the application for permission for the development of a proposed burial ground at Boher, Ballina, Co. Tipperary.

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

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.

It is the responsibility of the competent authority to make a decision as to whether or not the proposed development is likely to have significant effects on European Sites, either individually or in combination with other plans or projects.

Following the preparation of this screening statement it may be objectively concluded that there is no possibility of 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 Screening Statement for Appropriate Assessment 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, updated April 2015); hereafter referred to as MN2000.

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. 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 candidate Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

- *Communication from the Commission on the precautionary principle*. European Commission (2000).

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.

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 likely 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 information that was collected to allow the competent authority to screen the proposal was based on a desktop study. 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 Housing, Planning, 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 soils, geology and hydrogeology in the area available from www.gsi.ie;
- Information on the location, nature and design of the proposed development supplied by the applicant's design team;
- Information on the status of EU protected habitats and species in Ireland (National Parks & Wildlife Service, 2013a & 2013b); and,
- Information on the conservation status of birds in Ireland (Colhoun & Cummins, 2014).

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 Action Plan 2017-2021 (Department of Culture, Heritage and the Gaeltacht, 2017)*;

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.

- *North Tipperary County Development Plan 2010-2016 (Tipperary County Council, 2015);*
- *River Basin Management Plan for Ireland 2018-2021 (Government of Ireland, 2018).*

3 Screening for Appropriate Assessment

Table 1 Overview of the Proposed Development and its Receiving Environment	
Brief Site Description	The proposed development site is located along the Boher Road, Boher, Ballina, Co. Tipperary (Irish Grid Reference: R75223 72286) and covers an area of approximately one hectare. The site is bounded by Boher National School to the east, Boher Parish Hall/ Boher Community Centre to the west, Boher Road to the north and agricultural lands to the south. Boher Church lies c.270m south-west of the subject lands and a small parking area is also present outside Boher National School. Based on a review of aerial photography, the subject lands appear to be composed of agricultural grassland with boundary hedgerows. At the time of writing no land use zoning information pertaining to the proposed development site was available.
Features of the Surrounding Environment	<p>The desktop study found no records of any species or habitats for which European sites listed in Table 2 are designated within the subject lands or environs. The only record (for species for which European sites listed in Table 2 were designated) within 2km of the proposed development site is an old record for Otter (<i>Lutra lutra</i>) located c. 2.2km to the north of the proposed development site which dates back to 1980⁴.</p> <p>The proposed development site is located within the Lower Shannon catchment and the Shannon (Lower) sub-catchment. According to the EPA Envision Map Viewer, the nearest watercourse is the Roran Stream which lies c. 200m to the south-west of the site. The Knockadromin Stream is also located close by and runs c. 230m to the north-west. Both streams flow into the Knockadromin River which in turn flows into the Kilmastulla River. This river is a tributary of the River Shannon (lower) and converges with the Shannon to the north-west of Birdhill, Co. Tipperary. There is no information currently available regarding the water quality of the Roran Stream, Knockadromin Stream or Knockadromin River. The Kilmastulla river is deemed to be of 'Good Status (Q4)' at the EPA's designated monitoring station at 'Cool Bridge' c. 5.5km downstream of the proposed development site. According to the EPA Envision Map Viewer, the waters of the River Shannon (Lower) are of 'Moderate (Q3-4)' water quality at the 'Castleconnel: World's End' monitoring station.</p> <p>The proposed development site lies above the 'Nenagh' groundwater body. This groundwater body is described as 'poorly productive bedrock' and its likelihood of meeting its targets as set under the Water Framework Directive (WFD) is currently under 'review'. The level of vulnerability to groundwater contamination from human activities is considered to be 'Moderate'. This groundwater body also described as a 'Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones'. According to the GSI's online Spatial Resources Mapviewer, the bedrock of the area is classified as 'Old Red Sandstone' and is described as a 'red conglomerate, sandstone and mudstone'.</p>
Description of the Proposed Development	<p>Full details of the proposed development are contained in the planning application. In brief, the proposed development will involve:</p> <ul style="list-style-type: none"> The development of a burial ground occupying a single field along the Boher Road. The proposed burial ground layout will accommodate 374 double burial plots, meaning that the burial capacity of the proposed burial ground is 748 burials plus 26 urn plots. This is below the maximum feasible burial plot layout for the site, described in the 'Tier 3 Hydrogeological Assessment of the proposed Boher Burial Ground, Ballina, Co. Tipperary' prepared by Peter Conroy (2016);

⁴ According to NBDC online data www.biodiversityireland.ie. This excludes NBDC records with a resolution greater than 1km².

