



## Screening for Appropriate Assessment

In support of an Application for a Licence Amendments & Approvals for  
Facility Alterations

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

**Prepared for:**

**William Grant & Sons Irish Manufacturing**

**Ref: 472-X0020 DRAFT**

**13 October 2017**

**Byrne Ó Cléirigh**, 30a Westland Square, Pearse Street, Dublin 2, D02 PN76, Ireland.  
Telephone: + 353 – 1 – **6770733**. Facsimile: + 353 – 1 – **6770729**. Email: [Admin@boc.ie](mailto:Admin@boc.ie). Web: [www.boc.ie](http://www.boc.ie)

Directors: LM Ó Cléirigh BE MIE CEng FIEI FIMechE; TV Cleary BE CEng FIEI FIChemE; LP Ó Cléirigh BE MEngSc MBA CEng FIEI FEI;  
ST Malone BE MIE CEng MIEI; JB FitzPatrick FCA. Registered in Dublin, Ireland No. 237982.

## **DISCLAIMER**

This report has been prepared by Byrne Ó Cléirigh Limited with all reasonable skill, care and diligence within the terms of the Contract with the Client, incorporating our Terms and Conditions and taking account of the resources devoted to it by agreement with the Client.

We disclaim any responsibility to the Client and others in respect of any matters outside the scope of the above.

This report is confidential to the Client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

## Contents

<b>1</b>	<b>INTRODUCTION</b>	<b>1</b>
1.1	Background	1
1.2	Legislative Context	2
<b>2</b>	<b>METHODOLOGY</b>	<b>3</b>
2.1	Guidance	3
2.2	Data Sources	4
<b>3</b>	<b>DESCRIPTION OF PROJECT</b>	<b>5</b>
3.1	Background	5
3.2	Grain Distillery	5
3.3	Bottling Hall	7
3.4	Amendment to Effluent Limits	8
<b>4</b>	<b>NATURA 2000 SITES</b>	<b>10</b>
4.1	Definitions	10
4.2	Identification of Sites	10
4.3	Conservation Objectives	18
4.4	Site Descriptions / Synopses	18
<b>5</b>	<b>ASSESSMENT OF LIKELY EFFECTS</b>	<b>19</b>
5.1	Potential Impacts on Natura 2000 Sites	19
5.2	Effects from Grain Distillery	20
5.3	Effects from Bottling Hall	21
5.4	Effects from Amendment to Effluent Limits	23
5.5	Cumulative Effects	26
5.6	Summary	28
<b>6</b>	<b>SCREENING STATEMENT</b>	<b>29</b>
<b>7</b>	<b>REFERENCES</b>	<b>30</b>

## APPENDICES

- Appendix 1: Amended Site Boundary
- Appendix 2: Planning Permission for Grain Distillery (PL2/16/134)
- Appendix 3: Planning Permission for Bottling Hall (PL2/16/256)
- Appendix 4: WGS submission to Irish Water
- Appendix 5: Irish Water consent to change in effluent limits
- Appendix 6: Special Protection Areas in Vicinity of WGS
- Appendix 7: Special Areas of Conservation in Vicinity of WGS
- Appendix 8: Location of William Grant & Sons and Tullamore WWTP
- Appendix 9: IE & IPC Facilities within 15 km of WGS
- Appendix 10: Site Synopses for Natura 2000 & Ramsar Sites

## 1 INTRODUCTION

### 1.1 Background

In July 2013, William Grant & Sons Irish Manufacturing (WGS) submitted an application to the EPA for an IPC licence for the Tullamore Distillery, Ballard & Clonminch, Tullamore, Co. Offaly, and in May 2014 the EPA granted IPC licence P0980-01. As part of the planning application for the development, WGS submitted an Environmental Impact Assessment, which was also included in the application for the IPC licence.

In May 2017, WGS submitted an application to the EPA to amend certain conditions in its licence and for approval to accommodate certain changes at the site related to the grain distillery and a bottling hall. The application was prepared in accordance with the *EPA Guidance for Licensees on Request for Alteration to the Installation / Facility* and requested:

1. A Licence Amendment to Condition 1.3 to modify the extent of the IPC site boundary to accommodate the bottling hall and to refer to the area outlined in Drawing **TUL-SI-L(--)-0001 Revision C** (included in Appendix 1).
2. A Licence Amendment to Schedule B to amend emission point A2-2 associated with the grain distillery.
3. A Licence Amendment to Schedule B to add two new main emission points to atmosphere, namely emission points A2-3 and A2-4, associated with the grain distillery.
4. Approval for changes to the locations of existing minor, fugitive & potential emission points and the addition of new minor, fugitive & potential emission points, associated with the grain distillery.
5. Approval under Condition 1.4 of the licence to accommodate the development of the bottling hall, including the installation of a small-scale boiler in the bottling hall and associated minor emission point.

As part of the application, WGS included an environmental assessment taking into account the conclusions from the Local Authority's screening report and planner's reports on the two developments (the bottling hall and the changes to the grain distillery).

In September 2017, WGS submitted a further application to the EPA to amend the emission limit values for discharges to sewer. In support of the application, WGS conducted a screening for Appropriate Assessment and included the consent to the revised limits from Irish Water.

To assist it in assessing the applications, the EPA has requested WGS to:

*Provide a Screening Report for Appropriate Assessment in relation to this [the application for the changes to the effluent limits] request. The Screening Report shall also address the Amendment Request received on 26/05/2017 entitled 'New Bottling Hall & Modifications to Grain Distillery'*

## 1.2 Legislative Context

Regulation 42 of the *European Communities (Birds and Natural Habitats) Regulations, 2011*, which consolidated the *European Communities (Natural Habitats) Regulations*<sup>1</sup> and the *European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations*, requires a public authority to undertake:

*...a screening for Appropriate Assessment of a plan or project for which an application for consent is received ... which is not directly connected with or necessary to the management of the site as a European Site.*

As WGS is requesting consent from the EPA for an alteration to its IPC licence, and as there are European Sites in the vicinity of the licensed site boundary, WGS has conducted this Screening for Appropriate Assessment to assist the EPA in its assessment in the context of Articles 6(3) and 6(4) of the Habitats Directive:

*6(3) Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.*

*6(4) If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.*

*Where the site concerned hosts a priority natural habitat type and / or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.*

---

<sup>1</sup> These Regulations gave effect to Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora – the Habitats Directive

## 2 METHODOLOGY

### 2.1 Guidance

In 2009, the (then) Department of the Environment, Heritage and Local Government<sup>2</sup> (DEHLG) published *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities*, which was intended to assist and guide the relevant authorities on the application of Articles 6(3) and 6(4) of the Habitats Directive. The guidance was subsequently updated in 2010.

The DEHLG guidance sets out the context for conducting environmental assessments under the Habitats Directive, and the particular requirements under Articles 6(3) and 6(4), taking into account the clarifications arising from the European Court of Justice's legal proceedings against Ireland. The guidance sets out the four stages in the Appropriate Assessment process:

1. Stage 1 – Screening for Appropriate Assessment
2. Stage 2 – Appropriate Assessment
3. Stage 3 – Alternative Solutions
4. Stage 4 – Imperative Reasons of Overriding Public Interest (IROPI) Derogation

Under Stage 1, the guidance sets out four sub-stages for conducting a screening assessment. These stages require the following:

1. A description of the plan or project, and local site or plan area characteristics.
2. Identification of relevant Natura 2000 sites, and compilation of information on their qualifying interests and conservation objectives.
3. Assessment of likely effects – direct, indirect and cumulative – undertaken on the basis of available information as a desk study or field study or primary research as necessary
4. Screening statement with conclusions, which can be one of the following:

- **AA is not required**

Screening, followed by consultation and agreement with the NPWS, establishes that the plan or project is directly connected with or necessary to the nature of conservation management of the site.

- **No potential for significant effects / AA is not required**

Screening establishes that there is no potential for significant effects and the project or plan can proceed as proposed. However, no changes may be made after this as this will invalidate the findings of the screening. Documentation of the AA screening process, including conclusions reached and how decisions were made, must be kept on file.

- **Significant effects are certain, likely or uncertain**

The plan or project must either proceed to Stage 2 (AA), or be rejected. Rejection of a plan or project that is too potentially damaging and / or inappropriate ends the process and negates the need to proceed to Stage 2 (AA).

---

<sup>2</sup> DEHLG has undergone several changes in the interim and, in 2016 the *Environment* function / division was transferred to the Department of Communications, Energy and Natural Resources (DCENR). DCENR has also changed in the interim and, at the time of carrying out this assessment, was the Department of Communications, Climate Action and Environment (DCCAE).

The DEHLG guidance also refers to guidance from the Commission on Appropriate Assessment, which has informed and guided this screening assessment. The Commission's guidance includes (refer also to Section 7):

- Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/3/EEC (2000)
- Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC (2002)
- Nature and biodiversity cases: Ruling of the European Court of Justice (2006)

## 2.2 Data Sources

In carrying out this screening assessment, we have relied on data from the following sources:

- The Environmental Impact Statement for the development of the distillery, submitted with the application for planning permission and the application for the IPC licence
- The application for the IPC licence
- The planning applications for the modifications to the grain distillery and the development of the bottling hall
- The planner's report relating to the alterations to the development to modify the grain distillery, under planning reference PL2 16/134
- The planner's report relating to the alterations to the development to incorporate the bottling hall, under planning reference PL2/16/256
- The confirmation from Irish Water that the effluent load under the revised effluent limits can be accepted at the wastewater treatment plant
- The GIS datasets for the Special Areas of Conservation and Special Protection areas available from the NPWS, showing the locations and areas of the Natura 2000 sites.
- The GIS datasets for the Sites of Community Interest, Special Areas of Conservation and Special Protection Areas available from the Commission's Natura 2000 portal.
- Site Synopses for the relevant Natura 2000 sites, published by the Department of Arts, Heritage and the Gaeltacht (available from the NPWS)
- Conservation Objectives Series for the relevant Natura 2000 sites, published by the Department of Arts, Heritage, Regional, Rural and the Gaeltacht (available from the NPWS)
- Natura 2000 Standard Data Forms for the relevant sites (available from the NPWS and the Commission's Natura 2000 portal)
- Tullamore Town & Environs Development Plan 2010 – 2016, extended to 2020
- Offaly County Development Plan 2014 – 2020

### 3 DESCRIPTION OF PROJECT

#### 3.1 Background

At the time of the original IPC licence application, WGS set out the indicative timeframe for the development over three phases. Phase 1 of the development included the construction of one distillery building, storage warehouses and ancillary / service areas. The works under Phase 2 included the construction of the second distillery building (the grain distillery – described in Section 3.2) and increased storage capacity, which was expected to be completed in 2019. Phase 3 of the development was tentatively scheduled for completion in 2022, depending upon the operational requirements of WGS. The three phases of the development were set out in the planning application and were granted planning permission (planning reference PL/12/261).

At the time of the application, WGS intended to produce the whiskey at the Tullamore site and to transfer the finished product to its bottling plant in Clonmel. Since then, WGS has reviewed its operations and has opted to consolidate all of its activities at the Tullamore site, which necessitates the construction of a bottling hall (described in Section 3.3).

In the context of the emissions to sewer, the limits for the discharge of effluent that were agreed with the local authority at the time and incorporated into the licence were to reflect the operation of Phase 1 of the development. Since the application was submitted and the licence granted, WGS has progressed the development ahead of its initial timeframe, with construction on the Grain Distillery commencing in 2016 and production scheduled to commence in 2017. As such, WGS requires revised limits for the discharge of effluent (described in Section 3.4).

#### 3.2 Grain Distillery

##### 3.2.1 Planning

At the time of the application for the IPC licence, the final design of the grain distillery, which was scheduled for Phase 2 of the works, had yet to be completed. Therefore, the information submitted with the application, in particular the layout of the distillery building and the configuration of emission point A2-2, were subject to the final design layout. Since then, WGS has finalised the design of the grain distillery and of the grain handling system that was to be served by emission point A2-2.

To accommodate the changes to the grain distillery, WGS submitted an application for planning permission to Offaly County Council in May 2016 to amend part of the original development that had been granted permission in December 2012 under planning reference PL2 12/261. The amendment comprised:

*Modification to the grain distillery permitted under planning register reference PL2/12/261 and permission for ancillary offices, laboratory and staff rest area. The grain distillery will consist of a cereal intake facility, mill house (height 28 m), mash house, a distillation apparatus (height 29.32 m) and externally bunded tank farms.*

The planning report notes that:

*This application is required as the final design differs in appearance from what was permitted. In addition there are new proposal for ancillary office, a laboratories and staff rest areas.*

Offaly County Council granted permission for the amended development in July 2016 under planning reference PL2/16/134, a copy of which is included in Appendix 2.



### 3.2.2 Main Emissions to Atmosphere

There are two licensed emission points to atmosphere, both of which discharge particulate matter:

- A2-1 associated with the grain handling system in the pot & malt distillery (for which no changes are required)
- A2-2 associated with the grain handling system in the grain distillery

To facilitate the final design and operation of the grain handling system, WGS proposes to reconfigure the system so that the emissions that would have discharged through the single licensed emission point (A2-2) are discharged through three individual, lower capacity emission points.

We understand that the EPA may accommodate such a change to a main emission point, including the introduction of additional main emission points, provided that the overall mass emission from the site does not increase above the overall mass emission set out in the licence. Table 1 summarises the current licensed main emissions to atmosphere and shows that the overall licensed mass emission is 6.912 kg/day, based on operation of the two emission points 24 hours per day.

**Table 1: Current Licensed Main Emissions to Atmosphere (Particulate Matter)**

Parameter	Units	A2-1	A2-2	Total
Max. volume in 1 day	m <sup>3</sup>	172,800	172,800	345,600
Max. volume per hour	m <sup>3</sup>	7,200	7,200	14,400
Hours per day	h	24	24	-
ELV	mg/m <sup>3</sup>	20	20	-
Mass emission	kg/day	3.456	3.456	<b>6.912</b>

To reflect the operation of the grain handling system in the grain distillery, WGS proposes to install two new emission points to atmosphere, designated A2-3 and A2-4. To maintain the overall licensed mass emission of particulate matter below the current limit of 6.912 kg/day, WGS proposes the limits for the four main emission points to atmosphere set out in Table 2. The changes include reductions in operating hours, reductions in the volumetric flow rate for individual emission points, and reduced emission limit values (concentrations) for the amended (A2-2) and new (A2-3 and A2-4) emission points, from 20 mg/m<sup>3</sup> to 10 mg/m<sup>3</sup>.

Based on the proposed limits set out in Table 2, the overall mass emission of particulate matter from the site reduces from 6.912 kg/day under the current licence limits, to a maximum of 6.651 kg/day. This represents an overall reduction of approximately 4%.

**Table 2: Proposed Main Emissions to Atmosphere (Particulate Matter)**

Parameter	Units	A2-1	A2-2	A2-3	A2-4	Total
Max. volume in 1 day	m <sup>3</sup>	172,800	31,500	144,000	144,000	492,300
Max. volume per hour	m <sup>3</sup>	7,200	10,500	6,000	6,000	29,700
Hours per day	h	24	3	24	24	-
ELV	mg/m <sup>3</sup>	20	10	10	10	-
Mass emission	kg/day	3.456	0.315	1.44	1.44	<b>6.651</b>

### 3.2.3 Minor, Potential & Fugitive Emission Points

Due to the changes to the layout of the grain distillery, the locations of some of the minor and potential & fugitive emission points have also changed. These emission points are associated with, amongst others, relief and breathing valves on vessels, and relief panels associated with grain storage and transfer.

### 3.2.4 Other Emissions

The changes to the grain distillery do not result in new or additional emissions to sewer, to surface water or to ground.

## 3.3 Bottling Hall

### 3.3.1 Planning

In August 2015, WGS submitted an application for planning permission to Offaly County Council to amend part of the original development that had been granted permission in December 2012 under planning reference PL2 12/261. The amendment comprised:

*...replacing the permitted small warehouse (Building 10) of 2,034 m<sup>2</sup> with a two storey bottling hall of 4,688 m<sup>2</sup>, with the upper floor consisting of ancillary office and storage areas; a tank farm and pipe bridge; corresponding changes to the internal road and parking layout; and all ancillary site development works*

Offaly County Council granted permission for the amended development in November 2015 under planning reference PL2/15/232.

In August 2016, WGS submitted a further application for planning permission to amend the development of the bottling hall, which comprised:

*...an increase in the development boundary (by 1.57 ha); a change of design and increase in size to the permitted bottling hall (from 4,688 m<sup>2</sup> to 8,851 m<sup>2</sup>), which will include offices and a staff restaurant; an increase in car parking; changes to the internal road layout and landscape plan and all ancillary site development works.*

Offaly County Council granted permission for the amended development in October 2016 under planning reference PL2/16/256, a copy of which is included in Appendix 3.

### 3.3.2 Description of Development

The development will comprise a bottling hall, a tank farm and a storage area for finished goods (bottled whiskey). The purpose of the bottling hall is to bottle product (whiskey) produced at the site – the bottling hall therefore constitutes a new packaging facility. The bottling hall will operate 7 days a week on a shift basis from 06:00 to 22:00, within the normal operating hours for the distillery.

Empty bottles will arrive by truck to the eastern side of the hall and will be unloaded in the bottling area. Alcohol will be brought directly to the hall via the existing pipe bridge, which will be modified accordingly. Bottles will be filled automatically on the filling line and filled bottles will be moved to the packaging area on the line where they will be packaged into cases. The cases will be transported to the 'wet goods' for temporary holding pending distribution by truck from the site. The hall will also include a restaurant for use by site employees.

The revised bottling hall is 8,851 m<sup>2</sup> in area. To accommodate the hall, WGS has acquired additional land to the north west of the site and therefore the overall boundary of the site has increased marginally (a 5.5% increase from 28.8 ha to approximately 30.4 ha). This additional area of the site will contain part of the car park and roadway serving the hall and approximately one-third of the footprint of the bottling hall.

The bottling hall will utilise the existing cleaning-in-place systems to clean the bottling line and associated plant & equipment. As set out in the IPC licence application, water from the CIP system is collected and reused in the first stage of the subsequent CIP cycle, while WGS plans its CIP operations to use the water and CIP materials efficiently, where practicable. Therefore, the use of the CIP system in the bottling hall will not result in a significant increase in the volume of process effluent.

### 3.3.3 Minor Emissions

The development of the bottling hall includes a natural gas fired heater with a rated thermal input capacity less than 5 MW. As the capacity of the boiler is less than 5 MW it does not constitute a boiler (or main) emission point, but rather a minor emission point. The combustion of natural gas in the gas-fired heater and boiler will give rise to minor emissions of nitrogen oxides and carbon monoxide.

### 3.3.4 Other Emissions

The development of the bottling hall will not result in new or additional main emission points to atmosphere, to sewer, to surface water or to ground, and there will be no significant increase in the overall total emissions from the site.

## 3.4 Amendment to Effluent Limits

### 3.4.1 Background

The limits on the discharge of effluent that WGS had agreed with the local authority at the time of the IPC licence application were to accommodate the operation of the Pot and Malt Distillery and associated site activities, and were based on the anticipated effluent characteristics from WGS's experience at its other distilleries. In light of the progress on developing the Grain Distillery, and differences in the characteristics of the effluent due to, amongst other items, the characteristics of the incoming water, an increase in the frequency of process cleaning (cleaning-in-place), an increase in the need to buffer the effluent, and changes to the final process design to improve the efficient use of water (thereby increasing the concentration of certain parameters), WGS requires changes to its effluent limits.

### 3.4.2 Agreement with Irish Water

WGS has assessed its current and future effluent loads and submitted its proposal to Irish Water in May 2017. In July 2017, Irish Water consented to WGS's proposal for new limits on its effluent; a copy of Irish Water's consent is included in Appendix 5, with a copy of WGS's submission to Irish Water requesting the change<sup>3</sup> included in Appendix 4.

The limits that WGS has agreed with Irish Water are shown in Table 3 and replace the current set of limits in Schedule B.3 of the licence. In summary, WGS has proposed and Irish Water has consented to:

- increase the limit on the volume of effluent discharged to sewer
- introduce a limit on the hourly flow rate
- reduce the limit on the temperature of the effluent
- increase the limit on the daily COD, suspended solids and total nitrogen loads
- remove the concentration limits on COD and suspended solids and increase the concentration limit on total nitrogen
- replace the parameter *Phosphate* with *Phosphorous*
- provide separate limits for total copper and soluble copper, and remove the concentration limit on total copper

**Table 3: Amendment to Effluent Limits**

Volume to be emitted	Maximum in any one day: 2,000 m <sup>3</sup> Maximum in any hour: 100 m <sup>3</sup>	
<b>Parameter</b>	<b>Emission Limit Value</b>	
Temperature	40°C (maximum)	
pH	4 – 9	
	<b>mg/l</b>	<b>Daily mean loading (kg/day)</b>
COD	-	1,800
Suspended solids	-	350
Total nitrogen	90	45
Phosphorous (as P)	30	15
Copper (total)	-	1.5
Copper (soluble)	4	-

<sup>3</sup> In its submission, WGS proposed two phases to reflect both the immediate requirements and the medium-term requirements. Irish Water has consented to Phase 1, and WGS and Irish Water are progressing agreement on a further revision to the limits (Phase 2).