Table 1 Overview of the Proposed Development and its Receiving Environment

- Plots will be surfaced with grass with a narrow plinth for headstones at the head of each row of plots, and with grassed access footpaths. This is in line with Tipperary County Council policy for burial grounds;
- Maximum burial depths are expected to be 2.4mbgl in the upper portion of the site and limited to 1.8mbgl in the last three rows. This is in line with updated Tipperary County Council Burial Ground Bye-Laws. It should be noted that these depths allow a minimum unsaturated zone thickness of 1m beneath all burials to be provided;
- The burial pattern will follow a ratio of 1:1, southern end: northern end, which is in line with updated Tipperary County Council Burial Ground Bye-Laws;
- The burial rate will not exceed 25 burials per year. The Boher site is envisaged as a replacement for the existing Ballina burial ground. Data from Tipperary County Council show that between 2008 and 2012 the burial rate at the Ballina Burial Ground site was 12 per annum;
- The proposal also includes for the construction of a car park with c. 48 no. spaces (incl. 6 no. Disabled Parking spaces), set down area, access road including hearse turning area, footpath link to neighbouring school, reflective garden with seating and planting, installation of lighting (in line with Tipperary County Council Roads Department requirements) and boundary treatments. It should be noted that the proposed car park will also cater for the adjoining community centre which lies to the west of the proposed burial grounds site.

All surface water runoff from roof areas, access roads and car parking areas shall be collected by a traditional gravity pipe network before discharging to the existing drain to the south of the site. All proposed road gullies to be constructed will have silt traps, and bypass fuel interceptors will be provided to minimise pollutants entering the existing drain.. This drain ultimately discharges to the Roran stream to the south-west. The bypass fuel interceptor will prevent potentially contaminating substances such as hydrocarbons etc. from entering the downstream environment.

As the proposed development will result in an increase in the impermeable area, it is proposed to limit surface water run-off to greenfield run-off rates. This is to be achieved by using an attenuation tank to limit flows from the newly constructed area. The attenuation tank will have a Hydro-Brake downstream to limit forward flow to the greenfield run-off rate of 1.38 l/s. The attenuation tank will be 28.4 m³ and designed for a 1:30 year rainfall event and checked for flooding for a 1:100-year rainfall event.

The proposal also includes for the provision of a disabled toilet (for public use) and wash-up/wc facilities for burial ground operatives. Therefore, a wastewater treatment system and percolation area (Sequential Batch Reactor with built-in pump to sand filter, Phosbox (to remove phosphorus) and stone infiltration pad) is also proposed as part of the development and this will be located to the south of the site. The wastewater treatment system will have a design capacity of 4-8 P.E. and the polishing filter will be 30 sq. m in area. In addition, the proposed wastewater treatment system is compliant with the standards set out in the EPA's *Code of Practice Wastewater Treatment and Disposal Systems Serving Single Houses (P.E. ≤10)* (2009). A maintenance contract will be put in place with the systems manufacturer so as to ensure the continual servicing of the plant on an annual basis (or as required). Please refer to Site Suitability Assessment report and Molloy Environmental Systems report for further details. Treated effluent will ultimately discharge to the Lower River Shannon via the Kilmastulla

Table 1 Overview of the Proposed Development and its Receiving Environment	
	<p>River. Given the high level of tertiary treatment afforded by the proposed wastewater treatment system and the instigation of an annual service maintenance contract, there will be no perceptible effects on groundwaters or surface waters in the vicinity of the site nor indeed to the designated Lower River Shannon SAC.</p> <p>It is expected that the development of the burial plots will take a phased approach, with the car park being the first item to be constructed. It is expected that the initial phase of the development will occur over a period of approximately 6 months.</p>
Defining the Zone of Influence of the Proposed Development	<p>The zone of influence 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>i.e.</i> within the zone of influence of proposed works) for AA. Available guidance (NPWS, 2010) recommends that <i>'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'</i>. 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 zone of influence. All European sites within 15km of the proposed works are listed in Table 2 below and shown on Figure 1.</p>
Potential pressures on European Sites as a result of the proposed development	<p>Pressures from loss of habitats, and direct loss of QI Species</p> <p>The subject lands do not physically overlap with any European Sites. They do not contain records of any habitats or species for which the European Sites within the vicinity of the proposed development have been designated. Based on an examination of aerial photography, the subject lands are composed of agricultural grasslands and boundary hedgerows which are not habitats listed under the Habitats Directive (1992). These habitats are not indirectly connected with any habitats within European Sites (<i>e.g.</i> by groundwater). There is therefore no potential for significant effects on European Sites resulting from loss of habitats, or direct loss of QI species during the proposed development.</p> <p>Pressures from Water Quality Changes</p> <p>Several habitats for which European sites within the vicinity of the proposed development are designated are failing to meet favourable conservation status. For some of these, water pollution is considered to be a threat ranked as being of <i>'high importance'</i> (NPWS, 2013a).</p> <p><i>Pressures on European sites from surface waters</i></p> <p>With regards to surface waters, there is not considered to be any potential for significant effects resulting from the proposed development alone on downstream European Sites. The nearest surface water feature to the site is the dug well (DW01) and the stream draining from it (Conroy, 2016). Modelling detailed in the hydrogeologist's report (Conroy, 2018) showed that the predicted contaminant concentrations (ammonia and phosphate) at the surface water receptor (DW01) remained below the relevant statutory environmental quality standards for the duration of each modelled scenario.</p> <p><i>Pressures on European sites from groundwaters</i></p>