## 4 NATURA 2000 SITES

### 4.1 Definitions

The *European Communities (Birds and Natural Habitats) Regulations* define Natura 2000 sites as:

the European network of special areas of conservation under the Habitats Directive and special protection areas under the Birds Directive, provided for by Article 3(1) of the Habitats Directive and, for the purposes of these Regulations, includes European Sites

European sites are defined under the 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
- (f) a special protection area

### 4.2 Identification of Sites

The DEHLG guidance advises that when identifying Natura 2000 sites the following should be included:

- Any Natura 2000 sites within or adjacent to the plan or project area.
- Any Natura 2000 sites within the likely zone of impact of the plan or project. A distance of 15 km is currently recommended in the case of plans. For projects, the distance could be much less than 15 km, and in some cases less than 100 m, but this must 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.
- Natura 2000 sites that are more than 15 km from the plan or project area depending on the likely impacts of the plan or project, and the sensitivities of the ecological receptors, bearing in mind the precautionary principle. In the case of sites with water dependent habitats or species, and a plan or project that could affect water quality or quantity, for example, it may be necessary to consider the full extent of the upstream and / or downstream catchment.

There are no Natura 2000 sites within or adjacent to WGS's licensed site boundary. The closest Natura 2000 site to WGS is approximately 700 m to the west (Charleville Wood SAC), with two further SAC within 10 km of WGS (River Barrow & River Nore SAC, and Clara Bog SAC). There are a further four SAC and a single SPA between 10 km and 15 km from WGS. These eight Natura 2000 sites, together with their qualifying interests and conservation objectives, are summarised in Table 4. The locations of the SAC and SPA are shown in Appendix 6 and Appendix 7, respectively. The Clara Bog Nature Reserve is also designed as a Ramsar site.

**Table 4: Natura 2000 sites, Qualifying Interests, Conservation Objectives and Threats & Pressures**

Site name & code	Distance to WGS (km)	Qualifying Interests	Conservation Objectives	Threats to & pressures on the site
Slieve Bloom Mountains SPA 004160	12.9	A082 Hen Harrier	Maintain or restore the favourable conservation condition	Agriculture - grazing Mining, extraction of materials and energy production - peat extraction Sylviculture, forestry Transportation and service corridors - paths, tracks, cycling tracks Transportation and service corridors - roads, motorways Urbanisation, residential and commercial development - dispersed habitation
Charleville Wood SAC 000571	0.7	91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles 1016 Desmoulin's Whorl Snail	Maintain or restore the favourable conservation condition	Agriculture - cultivation Agriculture - grazing Biological resource use other than agriculture & forestry - hunting Biological resource use other than agriculture & forestry - leisure fishing Human intrusions and disturbances - golf course Human intrusions and disturbances - walking, horseriding and non-motorised vehicles Sylviculture, forestry - forest exploitation without replanting or natural regrowth Sylviculture, forestry Transportation and service corridors - roads, motorways Urbanisation, residential and commercial development - dispersed habitation

For inspection purposes only.  
Consent of copyright owner required for any other use.

Site name & code	Distance to WGS (km)	Qualifying Interests	Conservation Objectives	Threats to & pressures on the site
Clara Bog SAC 000572	9.0	6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) <sup>Note 1</sup>	Restore the favourable conservation condition	Agriculture - cultivation Agriculture - fertilisation Agriculture - grazing Agriculture - mowing / cutting of grassland Agriculture - removal of hedges and copses or scrub Mining, extraction of materials and energy production - peat extraction Mining, extraction of materials and energy production - sand and gravel extraction Sylviculture, forestry - forest planting on open ground Transportation and service corridors - roads, motorways Urbanisation, residential and commercial development - dispersed habitation Urbanisation, residential and commercial development - urbanised areas, human habitation
		7110 Active raised bogs <sup>Note 2</sup>	Restore the favourable conservation condition	
		7120 Degraded raised bogs still capable of natural regeneration	The long-term aim for degraded raised bogs still capable of natural regeneration is that its peat-forming capability is re-established; therefore, the conservation objective for this habitat is inherently linked to that of active raised bogs and a separate conservation objective has not been set.	
		7150 Depressions on peat substrates of the Rhynchosporion	Depressions on peat substrates of the Rhynchosporion is an integral part of good quality active raised bogs and thus a separate conservation objective has not been set for the habitat.	
		91D0 Bog woodland <sup>Note 2</sup>	Maintain the favourable conservation condition	

Site name & code	Distance to WGS (km)	Qualifying Interests	Conservation Objectives	Threats to & pressures on the site
Raheenmore Bog SAC 000582	12.1	7110 Active raised bogs	Restore the favourable conservation condition	Agriculture - fertilisation Agriculture - grazing Agriculture - mowing / cutting of grassland Agriculture - removal of hedges and copses or scrub Transportation and service corridors - roads, motorways
		7120 Degraded raised bogs still capable of natural regeneration	The long-term aim for degraded raised bogs still capable of natural regeneration is that its peat-forming capability is re-established; therefore, the conservation objective for this habitat is inherently linked to that of active raised bogs and a separate conservation objective has not been set.	
		7150 Depressions on peat substrates of the Rhynchosporion	Depressions on peat substrates of the Rhynchosporion is an integral part of good quality active raised bogs and thus a separate conservation objective has not been set for the habitat.	
Split Hills and Long Hill Esker SAC 001831	13.3	6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) <sup>Note 1</sup>	Maintain or restore the favourable conservation condition	Agriculture - intensive cattle grazing Agriculture - non- intensive cattle grazing Natural biotic and abiotic processes (without catastrophes) - competition Natural biotic and abiotic processes (without catastrophes) - species composition change (succession) Transportation and service corridors - paths, tracks, cycling tracks



Site name & code	Distance to WGS (km)	Qualifying Interests	Conservation Objectives	Threats to & pressures on the site
Clonaslee Eskers and Derry Bog SAC 000859	10.9	7230 Alkaline fens	Maintain or restore the favourable conservation condition	Agriculture - cultivation Agriculture - fertilisation Agriculture - grazing Agriculture - mowing / cutting of grassland Mining, extraction of materials and energy production - hand cutting of peat Mining, extraction of materials and energy production - mechanical removal of peat Mining, extraction of materials and energy production - sand and gravel extraction Sylviculture, forestry Transportation and service corridors - roads, motorways Urbanisation, residential and commercial development - dispersed habitation
		1013 Geyer's Whorl Snail		
River Barrow and River Nore SAC 002162	8.5	1016 Desmoulin's whorl snail	Maintain the favourable conservation condition	Agriculture - agricultural intensification Agriculture - intensive cattle grazing Agriculture - removal of hedges and copses or scrub Biological resource use other than agriculture & forestry - fishing and harvesting aquatic resources Biological resource use other than agriculture & forestry - intensive fish farming, intensification Biological resource use other than agriculture & forestry - leisure fishing Biological resource use other than agriculture & forestry - netting
		1029 Freshwater pearl mussel	The status of the freshwater pearl mussel as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species.  The Nore freshwater pearl mussel remains a qualifying species for this SAC.	
		1029 White-clawed crayfish	Maintain the favourable conservation condition	
		1095 Sea lamprey	Restore the favourable conservation condition	

For inspection purposes only.  
 Copyright owner required for any other use.

Site name & code	Distance to WGS (km)	Qualifying Interests	Conservation Objectives	Threats to & pressures on the site
River Barrow and River Nore SAC 002162 (cont/d)	8.5	1096 Brook lamprey	Restore the favourable conservation condition	Climate change - changes in abiotic conditions Invasive, other problematic species and genes - invasive non-native species Mining, extraction of materials and energy production - peat extraction Mining, extraction of materials and energy production - sand and gravel quarries Natural biotic and abiotic processes (without catastrophes) - erosion Natural system modifications - dredging/ removal of limnic sediments Natural system modifications - dykes and flooding defence in inland water systems Natural system modifications - human induced changes in hydraulic conditions Natural system modifications - modifying structures of inland water courses Natural system modifications - reduction in migration/ migration barriers Natural system modifications - water abstractions from surface waters Pollution - pollution to surface waters (limnic, terrestrial, marine & brackish) Sylviculture, forestry - forest and plantation management & use Sylviculture, forestry - other forestry activities Sylviculture, forestry - use of fertilizers (forestry)
		1099 River lamprey	Restore the favourable conservation condition	
		1103 Twaité shad	Restore the favourable conservation condition	
		1106 Atlantic salmon (only in fresh water)	Restore the favourable conservation condition	
		1130 Estuaries	Maintain the favourable conservation condition	
		1140 Mudflats and sandflats not covered by seawater at low tide	Maintain the favourable conservation condition	
		1310 Salicornia and other annuals colonizing mud and sand	Maintain the favourable conservation condition	
		1330 Atlantic salt meadows	Restore the favourable conservation condition	
		1355 Otter	Restore the favourable conservation condition	
		1410 Mediterranean salt meadows	Restore the favourable conservation condition	
		1421 Killarney fern	Maintain the favourable conservation condition	
		1990 Nore freshwater pearl mussel	Restore the favourable conservation condition	
		3260 Water courses of plain to montane levels with the Ranunculus fluitantis and Callitriche-Batrachion vegetation	Maintain the favourable conservation condition	

Site name & code	Distance to WGS (km)	Qualifying Interests	Conservation Objectives	Threats to & pressures on the site
River Barrow and River Nore SAC 002162 (cont/d)	8.5	4030 European dry heaths	Maintain the favourable conservation condition	Transportation and service corridors - port areas Urbanisation, residential and commercial development - industrial or commercial areas
		6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	Maintain the favourable conservation condition	
		7220 Petrifying springs with tufa formation <sup>Note 2</sup>	Maintain the favourable conservation condition	
		91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	Restore the favourable conservation condition	
		91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior) <sup>Note 2</sup>	Restore the favourable conservation condition	

For inspection purposes only.  
Consent of copyright owner required for any other use.

Site name & code	Distance to WGS (km)	Qualifying Interests	Conservation Objectives	Threats to & pressures on the site
Slieve Bloom Mountains SAC 000412	13.0	4010 Northern Atlantic wet heaths with Erica tetralix	Restore the favourable conservation condition	Agriculture - cultivation Agriculture - grazing Human intrusions and disturbances - walking, horseriding and non-motorised vehicles Mining, extraction of materials and energy production - peat extraction Natural system modifications - fire and fire suppression Sylviculture, forestry Sylviculture, forestry - forest planting on open ground Transportation and service corridors - roads, motorways Urbanisation, residential and commercial development - dispersed habitation
		7130 Blanket bogs <sup>Note 3</sup>	Restore the favourable conservation condition	
		91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) <sup>Note 2</sup>	Restore the favourable conservation condition	

For inspection purposes only.  
Consent of copyright owner required for any other use.

Note 1: Important orchid sites

Note 2: Indicates a priority habitat under the Habitats Directive

Note 3: If active bog

### 4.3 Conservation Objectives

The European Communities (Birds and Natural Habitats) Regulations define conservation objectives as *the maintenance and restoration of the habitat and species in respect of which the site has been identified as a European Site at favourable conservation status or their restoration to such favourable status*. In this context:

- the conservation status of a natural habitat means the sum of the influences acting on a natural habitat and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species
- the conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations

Furthermore:

- favourable conservation status of a natural habitat means the conservation status of a natural habitat when:
  - its natural range and areas it covers within that range are stable or increasing, and
  - the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
  - the conservation status of its typical species is favourable
- favourable conservation status of a species means the conservation status of a species when:
  - population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
  - the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
  - there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis;

The NPWS has published individual conservation objectives for each of the habitats identified in Section 4.2, either in the form of generic conservation objectives or site-specific conservation objectives. The closest Natura 2000 site to WGS – Charleville Wood SAC – has been assigned the following generic conservation objectives:

- To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected, namely old sessile oak woods with *Ilex* and *Blechnum* in the British Isles, and Desmoulin's Whorl Snail (*Vertigo moulinsiana*).

### 4.4 Site Descriptions / Synopses

The site synopses for each of the eight habitats within 15 km of the WGS site, and the Ramsar Information Sheet for the Clara Bog Nature Reserve, are included in Appendix 10.

## 5 ASSESSMENT OF LIKELY EFFECTS

### 5.1 Potential Impacts on Natura 2000 Sites

The potential impacts on Natura 2000 sites from the changes to the grain distillery, the development of the bottling hall, and the changes to the limits on the discharge of effluent are outlined in Table 5; more detailed assessments are set out in Sections 5.2, 5.3 and 5.4, and the potential for cumulative effects is examined in Section 5.5.

**Table 5: Potential Impacts on Natura 2000 Sites**

Assessment criteria	Assessment summary
<p>Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.</p>	<p>The changes to and developments at the WGS site do not involve any works directly on or adjacent to any Natura 2000 sites, and do not result in any new or significant emissions directly into or on to a Natura 2000 site.</p> <p>Effluent from the WGS site is treated in the municipal wastewater treatment plant (WWTP), which ultimately discharges treated waste water to the Tullamore River under waste water discharge licence D0039-01 issued by the EPA. The Tullamore River, which is not designated as a Natura 2000 sites, passes through the Charleville Wood SAC for approximately 1.24 km, approximately 330 m downstream from the discharge point from the WWTP.</p>
<p>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of:</p> <ul style="list-style-type: none"> <li>• size and scale</li> <li>• land-take</li> <li>• distance from the Natura 2000 site or key features of the site</li> <li>• resource requirements (water abstraction etc.)</li> <li>• emissions (disposal to land, water or air)</li> <li>• excavation requirements</li> <li>• transportation requirements</li> <li>• duration of construction, operation, decommissioning, etc.</li> <li>• other</li> </ul>	<p>The changes to and developments at the WGS site do not involve any works directly on or adjacent to any Natura 2000 sites, and do not result in any new or significant emissions directly into or on to a Natura 2000 site.</p> <p>The closest Natura 2000 site to WGS is Charleville Wood SAC, approximately 700 m to the northwest; the changes to and developments at the WGS site are confined to the existing site boundary and a marginal increase in site footprint contiguous with the existing site boundary.</p> <p>The potential for indirect impacts on Natura 2000 sites arises from the discharge of treated effluent from WGS to the municipal WWTP and the subsequent discharge of treated wastewater from the municipal plant to the Tullamore River which in turn passes through the Charleville Wood SAC.</p>

Assessment criteria	Assessment summary
<p>Describe any likely changes to the site arising as a result of:</p> <ul style="list-style-type: none"> <li>• reduction of habitat area</li> <li>• disturbance to key species</li> <li>• habitat or species fragmentation</li> <li>• reduction in species density</li> <li>• changes in key indicators of conservation value (water quality etc.)</li> <li>• climate change</li> </ul>	<p>The changes to and developments at the WGS are not expected to result in a reduction in habitat, disturb key species, result in habitat or species fragmentation, reduce species density, result in changes to key conservation indicators, or contribute significantly to climate change, in any Natura 2000 site.</p>
<p>Describe any likely impacts on the Natura 2000 site as a whole in terms of:</p> <ul style="list-style-type: none"> <li>• interference with the key relationships that define the structure of the site;</li> <li>• interference with key relationships that define the function of the site.</li> </ul>	<p>The changes to and developments at the WGS are not expected to result in interference with the key relationships that define the structure of or the function of any Natura 2000 site.</p>
<p>Provide indicators of significance as a result of the identification of effects set out above in terms of:</p> <ul style="list-style-type: none"> <li>• loss</li> <li>• fragmentation</li> <li>• disruption</li> <li>• disturbance</li> <li>• change to key elements of the site (e.g. water quality etc.)</li> </ul>	<p>The changes to and developments at the WGS are not within or adjacent to any Natura 2000 site and are not expected to result in any significant impact on any Natura 2000 site and therefore indicators of significance are not relevant to the changes and developments.</p>
<p>Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.</p>	<p>The changes to and developments at the WGS are not within or adjacent to any Natura 2000 site and are not expected to result in any significant impact on any Natura 2000 site. The scale of the changes and development, in terms of emissions to the environment and the footprint of the site are quantifiable and known.</p>

## 5.2 Effects from Grain Distillery

The changes to the grain distillery relate to the main and minor emissions to atmosphere and the re-configuration of the licensed emission points. Although the changes are associated with an industrial / production facility, they do not fall within any of the categories of threats to or negative impacts on any of the Natura 2000 sites. In particular, the changes:

- do not result in further urbanisation of the area
- do not contribute to dispersed habitation (the changes are within WGS's site boundary)
- do not introduce new or additional activities into Natura 2000 sites, or outside the boundary of the WGS site
- do not introduce new sources of pollution that could directly or indirectly impact on surface water quality, or increase the potential for the WGS site to adversely impact on surface water quality (surface water from the site is positively discharged from the surface water

attenuation ponds to an unnamed stream; the stream is not designated as a Natura 2000 site)

There will be no increase in the mass emission of particulate matter from the proposed change; the mass emission will decrease, and therefore the change will not have a significant direct or indirect impact on the surrounding area, or on any of the Natura 2000 sites in the vicinity of the WGS site.

The changes to the grain distillery also include several additional minor, potential and fugitive emission points, comprising relief and breathing valves on vessels, and relief panels associated with grain storage and transfer. These minor emission points are similar in nature to those included in the original licence application and any discharges to atmosphere from the minor emission points will not occur continuously, and none of the additional minor emission points introduce any new parameters discharged to atmosphere. Therefore, the changes in minor emission points will not have a significant direct or indirect impact on the surrounding area, or on any of the Natura 2000 sites.

In addition, as part of the planning process for the modifications to the grain distillery, Offaly County Council conducted a screening exercise for an appropriate assessment, which *deemed that the development is unlikely to have significant effects on any European sites*. In particular, the Council's screening report concluded that:

- The development is not likely to impact on an Annex 1 habitat.
- There will be no reduction in habitat area on a European site.
- Direct or indirect damage to the physical quality of the environment in the European site is not likely.
- Direct or indirect damage to the size, characteristics or reproductive ability of populations on the European site is not likely.
- Serious / ongoing disturbance to species / habitats for which the European site is selected is not likely.
- Direct / indirect damage to the size, characteristics or reproductive ability of populations on the European site is not likely.
- There is no potential for significant effects / Appropriate Assessment is not required.

### 5.3 Effects from Bottling Hall

As set out in Section 3.3.2, the development of the bottling hall requires an increase in the licensed site boundary to accommodate part of the car park and roadway serving the hall and approximately one-third of the footprint of the bottling hall. To accommodate the development, WGS has acquired additional land to the north west of the site, resulting in an overall increase in the footprint of the site of approximately 5.5% (an increase from 28.8 ha to approximately 30.4 ha). Although the introduction of the bottling hall results in a marginal increase in the footprint of the site, it does not encroach on or adjoin any Natura 2000 sites.

The report accompanying the planning application noted that although the development changes the nature of 1.57 ha of land use in the northwest corner of the site from forestry to industrial development, the additional footprint is zoned for *business / employment* under *Adopted Variation 1* to the *Tullamore Town and Environs Development Plan 2010 – 2016*. This is the same as the development zone for the original extent of the WGS site, and the area to the north of the bottling hall, and to the north of the WGS site in general, is also zoned for *business / employment*. Overall,



the report accompanying the planning application concluded that *the change will have an imperceptible impact in terms of the land use of the overall site and surrounding area.*

In the context of the discharge of surface water / storm water, the increased site footprint will increase the catchment area (hardstanding areas) for rainfall. Storm water from the increased area will be collected in the site's surface water drainage system, which comprise a series of impermeable open ditches (swales) and underground pipework that discharge into the attenuation ponds. The swales are constructed below ground level and include:

- impermeable geo-membrane lining to prevent the percolation of surface water into the ground
- filter trenchers containing crushed stone to provide filtering of potentially contaminated surface water from the hard-standing areas of the site (e.g. roads)
- perforated pipelines at the base of the swales to convey the surface water to the attenuation ponds

This drainage arrangement provides treatment for the surface water prior to entering the attenuation ponds and also provides temporary storage capacity during periods of high rainfall to augment the capacity provided in the attenuation ponds. The capacity of the surface water drainage system was designed to account for the maximum rate of discharge from the site, taking into account a 48-hour rainfall event, the area of hardstanding across the site, and the potential failure of the pumps that discharge the surface water from the ponds. There is sufficient capacity in the site's surface water drainage system to accommodate the additional catchment areas and therefore there the development does not significantly impact on the surrounding environment.

To support the application for planning permission, WGS commissioned an addendum to the traffic assessment that was carried out for the Environmental Impact Statement. The addendum concluded that *the overall traffic of the proposed expanded bottling plant on the adjoining road network will be insignificant.*

Although the development of the bottling hall increases the site footprint, the overall development does not fall within any of the categories of threats to or negative impacts on any of the Natura 2000 sites in the surrounding area. In particular, the development:

- does not result in further urbanisation of the area
- does not contribute to dispersed habitation – the additional footprint of the site is contiguous with the current footprint of the site and is on land zoned for industrial development (business / employment)
- does not introduce new or additional activities into Natura 2000 sites
- does not introduce new sources of pollution that could directly or indirectly impact on surface water quality, or increase the potential for the WGS site to adversely impact on surface water quality
- does not require any changes to the surrounding road network to accommodate the increase in traffic to and from the site

In addition, as part of the planning process for the bottling hall, Offaly County Council conducted a screening exercise for an appropriate assessment, which *deemed that the development is unlikely to have significant effects on any European sites.* In particular, the Council's screening report concluded that:

- The development is not likely to impact on an Annex 1 habitat.
- Direct or indirect damage to the physical quality of the environment in the European site is not likely.
- Direct or indirect damage to the size, characteristics or reproductive ability of populations on the European site is not likely.
- There is no potential for significant effects / Appropriate Assessment is not required.

## 5.4 Effects from Amendment to Effluent Limits

### 5.4.1 Effluent Treatment

Effluent from the production process will be treated in the site's waste water treatment plant prior to discharge to the municipal sewer. The site treatment includes the removal of suspended solids, and pH and temperature adjustment. The treated effluent is discharged from the site via emission point SE-1 to the Offaly County Council sewer for treatment at the Council's wastewater treatment plant at Kilcruttin, Tullamore.