Table 1 Overview of the Proposed Development and its Receiving Environment

	<p>The local groundwater network could provide a pathway for the movement of contaminating substances to sensitive receptors. The contaminants of concern in this case are formaldehyde, ammonia, nitrate, phosphorous, sulphate, chloride and sodium. As rainwater infiltrates through the ground surface, the infiltrating water encounters and dissolves the source contaminants within the burial plots. The infiltrating waters continue to travel vertically through the subsoil below the plots until it reaches the perched groundwater table. At this point the contaminated infiltrating waters collect in the saturated subsoil and begin to flow laterally (Conroy, 2016). However, there is not considered to be any potential for significant effects resulting from the proposed development alone on European Sites within the vicinity of the proposed development due to the following:</p> <ul style="list-style-type: none"> • Infiltration down to the bedrock aquifer beneath the site is considered to be negligible at this site. Therefore, the bedrock aquifer is not considered to be a relevant receptor (Conroy, 2016). • The relevant UK guidance requires that there should not be any burials beneath the watertable. By maintaining a minimum of 1m of unsaturated zone beneath the burials relevant to the maximum subsoil watertable levels at the site, this criterion can be complied with (Conroy, 2016). Therefore, maximum burial depths will not exceed 2.4mbgl in the upper portion of the site and will be limited to 1.8mbgl in the last three rows, allowing this guidance to be complied with. <p><i>Pressures on European sites from foul waters</i></p> <p>With regards to foul waters, there is not considered to be any potential for significant effects resulting from the proposed development alone on downstream European Sites. As detailed above in the proposed development description, the proposal includes for the provision of a limited number of wc facilities. A wastewater treatment system and percolation area (Sequential Batch Reactor with built-in pump to sand filter, Phosbox (to remove phosphorus) and stone infiltration pad) is therefore proposed as part of the development and this will be located to the south of the site. The wastewater treatment system will have a design capacity of 4-8 P.E. and the polishing filter will be 30 sq. m in area (Tipperary County Council., 2019). The proposed wastewater treatment system is compliant with the standards set out in the EPA's <i>Code of Practice Wastewater Treatment and Disposal Systems Serving Single Houses (P.E. ≤10)</i> (2009).</p> <p>A maintenance contract will be put in place with the systems manufacturer to ensure the continual servicing of the plant on an annual basis (or as required). Please refer to Site Suitability Assessment report and Molloy Environmental Systems report for further details. Treated effluent will ultimately discharge to the Lower River Shannon via the Kilmastulla River. Given the high level of tertiary treatment afforded by the proposed wastewater treatment system and ensured through the instigation of an annual service maintenance plan, there will not be any likely significant effects to groundwaters or surface waters in the vicinity of the site nor indeed to the designated Lower River Shannon SAC, which is the only European site located downstream of the proposed development (Tipperary County Council, 2019).</p>
<p>Other existing or proposed plans or projects nearby which may lead to</p>	<p>Cumulative Water Quality Pressures</p> <p><i>Potential Cumulative Impacts in relation to Surface Waters</i></p>

Table 1 Overview of the Proposed Development and its Receiving Environment

<p>cumulative effects on European Sites.</p>	<p>There is potential for ‘in-combination’ effects of proposed plans and projects within the <i>North Tipperary County Development Plan 2010, the South Tipperary County Development Plan 2009, Clare County Development Plan 2017-2023, Galway County Development Plan 2015-2021 and Offaly County Development Plan 2014-2020</i> and other land use plans which can influence conditions in the Lower River Shannon. The waters of the Lower River Shannon are considered to be of ‘Moderate (Q3-4)’ quality at the ‘Castleconnel: World’s End’ monitoring station. According to the North Tipperary County Development Plan 2010 (as varied), it is Council policy to ‘protect and improve the county’s water resources and support an integrated and collaborative approach to local catchment management in order to ensure the successful implementation of the River Basin Management Plans (or any review thereof)’. In addition, Policy LH8 states that ‘it is the policy of the Council to protect the ecological status and quality of watercourses...’ and Policy LH6 states that ‘it is the policy of the Council to ensure the protection, integrity and conservation of existing and candidate Natura 2000 sites and Annex I and II species listed in EU Directives...’ Finally, Policy T19 states that ‘it is the policy of the Council to require the implementation of Sustainable Drainage Systems (SuDS) as an integral part of the design of new developments to reduce the generation of storm water run-off, and to ensure that all storm water generated is disposed of on-site or is attenuated and treated prior to discharge to an approved storm water system’. Together these objectives are considered likely to reduce pressures on designated sites, such as the Lower River Shannon SAC.</p> <p>There are a small number of existing and proposed developments⁵ within the vicinity of this site which have the potential to produce ‘in-combination’ effects to water quality in the Lower River Shannon SAC. Most of these proposed developments are residential in nature and small in scale. However, the potential for cumulative pressures on surface waters is considered to be limited to short duration (approximately 6 months during the construction period) impacts resulting from construction activities which could result in elevated levels of hydrocarbons or silts entering the surface water network.</p> <p>In the unlikely event of a pollution event occurring during construction, this would not be of such a magnitude that would have a significant adverse effect on water quality in the Lower River Shannon SAC, or affect the Qualifying Interest/Special Conservation Interests of the European site, due to the potential for settlement and dilution in the local drainage network. There is therefore no potential for cumulative impacts as a result of additional surface water generation.</p> <p>Potential Cumulative Impacts in relation to Foul Waters</p> <p>There are a number of waste water treatment plants operating in the catchment of the Lower River Shannon which could influence conditions in the Lower River Shannon SAC. However, it should be noted that all WWTP’s operating in this catchment would be operating subject to licence from the EPA and subject to their own Appropriate Assessments. In addition, the North Tipperary County Development Plan 2010 (as varied), contains a number of policies regarding the safeguarding of the ecological status and quality of the County’s watercourses and Natura 2000 sites. In addition to these protective policies, the North Tipperary County Development Plan 2010 (as varied) also contains a prescriptive policy regarding the provision of on-site wastewater treatment systems which states that on-site treatment systems must “demonstrate compliance with the <i>Waste Water Treatment Manual: Treatment System for Small Communities, Business, Leisure Centres and Hotels, EPA, 1999 (or any amendment thereof)</i>”. Together these policies are considered likely to reduce pressures on designated sites, such as the Lower River Shannon</p>
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⁵ According to Tipperary County Council website <https://tipp.maps.arcgis.com/apps/webappviewer/index.html?id=460724c4b3de413cbb853111df588a>