The municipal treatment plant is licensed by the EPA (licence register number D0039-01) and has a capacity of 45,000 population equivalent (PE) biological treatment and 80,000 PE sludge treatment. The plant was originally constructed in 1985 with a design treatment capacity of 16,000 PE and underwent refurbishment in 1998 to meet the requirements of new legislation governing the concentration of phosphorous in effluent discharges. Additional works were also undertaken during the refurbishment programme, including odour treatment, improved screening, the provision of a flare stack and thickening of waste activated sludge via two new gravity filter belts.

The treatment process carried out at the plant is provided in the Council's application for a Waste Water Discharge Licence and is summarised in Table 6.

**Table 6: Description of Municipal Waste Water Treatment Process**

Stage	Description
Inlet works	Archimedes screw pumps, screened storm overflow. Mechanically raked screen with a screw compactor incorporating a screenings washing unit discharging to bagging unit. Grit traps.
Primary Treatment	Primary settlement tanks.
Phosphorus Removal	Ferric-chloride dosing to the primary settling tanks.
Roughing Filters	Trickling filters.
Aeration Tanks	Surface aerators.
Final Settlement Tanks	Settlement tanks
Primary Sludge Thickening	Transported from primary settlement to a picket fence thickener (PFT).
Sludge Treatment (Secondary)	Waste Activated Sludge is transferred to mechanical belt thickeners, which increase the dry solids content.

Stage	Description
Sludge Digestion and CHP Plant.	Sludge digester tank, gas mixing system, gas holder, separate gas, LPG boilers, and a gas electricity generator.  Primary / secondary sludge are pumped to the sludge digester tank, which anaerobically degrades the volatile fraction of the sludge to produce methane gas, carbon dioxide and water.
Sludge Dewatering	Sludge feed pumps, polymer make up and fees equipment, sludge flocculator, belt filter press, sludge cake conveyor and a press washing facility.

The treated effluent is ultimately discharged to the Tullamore River (which is not designated as a Natura 2000 site) in accordance with the limits on the discharge from the treatment plant which have been set to meet the requirements of the *Urban Wastewater Treatment Regulations*. In its application for a Waste Water Discharge Licence, Offaly County Council provided an assessment of the impact of the discharge from the treatment plant on the receiving waters (the Tullamore River). This assessment concluded that:

*Detailed calculations undertaken as part of both these Environmental Impact Statements have demonstrated that the receiving waters (at the 95<sup>th</sup> percentile flow) have the capacity to safely assimilate the wastes being produced by the plant. The assessment demonstrated that salmonid water quality standard could be attained for the volumes and effluent standards proposed even though the Tullamore River is not a designated salmonid river.*

#### 5.4.2 Assessment of Likely Effects

The likely effects of the development and associated effluent loads were assessed in the Environmental Impact Assessment as part of the original planning application and submitted with the application for the IPC licence. As the change to the licence limits does not give rise to any changes in the nature or capacity of the activity, the conclusions as to the likely effects from both the EIA and the Screening Studies for Appropriate Assessment accompanying the recent developments (refer to Section 5.2 and 5.3) remain valid.

Although the proposed changes to the licence limits increase in the effluent loads for certain parameters, the increase in effluent limits does not introduce any new sources of effluent and does not introduce any new pathways by which the effluent (or the site in general) could impact on the Natura 2000 sites. Furthermore, no new Natura 2000 sites have been designated in the vicinity of the site since the previous environmental assessments were carried out. The only change arising from the increase in the licence limits is an increase in the effluent volume and effluent load that will be treated in the municipal wastewater treatment plant. As noted in the letter of consent from Irish Water:

*Irish Water have reviewed the loads anticipated from phase TA1 [described in Section 3.4 and shown in Table 3] of this development and have concluded that the loads can be accepted at the Irish Water wastewater treatment plant.*

Therefore, the increase in the licence limits is unlikely to give rise to significant effects on the adjacent Natura 2000 sites.

In parallel to its engagement with Irish Water to agree the new effluent limits, WGS carried out additional effluent monitoring and monitoring of the Tullamore River upstream and downstream of the discharge point from the municipal wastewater treatment plant over a two-week period in April 2017. The objective of the monitoring was to examine the concentration of copper discharged from

the site and the influence of the discharge from the municipal plant on the concentration of copper downstream from the municipal treatment plant. The results from the monitoring are summarised in Table 7.

**Table 7: Summary of WGS monitoring results**

Location		Soluble Copper (mg/l)	Total Copper (mg/l)
WGS effluent	Range	0.0314 - 1.2140	0.0519 - 1.9270
	Average	0.4576	0.8788
Tullamore River	Upstream	Range	0.0006 - 0.0075
		Average	0.0017
	Downstream	Range	0.0001 - 0.0020
		Average	0.0012

The results show that there is some variation in the concentration of both soluble and total copper in the Tullamore River between the upstream and downstream monitoring locations. However, a comparison of the results for both total copper and soluble coppers shows that there is no significant difference between the upstream and downstream concentrations. Therefore, based on the results from WGS's monitoring, the contribution of copper discharged from the municipal treatment plant into the river is not significant.

The Tullamore River passes through the Charleville Wood SAC for approximately 1.24 km, with the SAC approximately 330 m downstream from the discharge point from the municipal treatment plant. The potential for effluent discharged from WGS with the characteristics proposed in Table 3 to be released from the municipal treatment plant without first being treated, and for the untreated or partially treated effluent *attributable to WGS* to significantly impact on the conservation objectives of the Charleville Wood SAC is considered to be unlikely.

#### 5.4.3 Environmental Quality Standard

In its interim report *Towards Setting Guideline Values for the Protection of Groundwater in Ireland* (2003), the EPA identified an interim guideline value (IGV) for copper and compounds for drinking water, and an environmental quality standard (EQS) for copper and compounds for surface waters:

- IGV 2.0 mg/l
- EQS 0.03 mg/l

Since then, the *European Communities Environmental Objectives (Surface Waters) Regulations, 2009*, have introduced an EQS for copper in inland surface waters of:

- 5 µg/l where the water hardness is less than or equal to 100 mg/l CaCO<sub>3</sub>
- 30 µg/l where the water hardness is greater than 100 mg/l CaCO<sub>3</sub>

The results from WGS monitoring in the Tullamore River show that the water hardness is greater than 100 mg/l CaCO<sub>3</sub>, and therefore the relevant EQS is 30 µg/l. As shown in Table 7, the average concentration of total copper in the river is in the order of 0.012 mg/l (12 µg/l), which is significantly less than the EQS.

As in the case of the changes to the grain distillery and the development of the bottling hall, the increase in emission limit values for discharges to sewer does not fall within any of the categories of

threats to or negative impacts on any of the Natura 2000 sites in the surrounding area. In particular, the increases in effluent limits:

- do not result in further urbanisation of the area
- do not introduce new or additional activities into Natura 2000 sites
- do not introduce new sources of pollution that could directly or indirectly impact on surface water quality, or increase the potential for the WGS site to adversely impact on surface water quality

## 5.5 Cumulative Effects

### 5.5.1 Combination of Changes & Developments at WGS

We have examined the potential for each of the three changes to and developments at WGS's site to significantly impact on Natura 2000 sites, and on the surrounding environment in general. As set out in Sections 5.2, 5.3 and 5.4, none of the changes are likely to give rise to significant impacts on Natura 2000 sites or their conservation objectives, either directly or indirectly. In addition, we have considered the potential cumulative effects from the three changes / developments. In our opinion, there are no adverse or significant cumulative impacts from the combination of individual impacts, which themselves are not significant.

### 5.5.2 Developments in Surrounding Area

Since the WGS site was developed under the original planning permission, there have been several developments subject to planning applications in the vicinity. The closest development to the WGS site is at a residential dwelling approximately 170 m to the west of the western site boundary. The development (under planning reference 16/259) comprised:

*The demolition of existing sheds and the construction of a new part two-storey, part single-storey extension to the rear and side of existing dwelling house. The works will include the renovation of the existing dwelling house, the upgrade of the waste water treatment system and all associated site works and services.*

In our opinion, the potential for the impacts from this development to interact with the impacts from the developments at the WGS site and result in an overall significant impact on a Natura 2000 site is not likely, due to the nature of the development, the distance between this development and the WGS site, and the overall distance to the nearest Natura 2000 site.

### 5.5.3 Licensed Facilities

There are three Industrial Emissions (IE) / Integrated Pollution Control (IPC) licensed facilities within 10 km of the WGS site, with a further four facilities between 10 km and 15 km from the WGS site, shown in Table 8 and Appendix 9. There are no facilities for which an application has been submitted to the EPA for a new IE / IPC licence within at least 15 km of the WGS site.

**Table 8: IE & IPC Facilities within 15 km of WGS**

Reg. No.	Name	Location	Licence activity	Date of first licence
P0833-01	Castle Paints	1.7 km NE	12.2.2 surface coatings (IPC)	May 2008
P0978-01	JMW Farms (Irl) Limited	1.96 km S	6.2 intensive agriculture (IE)	November 2014
P0638-01	BioNua Limited	2.65 km NW	5.6 chemicals (IPC)	October 2002
P0781-02	Kepak Kilbeggan	9.6 km N	7.4.1 food & drink (IE)	April 2007
P0820-01	Dunbia (Ireland)	11.7 km N	7.8 food & drink (IE)	May 2008
P0418-01	Glanbia Farms Limited (formerly Rosderra Farms)	9.8 km S	6.2 intensive agriculture (IE)	November 2000
P0435-02	Glanbia Farms Limited (formerly Rosderra Farms)	10.9 km S	6.2 intensive agriculture (IE)	December 2000

The potential impacts from these licensed facilities that could act in combination with any emissions from the WGS facilities are as follows:

- Castle Paints is licensed to discharge up to 0.18 kg/h of total particulates via a single licensed emission point and there are no process emissions to sewer.
- There are no licensed emissions to atmosphere, water or to sewer from JMW Farms (Irl) Limited.
- BioNua Limited is licensed to discharge SO<sub>x</sub>, NO<sub>x</sub>, CO and particulate matter from two main (boiler) emission points, with no emission limit values specified in the licence. It is also licensed to discharge up to 4.5 m<sup>3</sup> per day of process effluent to sewer, with emission limit values specified for temperature, pH, BOD, COD, total phosphorous, total nitrogen and suspended solids; the mass emissions are all less than those discharged from WGS.
- There are no licensed emissions to atmosphere or to sewer from Kepak Kilbeggan. The facility is licensed to discharge treated effluent from its wastewater treatment plant to the River Brosna. The Tullamore River is a tributary of the Clodiagh River, which in turn is a tributary of the River Brosna. The confluence of the Tullamore and Clodiagh Rivers is approximately 5.6 km downstream from the Tullamore municipal treatment plant, with the confluence of the Clodiagh River and River Brosna a further 10.1 km downstream.
- There are no licensed emissions to atmosphere from Dunbia (Ireland). The site is licensed to discharge effluent to the Westmeath County Council Sewer, with the effluent treated in the Kilbeggan treatment plant (under wastewater discharge licence D0103) and ultimately discharged to the River Brosna.
- There are no licensed emissions to atmosphere, water or to sewer from either of the Glanbia Farms Limited facilities.