Table 1 Overview of the Proposed Development and its Receiving Environment

SAC. In addition, the proposed wastewater treatment system is compliant with the standards set out in the EPA's *Code of Practice Wastewater Treatment and Disposal Systems Serving Single Houses (P.E. ≤10)* (2009) and as it has been concluded that the proposed development alone will not have any perceptible effects on European sites within the zone of influence, in-combination effects by means of foul waters can also be excluded.

Conclusion for potential in-combination effects from surface and/or foul 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:

- The waters of the Lower River Shannon are considered to be of 'Moderate (Q3-4)' quality at the 'Castleconnel: World's End' monitoring station;
- There are a number of over-arching protective policies contained within the North Tipperary County Development Plan 2010 which aim to protect the County's watercourses from pollution and excessive pressures;
- In the unlikely event of a pollution event during construction, this would not be of such a magnitude that it would have a significant effect on water quality in the Lower River Shannon SAC;
- The fact that the foul water facilities to be provided at the proposed development site are limited to a disabled toilet for public use and wash-up/wc facilities for burial ground operatives;
- The high level of tertiary treatment afforded by the proposed wastewater treatment system;
- The fact that a maintenance contract will be in place with the systems manufacturer to ensure the annual maintenance of the plant, meaning that the plant will continue to act as anticipated and process foul waters efficiently and to the degree expected;
- The fact that the proposed wastewater treatment system is compliant with the standards set out in the EPA's *Code of Practice Wastewater Treatment and Disposal Systems Serving Single Houses (P.E. ≤10)* (2009);
- The nearest surface water feature to the site is the dug well (DW01) and the stream draining from it (Conroy, 2016). Modelling detailed in the hydrogeologists report (Conroy, 2018) showed that the predicted contaminant concentrations (ammonia and phosphate) at the surface water receptor (DW01) remained below the relevant statutory environmental quality standards for the duration of each modelled scenario;
- Infiltration down to the bedrock aquifer beneath the site is considered to be negligible at this site. Therefore, the bedrock aquifer is not considered to be a relevant receptor (Conroy, 2016); and;
- The relevant UK guidance requires that there should not be any burials beneath the watertable. By maintaining a minimum of 1m of unsaturated zone beneath the burials relevant to the maximum subsoil watertable levels at the site, this criterion can be complied

Table 1 Overview of the Proposed Development and its Receiving Environment

	<p>with (Conroy, 2016). Therefore, maximum burial depths will not exceed 2.4mbgl in the upper portion of the site and will be limited to 1.8mbgl in the last three rows, allowing this guidance to be complied with.</p>
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European sites within the vicinity of the proposed development site are shown in Figure 1 overleaf.

Table 2 Analysis of European sites within Vicinity of the Proposed Development Site			
Site name and code	Distance from Proposed Development (approximate)	Reasons for designation⁶ (*= Priority Habitat) (Sourced from NPWS online Conservation Objectives Generic Version 3.0 for SACs and 4.0 for SPAs, unless otherwise stated).	Is there potential for Significant Effects on European sites?
Special Areas of Conservation			
Lower River Shannon SAC (002165)	Located c. 4.4km west of the proposed development site	<p>Conservation Objectives for Lower River Shannon SAC [002165] (07/08/2012)</p> <ul style="list-style-type: none"> • Sandbanks which are slightly covered by sea water all the time [1110] • Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • Coastal lagoons [1150] • Large shallow inlets and bays [1160] • Reefs [1170] • Perennial vegetation of stony banks [1220] • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] • Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] • Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260] • Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinia caerulea</i>) [6410] 	<p>No. Whilst there is a potential linkage between the proposed development and this European site, there is no possibility of significant effects due to the reasons outlined below:</p> <ol style="list-style-type: none"> 1. Surface waters generated during construction and operation could carry silt, oils or other chemicals into the local surface water network which will ultimately discharge to the River Shannon. However, there will be no possibility of significant effects on the reasons for designation of this European site in view of the relevant conservation objectives. This judgement was informed by: <ul style="list-style-type: none"> ○ The temporary nature of any discharges in relation to the small scale and short duration of the construction phase of the project and the fact that construction will take a phased approach; ○ The distance between the proposed development site and the River Shannon SAC and potential for settlement dilution in

⁶ “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 July 2015.