The EPA's *Air Dispersion Modelling from Industrial Installations Guidance Note (AG4)* advises that when assessing the potential environmental impact of emissions to atmosphere from a licensed facility, a cumulative impact assessment should be conducted when there are other facilities discharging the same parameters with the *impact area*. The *impact area* is a circular area with a radius extending from the source to the most distant point at which the model predicts a 'significant' impact (greater than 5% of the relevant air quality standard). Based on the results from the air dispersion modelling of the particulate emissions that was carried out in support of the licence application, the Castle Paints facility lies outside the impact area and therefore there are no significant cumulative effects between it and the WGS facility.

In the context of emissions to sewer and the ultimate discharges of treated effluent to surface water, we do not consider that there are any significant cumulative impacts between the WGS facility and the surrounding IE / IPC facilities that could adversely impact on a Natura 2000 site.

#### 5.5.4 Local Development Plans

In addition, since the WGS site was developed, there have been no changes to the *Tullamore Town & Environs Development Plan 2010 – 2016*. The plan was first published in # and there have been two adopted variations:

- Adopted Variation No. 1 in July 2012, which comprised:
  - changes to the written statement and the land use zoning map providing for the reconfiguration of the southern part of the Southern Environs masterplan area by changing the zoning of 10.5 ha. of Open Space zoning to Business / Employment zoning and to allow for general industrial use to be open for consideration within the Business/Employment land use zoning, thus providing for more viable development of the southern part of the masterplan.*
- Adopted Variation No. 2 in May 2013, which comprised:
  - the inclusion of a Core Strategy
  - the inclusion of development standards for landscape buffer areas in Chapter 14
  - the inclusion of the term and explanation ‘Landscape Buffer’ in Chapter 15
  - a reduction in width by 50% of a portion of land zoned open space to the south of Tullamore at Clonminch providing for an increase of business / employment zoned lands

In developing the two adopted variations to the Plan, the local authority conducted screening for Strategic Environmental Assessment (SEA) and, in both cases, concluded that an SEA was not required. The original development of the WGS site and the recent developments at the grain distillery and bottling hall have been granted planning permission in the context of the *Tullamore Town & Environs Development Plan* and the two adopted variations.

#### 5.6 Summary

In line with the DEHLG guidance, which in turn refers to the Commission guidance *Nature and biodiversity cases: Ruling of the European Court of Justice*, we summarise our assessment of the significance, or otherwise, of the potential changes to and developments at the WGS site in Table 9.

**Table 9: Assessment of Significance of Potential Impacts**

Impact type	Significance indicator	Assessment for WGS site
Loss of habitat area	Percentage of loss	The changes to and developments at the WGS site do not encroach on, or adjoin, any Natura 2000 site and therefore there is no loss of habitat associated with any of the changes or developments.

Impact type	Significance indicator	Assessment for WGS site
Fragmentation	Duration or permanence, level in relation to original extent	The changes to and developments at the WGS site do not encroach on, or adjoin, any Natura 2000 site and therefore do not result in fragmentation of any Natura 2000 habitat. The increased footprint of the site is contiguous with the current site footprint.
Disturbance	Duration or permanence, distance from site	The changes to and developments at the WGS site do not encroach on, or adjoin, any Natura 2000 site and therefore do not directly disturb any species within a Natura 2000 habitat. The closest Natura 2000 site to WGS is Charleville Wood SAC and the only qualifying species is Desmoulin's Whorl Snail.
Species population density	Timescale for replacement	The changes to and developments at the WGS site do not encroach on, or adjoin, any Natura 2000 site and therefore are not likely to impact on the population of any species within a Natura 2000 habitat.
Water resource	Relative change	The changes to and developments at the WGS site do not encroach on, or adjoin, any Natura 2000 site or water resource and therefore are not likely to result in changes to any water resources.
Water quality	Relative change in key indicative chemicals & other elements	The changes to and developments at the WGS site do not encroach on, or adjoin, any Natura 2000 site or water body and therefore are not likely to directly impact on water quality. The treated effluent from WGS is further treated in the municipal treatment plant before being discharged to the Tullamore River, which passes through the Charleville Wood SAC. The potential for significant indirect impacts on the Natura 2000 habitat or species arising from WGS's effluent is considered unlikely.

## 6 SCREENING STATEMENT

We have assessed the changes to the grain distillery, the development of the bottling hall, and the changes to the licence limits for the discharge of effluent, in the context of the Natura 2000 sites in the vicinity of William Grant & Sons, taking into account proximity, qualifying criteria and conservation objectives of the sites. In our assessment, we have also taken into account the confirmation from Irish Water that the increased loads can be accepted for treatment in the municipal treatment plant, and the conclusions from the recent planning applications that appropriate assessment was not required.

In our opinion, there is no potential for significant effects on a Natura 2000 site arising from the changes to or developments at William Grant & Sons and therefore an Appropriate Assessment is not required.



## 7 REFERENCES

Department of Environment, Heritage and Local Government (2009), *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities*

Environmental Protection Agency (2010), *Air Dispersion Modelling from Industrial Installations Guidance Note (AG4)*

European Commission (2000), *Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/3/EEC*

European Commission (2001a), *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC*

European Commission (2001b), *Guidance on EIA Screening*

European Commission (2006), *Nature and biodiversity cases: Ruling of the European Court of Justice*

Moorkens, E.A. & Killeen, I.J. (2011), *Monitoring and Condition Assessment of Populations of Vertigo geyeri, Vertigo angustior and Vertigo moulinsiana in Ireland*. Irish Wildlife Manuals, No. 55. National Parks and Wildlife Service, Department of Arts, Heritage and Gaeltacht, Dublin, Ireland.

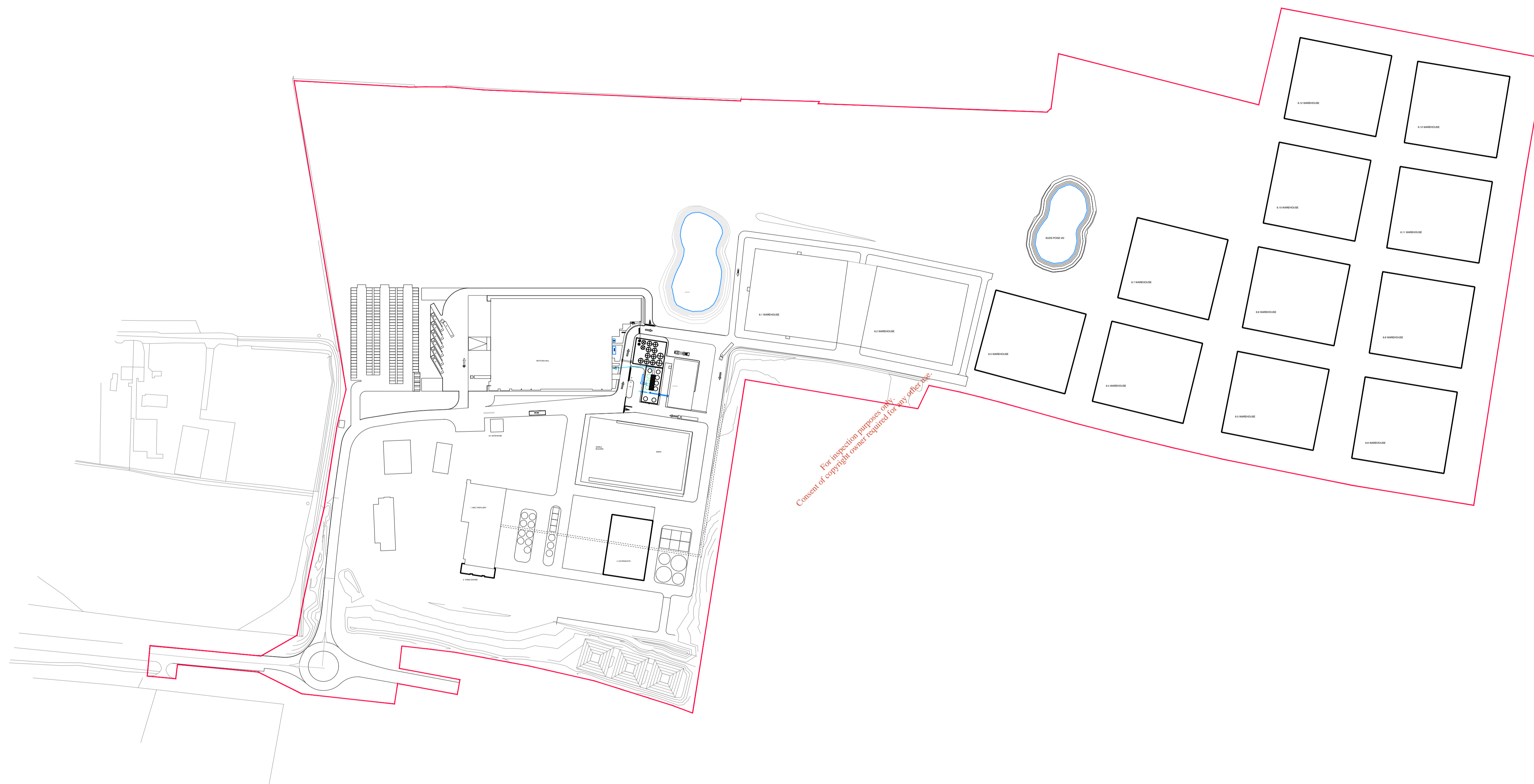
Perrin, P., Martin, J., Barron, S., O'Neill, F., McNutt, K. & Delaney, A. (2008) *National Survey of Native Woodlands - Volume 1 Main Report*. Unpublished Report to the National Parks & Wildlife Service.

Perrin, P., Martin, J., Barron, S., O'Neill, F., McNutt, K. & Delaney, A. (2008) *National Survey of Native Woodlands - Volume 2 Woodland Classification*. Unpublished Report to the National Parks & Wildlife Service.

\* \* \* \* \*

## APPENDIX 1: AMENDED SITE BOUNDARY

For inspection purposes only.  
Consent of copyright owner required for any other use.



TULLAMORE SITE DRAWING - NEW BOUNDARY LINE

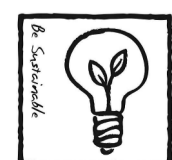
1:2000



This drawing is the copyright & intellectual property of William Grant & Sons Distillers Limited.