Table 2 Analysis of European sites within Vicinity of the Proposed Development Site

		<ul style="list-style-type: none"> • Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae) [91E0] • <i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029] • <i>Petromyzon marinus</i> (Sea Lamprey) [1095] • <i>Lampetra planeri</i> (Brook Lamprey) [1096] • <i>Lampetra fluviatilis</i> (River Lamprey) [1099] • <i>Salmo salar</i> (Salmon) [1106] • <i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349] • <i>Lutra lutra</i> (Otter) [1355] 	<p>the drainage and natural surface water network; and;</p> <ul style="list-style-type: none"> ○ The nearest surface water feature to the site is the dug well (DW01) and the stream draining from it (Conroy, 2016). Modelling detailed in the hydrogeologists report (Conroy, 2018) showed that the predicted contaminant concentrations (ammonia and phosphate) at the surface water receptor (DW01) remained below the relevant statutory environmental quality standards for the duration of each modelled scenario. <p>2. There will be no impact on groundwater from the proposed development site on the River Shannon SAC is due to:</p> <ul style="list-style-type: none"> ○ The distance between the proposed development site and the River Shannon SAC (>4km). The underlying bedrock would not be expected to have 4km long groundwater flow paths and is likely to discharge to the larger streams between the proposed development site and the Lower River Shannon SAC. ○ Infiltration down to the bedrock aquifer beneath the site is considered to be negligible at this site. Therefore, the bedrock aquifer is not considered to be a relevant receptor (Conroy, 2016); and; <p>3. Foul waters generated during the operation of the proposed development could transfer harmful substances to groundwaters or surface water features in the locality, which</p>
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Table 2 Analysis of European sites within Vicinity of the Proposed Development Site

			<p>could in turn transfer these substances to downstream European sites such as the Lower River Shannon SAC. However, there will be no possibility of significant effects on the reasons for designation of this European site in view of the relevant conservation objectives. This judgement was informed by:</p> <ul style="list-style-type: none"> ○ The fact that the foul water facilities to be provided at the proposed development site are limited to a disabled toilet for public use and wash-up/wc facilities for burial ground operatives; ○ The high level of tertiary treatment afforded by the proposed wastewater treatment system; ○ The proposed wastewater treatment system is compliant with the standards set out in the EPA's <i>Code of Practice Wastewater Treatment and Disposal Systems Serving Single Houses (P.E. ≤10)</i> (2009); and; ○ The fact that a maintenance contract will be in place with the systems manufacturer to ensure the annual maintenance of the plant, meaning that the plant will continue to act as anticipated and process foul waters efficiently and to the degree expected.
Clare Glen SAC (000930)	Located c. 12.5km south of the proposed	<p>Conservation Objectives for Clare Glen SAC [000930] (16/05/2018)</p> <ul style="list-style-type: none"> • Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] 	No, there are no linkages between the proposed development and the European site, as none of the QI species or habitats for which the European site

Table 2 Analysis of European sites within Vicinity of the Proposed Development Site

	development site	<ul style="list-style-type: none"> • <i>Trichomanes speciosum</i> (Killarney Fern) [1421] 	has been designated occur within the subject lands. The subject lands are not connected to this European site by semi-natural habitats or by water features. In addition, there is significant distance between this European site and the proposed development site.
Silvermines Mountains West SAC (002258)	Located c. 4.9km east of the proposed development site	<p>Conservation Objectives for Silvermines Mountains West SAC [002258] (10/11/2017)</p> <ul style="list-style-type: none"> • Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] • European dry heaths [4030] • Calaminarian grasslands of the <i>Violetalia calaminariae</i> [6130] 	<p>No, there are no linkages between the proposed development and the European site, as none of the QI species or habitats for which the European site has been designated occur within the subject lands. The subject lands are not connected to this European site by semi-natural habitats or by water features.</p> <p>Also, in the case of wet and dry heaths [4010 and 4030], habitats which may be influenced by pressures on groundwater, there is no potential for significant effects due to the following reasons:</p> <ol style="list-style-type: none"> 1. The significant distance and upstream location in relation to the proposed development; 2. Infiltration down to the bedrock aquifer beneath the proposed development site is considered to be negligible. Therefore, the bedrock aquifer is not considered to be a relevant receptor (Conroy, 2016); and; 3. The relevant UK guidance requires that there should not be any burials beneath the watertable. By maintaining a minimum of 1m of unsaturated zone beneath the burials relevant to the maximum subsoil watertable levels at the site, this criterion can be complied with (Conroy, 2016). Therefore, maximum burial depths will not exceed 2.4mbgl in the upper portion of the site and will be limited to