No part thereof may be copied or reproduced in any format, without the express written permission of an authorised William Grant & Sons representative.

do not scale from this drawing, if in doubt about any information on this drawing ASK



Please think of the environment and only print this drawing if absolutely necessary

rev	date	by	description	rev	date	by	description	rev	date	by	description
A	29.07.16	CT	FIRST ISSUE								
B	10.01.17	CT	SITE PLAN UPDATED TO SHOW BOTTLING HALL AND PROPOSED WAREHOUSES / SCALE AMENDED TO 1:2000 AND SCALE BAR ADDED								
C	13.03.17	CT	BOTTLING HALL STRIPPED DOWN TO OUTLINE AND BOUNDARY LINES AMENDED FOR CLARITY								

project:	TULLAMORE PROPOSED BOTTLING HALL
drawing:	FULL SITE PLAN
drawing no:	TUL-SI-L(--)-0001
revision:	B
scale:	1:2000
sheet:	A1
status:	PLANNING
drawn by:	
date:	
approved by:	
date:	

WILLIAM GRANT & SONS  
INDEPENDENT FAMILY DISTILLERS SINCE 1887

William Grant & Sons Distillers Limited  
Customer Service Centre  
Phoenix Crescent  
Strathclyde Business Park  
Bellshill  
ML4 3AN  
Scotland



Tel: +44 1698 843843

## APPENDIX 2: PLANNING PERMISSION FOR GRAIN DISTILLERY (PL2/16/134)

For inspection purposes only.  
Consent of copyright owner required for any other use.

WILLIAM GRANT & SONS IRISH MANUFACTURING LTD  
C/O MCCUTCHEON HALLEY WALSH  
CHARTERED PLANNING CONSULTANTS  
6 JOYCE HOUSE, BARRACK SQUARE  
BALLINCOLLIG  
CO. CORK

26/07/2016

**Re: PL2/16/134**

Dear Sir / Madam,

I enclose herewith, Grant of Planning Permission in the above.

Where applicable, a Copy of Chief Fire Officers's report is also enclosed.

Please be aware of your obligation to submit a Commencement Notice. More information regarding this process can be found on the Local Government Services website at [www.localgov.ie/en/link-type/bcms](http://www.localgov.ie/en/link-type/bcms)

To avail of the most up to date information regarding Building Control compliance, please refer to the information provided by the Department of the Environment and Local Government on their website at [http://www.environ.ie/en/Legislation/DevelopmentandHousing/BuildingStandards/FileDownload\\_42563.en.pdf](http://www.environ.ie/en/Legislation/DevelopmentandHousing/BuildingStandards/FileDownload_42563.en.pdf)

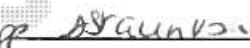
For guidance for homeowners undertaking construction work, please refer to the Health and Safety Authority website at [www.hsa.ie](http://www.hsa.ie)

Please also note:

- (a) All Development Contributions must be paid before development commences, otherwise development will be unauthorised.
- (b) A Waste Permit may be required for certain developments. Further information in relation to this is available from the Environment Section of Offaly County Council on (057) 9346895.

Please remove the site notice erected in respect of the above planning application.

Yours faithfully,



Administrative Officer  
Planning

**OFFALY COUNTY COUNCIL**  
**PLANNING AND DEVELOPMENT ACT 2000, AS AMENDED**  
**PLANNING AND DEVELOPMENT REGULATIONS 2001, AS AMENDED**  
**NOTIFICATION OF GRANT**

Planning Section  
Aras an Chontae  
Charleville Road  
Tullamore  
Co. Offaly

**TO:** WILLIAM GRANT & SONS IRISH MANUFACTURING LTD  
C/O MCCUTCHEON HALLEY WALSH  
CHARTERED PLANNING CONSULTANTS  
6 JOYCE HOUSE, BARRACK SQUARE  
BALLINCOLLIG  
CO. CORK

**Planning Register Number:** 16/134  
**Application Receipt Date:** 09/05/2016  
**Further Information Received Date:**

Notice is hereby given that in pursuance of the powers conferred upon them by the above-mentioned Acts, Offaly County Council has by order dated 17/06/2016 GRANTED PERMISSION to the above named, for the development of land, in accordance with the documents lodged, namely:-

MODIFICATION TO THE GRAIN DISTILLERY PERMITTED UNDER PLANNING REGISTER REFERENCE PL2/12/261 AND PERMISSION FOR ANCILLARY OFFICES, LABORATORY AND STAFF REST AREA. THE GRAIN DISTILLERY WILL CONSIST OF A CEREAL INTAKE FACILITY, MILL HOUSE (HEIGHT 28M), MASH HOUSE, A DISTILLATION APPARATUS (HEIGHT 29.32M) AND EXTERNALLY BUNDED TANK FARMS. THE PROPOSED DEVELOPMENT IS FOR MODIFICATIONS TO AN ESTABLISHMENT TO WHICH THE MAJOR ACCIDENTS DIRECTIVE APPLIES AND IS FOR THE PURPOSES OF AN ACTIVITY REQUIRING AN INTEGRATED POLLUTION PREVENTION AND CONTROL LICENCE AT CLONMINCH, TULLAMORE, CO. OFFALY

**Subject to the 2 conditions set out in the Schedule attached.**

In deciding the planning application, the Planning Authority had regard to submissions or observations received in accordance with the Regulations.

Signed on behalf of said Council

**Date:** 26/7/2016

*M. J. Kearney*  
**ADMINISTRATIVE OFFICER**

**OUTLINE PERMISSION** is subject to the permission consequent on the grant of outline permission of the Planning Authority. Until such permission has been obtained to the detailed plans, the proposed development is not authorised.

**NOTE:** The permission herein granted shall **expire on 11/02/2023** and cease to have effect as regards:-

- 1 In case of the development to which the permission relates is not commenced during the period, the entire development
- and
- 2 In case such development is so commenced, so much thereof as is not completed within that period.

**File Reference:** PL2/16/134

Application for permission for modification to the grain distillery permitted under planning register reference PL2/12/261 and permission for ancillary offices, laboratory and staff rest area. The grain distillery will consist of a cereal intake facility, mill house (height 28m), mash house, a distillation apparatus (height 29.32m) and externally bunded tank farms. The proposed development is for modifications to an establishment to which the major accidents directive applies and is for the purposes of an activity requiring an Integrated Pollution Prevention and Control Licence at Clonminch, Tullamore, Co. Offaly - William Grant & Sons Irish Manufacturing Ltd

### FIRST SCHEDULE

Having regard to the nature and scale and the use of the proposed development subject of this application, the issues raised in the planning assessments, third party submissions, referral reports, site inspection, existing pattern of development in the vicinity and the current Development Plan, it is considered that, subject to the conditions in the Second Schedule, that the development would not seriously injure the amenities of the area or of property in the vicinity, would not be prejudicial to public health and would otherwise accord with the proper planning and sustainable development of the area.

### SECOND SCHEDULE

1. The development shall be carried out in accordance with plans and particulars submitted to the Planning Authority on the 9th May 2016 except where altered or amended by conditions in this permission.

**Reason:** To define the scope of permission, in the interest of orderly development.

2. This permission relates to alterations to the details of works permitted in accordance with parent permission PL2/12/261 only and some additional works, all works shall be carried out in accordance with that permission including the attached conditions, except where otherwise shown in the drawings submitted on the 9th May 2016. The permission for works shall expire on the 11th February 2023.

**Reason:** In the interests of clarity and orderly development.

\*\*\*\*\*

### APPENDIX 3: PLANNING PERMISSION FOR BOTTLING HALL (PL2/16/256)

For inspection purposes only.  
Consent of copyright owner required for any other use.



WILLIAM GRANT & SONS IRISH MANUFACTURING LTD  
C/O MCCUTCHEON HALLEY WALSH  
CHARTERED PLANNING CONSULTANTS  
6 JOYCE HOUSE, BARRACK SQUARE  
BALLINCOLLIG  
CO. CORK

15 / 11 / 2016

Re: **PL2/16/256**

Dear Sir / Madam,

I enclose herewith, Grant of Planning Permission in the above.

Where applicable, a Copy of Chief Fire Officers's report is also enclosed.

Please be aware of your obligation to submit a Commencement Notice. More information regarding this process can be found on the Local Government Services website at [www.localgov.ie/en/link-type/bcms](http://www.localgov.ie/en/link-type/bcms)

To avail of the most up to date information regarding Building Control compliance, please refer to the information provided by the Department of the Environment and Local Government on their website at [http://www.environ.ie/en/Legislation/DevelopmentandHousing/BuildingStandards/FileDownload\\_42563,en.pdf](http://www.environ.ie/en/Legislation/DevelopmentandHousing/BuildingStandards/FileDownload_42563,en.pdf)


For guidance for homeowners undertaking construction work, please refer to the Health and Safety Authority website at [www.hsa.ie](http://www.hsa.ie)

Please also note:

- (a) All Development Contributions must be paid before development commences, otherwise development will be unauthorised.
- (b) A Waste Permit may be required for certain developments. Further information in relation to this is available from the Environment Section of Offaly County Council on (057) 9346895.

Please remove the site notice erected in respect of the above planning application.

Yours faithfully,

  
\_\_\_\_\_  
**Administrative Officer**  
**Planning**

**OFFALY COUNTY COUNCIL**  
**PLANNING AND DEVELOPMENT ACT 2000, AS AMENDED**  
**PLANNING AND DEVELOPMENT REGULATIONS 2001, AS AMENDED**  
**NOTIFICATION OF GRANT**

Planning Section  
Aras an Chontae  
Charleville Road  
Tullamore  
Co. Offaly

**TO:** WILLIAM GRANT & SONS IRISH MANUFACTURING LTD  
C/O MCCUTCHEON HALLEY WALSH  
CHARTERED PLANNING CONSULTANTS  
6 JOYCE HOUSE, BARRACK SQUARE  
BALLINCOLLIG  
CO. CORK

**Planning Register Number:** 16/256  
**Application Receipt Date:** 18/08/2016  
**Further Information Received Date:**

Notice is hereby given that in pursuance of the powers conferred upon them by the above-mentioned Acts, Offaly County Council has by order dated 03/10/2016 GRANTED PERMISSION to the above named, for the development of land, in accordance with the documents lodged, namely:-

AMENDMENTS TO THE BOTTLING HALL PERMITTED UNDER PLANNING REFERENCE PL2/15/232, WHICH WAS AN AMENDMENT TO THE DISTILLERY DEVELOPMENT PERMITTED UNDER PL2/12/261. THE PROPOSED DEVELOPMENT INCLUDES AN INCREASE IN THE DEVELOPMENT BOUNDARY (BY 1.57 HA); A CHANGE OF DESIGN AND INCREASE IN SIZE TO THE PERMITTED BOTTLING HALL (FROM 4,688M<sup>2</sup> TO 8,851M<sup>2</sup>), WHICH WILL INCLUDE OFFICES AND A STAFF RESTAURANT; AN INCREASE IN CAR PARKING; CHANGES TO THE INTERNAL ROAD LAYOUT AND LANDSCAPE PLAN AND ALL ANCILLARY SITE DEVELOPMENT WORKS. THE PROPOSED DEVELOPMENT IS FOR MODIFICATIONS TO AN ESTABLISHMENT TO WHICH THE MAJOR ACCIDENTS DIRECTIVE APPLIES AND IS FOR THE PURPOSES OF AN ACTIVITY REQUIRING AN INTEGRATED POLLUTION PREVENTION AND CONTROL LICENCE AT CLONMINCH, TULLAMORE, CO. OFFALY

**Subject to the 6 conditions set out in the Schedule attached.**

In deciding the planning application, the Planning Authority had regard to submissions or observations received in accordance with the Regulations.