Table 2 Analysis of European sites within Vicinity of the Proposed Development Site

			1.8mbgl in the last three rows, allowing this guidance to be complied with.
Silvermines Mountains SAC (000939)	Located c. 9.3km west of the proposed development site	<p>Generic Conservation Objectives Version 6.0 (21/02/2018)</p> <ul style="list-style-type: none"> Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230] 	<p>No, there are no linkages between the proposed development and the European site, as none of the QI species or habitats for which the European site has been designated occur within the subject lands. The subject lands are not connected to this European site by semi-natural habitats or by water features.</p> <p>Also, in the case of wet heaths [4010], habitats which may be influenced by pressures on groundwater, there is no potential for significant effects due to the following reasons:</p> <ol style="list-style-type: none"> The significant distance and upstream location in relation to the proposed development; Infiltration down to the bedrock aquifer beneath the proposed development site is considered to be negligible. Therefore, the bedrock aquifer is not considered to be a relevant receptor (Conroy, 2016); and; The relevant UK guidance requires that there should not be any burials beneath the watertable. By maintaining a minimum of 1m of unsaturated zone beneath the burials relevant to the maximum subsoil watertable levels at the site, this criterion can be complied with (Conroy, 2016). Therefore, maximum burial depths will not exceed 2.4mbgl in the upper portion of the site and will be limited to 1.8mbgl in the last three rows, allowing this guidance to be complied with.

Table 2 Analysis of European sites within Vicinity of the Proposed Development Site

<p>Slieve Bernagh Bog SAC (002312)</p>	<p>Located c. 7.5km north-west of the proposed development site</p>	<p>Conservation Objectives for Slieve Bernagh Bog SAC [002312] (18/08/2016)</p> <ul style="list-style-type: none"> • Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] • European dry heaths [4030] • Blanket bogs (* if active bog) [7130] 	<p>No, there are no potential pathways, via surface water or semi- natural habitats, between the proposed development site and the European site as the proposed development site lies downstream of this European site. Also, in the case of blanket bogs and wet and dry heaths [4010, 4030 and 7130], habitats which may be influenced by pressures on groundwater, there is no potential for significant effects due to the following reasons:</p> <ol style="list-style-type: none"> 1. The significant distance and upstream location in relation to the proposed development; 2. Infiltration down to the bedrock aquifer beneath the proposed development site is considered to be negligible. Therefore, the bedrock aquifer is not considered to be a relevant receptor (Conroy, 2016); and; 3. The relevant UK guidance requires that there should not be any burials beneath the watertable. By maintaining a minimum of 1m of unsaturated zone beneath the burials relevant to the maximum subsoil watertable levels at the site, this criterion can be complied with (Conroy, 2016). Therefore, maximum burial depths will not exceed 2.4mbgl in the upper portion of the site and will be limited to 1.8mbgl in the last three rows, allowing this guidance to be complied with.
<p>Glennomra Wood SAC (001013)</p>	<p>Located c. 14.5km south-west of the proposed</p>	<p>Conservation Objectives for Glennomra Wood SAC [001013] (19/06/2018)</p> <ul style="list-style-type: none"> • Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] 	<p>No, there are no linkages between the proposed development and the European site, as none of the QI habitats for which the European site has been designated occur within the subject lands. The subject lands are not connected to this European site by semi-natural habitats or by water features. In</p>

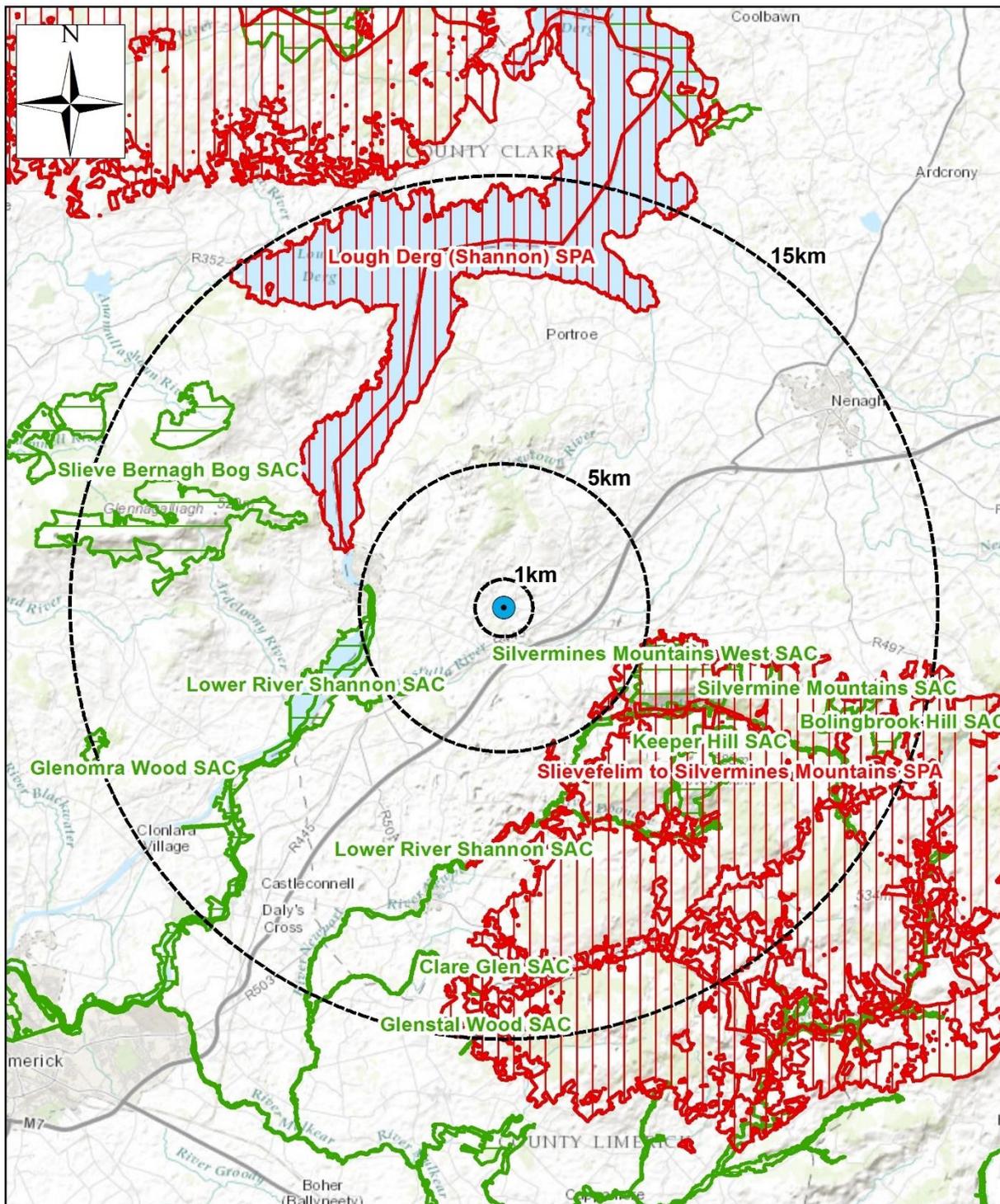
Table 2 Analysis of European sites within Vicinity of the Proposed Development Site

	development site		addition, there is significant distance between this European site and the proposed development site.
Glenstal Wood SAC (001432)	Located c. 14.5km south of the proposed development site	<p>Conservation Objectives for Glenstal Wood SAC [001432] (15/05/2018)</p> <ul style="list-style-type: none"> • <i>Trichomanes speciosum</i> (Killarney Fern) [1421] 	No, there are no linkages between the proposed development and the European site, as the QI species for which the European site has been designated does not occur within the subject lands. The subject lands are not connected to this European site by semi-natural habitats or by water features. In addition, there is significant distance between this European site and the proposed development site.
Bolingbrook Hill SAC (002124)	Located c. 11.7km west of the proposed development site	<p>Generic Conservation Objectives Version 6.0 (21/02/2018)</p> <ul style="list-style-type: none"> • Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] • European dry heaths [4030] • Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230] 	No, there are no linkages between the proposed development and the European site, as none of the QI species or habitats for which the European site has been designated occur within the subject lands. The subject lands are not connected to this European site by semi-natural habitats or by water features. In addition, there is significant distance between this European site and the proposed development site.
Keeper Hill SAC (001197)	Located c. 7.7km south-east of the proposed development site	<p>Conservation Objectives for Keeper Hill SAC [001197] (17/10/2017)</p> <ul style="list-style-type: none"> • Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] • Blanket bogs (* if active bog) [7130] 	No, there are no potential pathways, via surface water or semi-natural habitats, between the proposed development site and the European site. Also, in the case of blanket bogs and wet heaths [4010 and 7130], habitats which may be influenced by pressures on groundwater, there is no potential for significant effects due to the following reasons: <ol style="list-style-type: none"> 1. The significant distance and upstream location in relation to the proposed development; 2. Infiltration down to the bedrock aquifer beneath the proposed development site is considered to be negligible. Therefore, the

Table 2 Analysis of European sites within Vicinity of the Proposed Development Site

			<p>bedrock aquifer is not considered to be a relevant receptor (Conroy, 2016); and;</p> <p>3. The relevant UK guidance requires that there should not be any burials beneath the watertable. By maintaining a minimum of 1m of unsaturated zone beneath the burials relevant to the maximum subsoil watertable levels at the site, this criterion can be complied with (Conroy, 2016). Therefore, maximum burial depths will not exceed 2.4mbgl in the upper portion of the site and will be limited to 1.8mbgl in the last three rows, allowing this guidance to be complied with.</p>
Special Protection Areas (SPA)			
Lough Derg (Shannon) SPA (004058)	Located c. 5.8km north-west of the proposed development site	<p>Generic Conservation Objectives Version 6.0 (21/02/2018)</p> <ul style="list-style-type: none"> • Cormorant (<i>Phalacrocorax carbo</i>) [A017] • Tufted Duck (<i>Aythya fuligula</i>) [A061] • Goldeneye (<i>Bucephala clangula</i>) [A067] • Common Tern (<i>Sterna hirundo</i>) [A193] • Wetland and Waterbirds [A999] 	There is no risk of disturbance or linkage to QI bird species given the distance between the proposal and the European site, and lack of suitable habitat for QI species associated with the development.
Slievefelim to Silvermines Mountains SPA (004165)	Located c. 4.3km south-east of the proposed development site	<p>Generic Conservation Objectives Version 6.0 (21/02/2018)</p> <ul style="list-style-type: none"> • Hen Harrier (<i>Circus cyaneus</i>) [A082] 	No, there is no potential for significant effects, as the proposed development does not have the capacity to affect the conservation objectives of this species.

Figure 1. All European sites within the vicinity of the proposed development site



Drawing No: Fig. 1. European Sites within 15km			
Project Title: Boher Burial Grounds AA Screening			
Client: Tipperary County Council			
Project No.:	160127	Scale:	1:300,000 @ A4
Drawn:	CK	Approved:	AC
Rev. No.:	01	Date:	26/06/2018
		Scott Cawley Ltd, College House, Rock Road, Blackrock, Co. Dublin Tel: + 353 1 676 9815 Fax: + 353 1 676 9816	

Legend

- Proposed Development
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)

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 Projection: TM65 Irish Grid, Transverse Mercator.

4 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 the possibility of significant effects on any European sites**. The judgement has been reached for the reasons outlined below:

1) This report has identified that a number of European Sites lie within the vicinity of the proposed development. However, for the reasons outlined below no European Sites are deemed to be at risk of significant effects from construction or operation of the proposed development:

Surface Water

The existing local surface water drainage network and natural surface water features and associated network which ultimately drain to the River Shannon is a potential pathway between the proposed development and the Lower River Shannon SAC. However no significant effects are predicted due to the following:

1. Surface waters generated during construction and operation could carry silt, oils or other chemicals into the local surface water network which will ultimately discharge to the River Shannon. However, there will be no possibility of significant effects on the reasons for designation of this European site in view of the relevant conservation objectives. This judgement was informed by:
 - The temporary nature of any discharges related to the small scale and short duration of the construction phase of the project and the fact that construction will take a phased approach;
 - The distance between the proposed development site and the River Shannon SAC and potential for settlement and dilution in the drainage and natural surface water network; and;
 - The nearest surface water feature to the site is the dug well (DW01) and the stream draining from it (Conroy, 2016). Modelling detailed in the hydrogeologist's report (Conroy, 2018) showed that the predicted contaminant concentrations (ammonia and phosphate) at the surface water receptor (DW01) remained below the relevant statutory environmental quality standards for the duration of each modelled scenario.

Ground Water

2. A number of SACs exist within the vicinity of the proposed development which are designated for wet heath [4010], dry heath [4030] and blanket bog [7130]. These are habitats which may be influenced by pressures on groundwater. However, there is no potential for significant effects on groundwater dependant habitats due to the following reasons:
 - Their significant distance and upstream location in relation to the proposed development;
 - Infiltration down to the bedrock aquifer beneath the proposed development site is considered to be negligible. Therefore, the bedrock aquifer is not considered to be a relevant receptor (Conroy, 2016); and
 - The relevant UK guidance requires that there should not be any burials beneath the watertable. By maintaining a minimum of 1m of unsaturated zone beneath the burials relevant to the maximum subsoil watertable levels at the site, this criterion can be complied with (Conroy, 2016). Therefore, maximum burial depths will not exceed

2.4mbgl in the upper portion of the site and will be limited to 1.8mbgl in the last three rows, allowing this guidance to be complied with.

- There will be no groundwater impact from the proposed development site on the River Shannon SAC due to the distance between the two (>4km). The underlying bedrock would not be expected to have 4km long groundwater flow paths and is likely to discharge to the larger streams between the proposed development site and the Lower River Shannon SAC.

Foul Waters

3. Foul waters generated during the operation of the proposed development could transfer harmful substances to groundwaters or surface water features in the locality, which could in turn transfer these substances to downstream European sites such as the Lower River Shannon SAC. However, there will be no possibility of significant effects on the reasons for designation of this European site in view of the relevant conservation objectives. This judgement was informed by:
 - The fact that the foul water facilities to be provided at the proposed development site are limited to a disabled toilet for public use and wash-up/wc facilities for burial ground operatives;
 - The high level of tertiary treatment afforded by the proposed wastewater treatment system;
 - In addition, the proposed wastewater treatment system is compliant with the standards set out in the EPA's *Code of Practice Wastewater Treatment and Disposal Systems Serving Single Houses (P.E. ≤10)* (2009); and;
 - The fact that a maintenance contract will be in place with the systems manufacturer to ensure the annual maintenance of the plant, meaning that the plant will continue to act as anticipated and process foul waters efficiently and to the degree expected.

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 Tipperary 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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