Signed on behalf of said Council

**Date:** 15/11/16

*P. Madden*  
ADMINISTRATIVE OFFICER

**OUTLINE PERMISSION** is subject to the permission consequent on the grant of outline permission of the Planning Authority. Until such permission has been obtained to the detailed plans, the proposed development is not authorised.

**NOTE:** The permission herein granted **shall expire on 11/2/2023** and cease to have effect as regards:-

- 1 In case of the development to which the permission relates is not commenced during the period, the entire development
- and
- 2 In case such development is so commenced, so much thereof as is not completed within that period.

**File Reference:** PL2/16/256

Application for permission for amendments to the Bottling Hall permitted under planning reference PL2/15/232, which was an amendment to the distillery development permitted under PL2/12/261. The proposed development includes an increase in the development boundary (by 1.57 ha); a change of design and increase in size to the permitted Bottling Hall (from 4,688m<sup>2</sup> to 8,851m<sup>2</sup>), which will include offices and a staff restaurant; an increase in car parking; changes to the internal road layout and landscape plan and all ancillary site development works. The proposed development is for modifications to an establishment to which the Major Accidents Directive applies and is for the purposes of an activity requiring an Integrated Pollution Prevention and Control Licence at Clonminch, Tullamore, Co. Offaly - William Grant & Sons Irish Manufacturing Ltd

### FIRST SCHEDULE

Having regard to the nature and scale and the use of the proposed development subject of this application, the issues raised in the planning assessment, referral reports, site inspection, existing pattern of development in the vicinity and the current Development Plan, it is considered that, subject to the conditions in the Second Schedule, that the development would not seriously injure the amenities of the area or of property in the vicinity, would not be prejudicial to public health and would otherwise accord with the proper planning and sustainable development of the area.

### SECOND SCHEDULE

1. The development shall be in accordance with plans and particulars submitted on 18/8/2016 except where conditions hereunder specify otherwise.

**Reason:** In the interests of proper planning and sustainable development of the area.

2. (a) Prior to commencement of the development the developer shall submit for the written agreement of the Planning Authority details of all exterior façade finishes of the proposed development. The development shall be constructed in accordance with these agreed details.  
(b) Prior to commencement of the development the developer shall submit for the written agreement of the Planning Authority details of boundary treatments along the north and western site boundary. The development shall be constructed in accordance with these agreed details.

**Reason:** In the interests of visual amenity.

3. (a) Surface water run-off from the roofs, roads and hardstanding areas shall be collected and disposed of within the site to existing attenuation systems. No such surface water run-off shall be allowed to flow onto the public roadway or other adjoining properties.

Contd/...

Contd/...

**File Reference:** PL2/16/256

- (b) The developer shall ensure the effective operation and maintenance of the drainage system and ensure no polluting material enters the drainage system during the construction stage. Any refuelling areas, wheel wash facilities etc to be installed on site shall only discharge to a surface watercourse/drain via a class I oil interceptor.
- (c) Noise emissions from the development as measured at the nearest noise sensitive location ( such as dwellings, schools, places of worship or areas of high amenity) shall not exceed the following:

LAeq (60 minutes)	55dB(A)	8.00hrs to 20.00hrs
LAeq (15 minutes)	45dB(A)	20.00hrs to 8.00hrs

- (d) There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity at any noise sensitive location.
- (e) The developer shall liaise with premises in the vicinity of the site and notify of any proposed pile driving during the construction stage.
- (f) Any environmental nuisance i.e. excessive noise, dust, construction traffic, caused during construction of the development shall be contained at an acceptable level.
- (g) During the construction stage, the total dust deposition at the site boundaries shall not exceed 50 mg/m<sup>2</sup>/day averaged over a thirty day period.
- (h) In dry weather conditions, dust abatement measures during construction shall be applied to all loads leaving the site - dampening the load, covering the load or other appropriate measures. Water spraying of roads shall be carried out as necessary.
- (i) All wastes arising from/at the proposed development shall be managed in accordance with the Waste Management Acts 1996 as amended. While awaiting removal, all waste materials shall be stored in designated areas protected against spillage or leachate run-off.
- (j) Prior to commencement of the development, the developer shall submit a formal "Project Construction and Demolition Waste Management Plan" to the Local Authority for agreement prior to Commencement Notice Stage. This report shall include the following as a minimum:

**Demolition works** - details of waste types arising and estimated, proposed waste segregation, waste contractor to be engaged for each waste stream and final destination for each waste stream.

**Construction Works** - details of waste management practices to be implemented on the site including proposed segregation levels, if any, waste receptacles to be used, waste contractor to be engaged for each waste stream and final destination for each waste stream.

**Reason:** In the interests of public health.

Contd/...

Contd/...

**File Reference:** PL2/16/256

4. Prior to commencement of development, a contribution shall be payable to Offaly County Council, in accordance with the Council's Development Contribution Scheme, in respect of public infrastructure and facilities benefiting development in County Offaly, that is provided or that is intended will be provided by, or on behalf of, the Council.

The amount of the development contribution is set out below and is subject to annual revision with reference to the Wholesale Price Index (Building and Construction), and interest for late payment, in accordance with the terms of the Council's Development Contribution Scheme:-

<b>Class of Infrastructure</b>	<b>Amount of Contribution per sq.m.</b>
A (Amenities)	€4.68
B (Roads)	€9.32
<b>Total</b>	<b>€14.00 per sq metre</b>

**Total Amount Due** €14 x 4,163 sqm = **€58,282**

**Reason:** It is considered reasonable that the developer should contribute towards the expenditure incurred or proposed to be incurred by Offaly County Council in respect of the provision/improvement of public services/infrastructure benefiting development in the area of the Planning Authority.

5. This permission is for changes to the development granted planning permission under planning reference no. PL2/12/261 and PL2/15/232 and except for the changes authorised by this permission the development shall be carried out in all other respects in accordance with the relevant particulars and conditions of planning reference no. PL2/12/261 and PL2/15/232.

**Reason:** In the interest of the proper planning and development of the area.

6. Car parking spaces shall be clearly delineated.

**Reason:** In the interests of traffic safety.

\*\*\*\*\*

## APPENDIX 4: WGS SUBMISSION TO IRISH WATER

For inspection purposes only.  
Consent of copyright owner required for any other use.



## Tullamore Distillery Proposed Amendment to Integrated Pollution Control Licence: Discharge to Sewer May 2017

### Introduction

These Technical Amendments are phased to reflect the projected growth on the Tullamore Distillery Site. Technical Amendment 1 will address the most immediate needs of the site, to allow commissioning of the grain distillery in September 2017. Technical Amendment 2, to become effective in December 2018, will address the site's 5 Year Production Plan. It is our belief, following our discussions, that Technical Amendment 2 is approximately equivalent to an 18,000 P.E. allowable discharge.

### Technical Amendment 1:

Technical Amendment 1				
Volume	-	Max: 2,000 m <sup>3</sup> /day	Avg: 1,500 m <sup>3</sup> /day	Max: 100 m <sup>3</sup> /hr
COD	-	Max: 1,800 kg/day	Avg: 1,200 kg/day	-
TSS	2,000 kg/wk	Max: 350 kg/day	Avg: 300 kg/day	-
Total Nitrogen	-	Max: 45 kg/day	Avg: 30 kg/day	Max: 90 mg/L
Phosphorous	-	Max: 15 kg/day	Avg: 10 kg/day	Max: 30 mg/L
Copper (Total)	-	Max: 1.5 kg/day	-	-
Copper (Soluble)	-	-	-	Max: 4 mg/L
Temperature	-	-	-	Max: 40 deg C Avg: 35 deg C

1. Compliance determined based on monthly and/or 24 hour composite sample.
2. Max daily load not to be reached on more than 3 consecutive days.
3. Average daily load measured over each month.

Technical Amendment 1 Effective Date: Immediately Upon Approval

### Technical Amendment 2:

Technical Amendment 2				
Volume	-	Max: 2,000 m <sup>3</sup> /day	Avg: 1,800 m <sup>3</sup> /day	Max: 120 m <sup>3</sup> /hr
COD	-	Max: 3,315 kg/day	Avg: 2,550 kg/day	-
TSS	-	Max: 350 kg/day	Avg: 300 kg/day	-
Total Nitrogen	-	Max: 45 kg/day	Avg: 30 kg/day	Max: 90 mg/L
Phosphorous	-	Max: 15 kg/day	Avg: 10 kg/day	Max: 30 mg/L
Copper (Total)	-	Max: 1.5 kg/day	-	-
Copper (Soluble)	-	-	-	Max: 4 mg/L
Temperature	-	-	-	Max: 40 deg C Avg: 35 deg C

1. Compliance determined based on monthly and/or 24 hour composite sample.
2. Max daily load cannot be reached on more than 3 consecutive days.
3. Average daily load measured over each month.
4. Majority of flow (2/3) to be discharged during evening hours, between 10pm and 7am.

Technical Amendment 2 Effective Date: **December 2018**

<sup>1</sup>This is an estimate based on the best available current data. Per our previous discussion, a more detailed sampling program is currently being conducted and the data will be presented to you as soon as it is available.

### William Grant & Sons Irish Manufacturing Limited

Tullamore Distillery, Ballard & Clonminch, Tullamore, Co. Offaly  
telephone +353 (0)52 618 9898 Web [williamgrant.com](http://williamgrant.com)

## APPENDIX 5: IRISH WATER CONSENT TO CHANGE IN EFFLUENT LIMITS

For inspection purposes only.  
Consent of copyright owner required for any other use.





Ms Nicole Austin  
Commissioning Engineer  
William Grant and Sons Irish Manufacturing Ltd  
Clonminch  
Tullamore  
Co. Offaly

**Uisce Éireann**  
Bosca OP 6000  
Baile Átha Cliath 1  
Éire

**Irish Water**  
PO Box 6000  
Dublin 1  
Ireland

T: +353 1 89 25000  
F: +353 1 89 25001  
[www.water.ie](http://www.water.ie)

31/07/17

Dear Nicole,

I refer to recent discussions between Irish Water and William Grant and Sons Irish Manufacturing Ltd regarding construction of the new distillery in Tullamore, Co Offaly.

Irish Water have reviewed the loads anticipated from phase TA1 of this development and have concluded that the loads can be accepted at the Irish Water wastewater treatment plant.

A formal connection agreement will be required prior to the date of initial discharge.

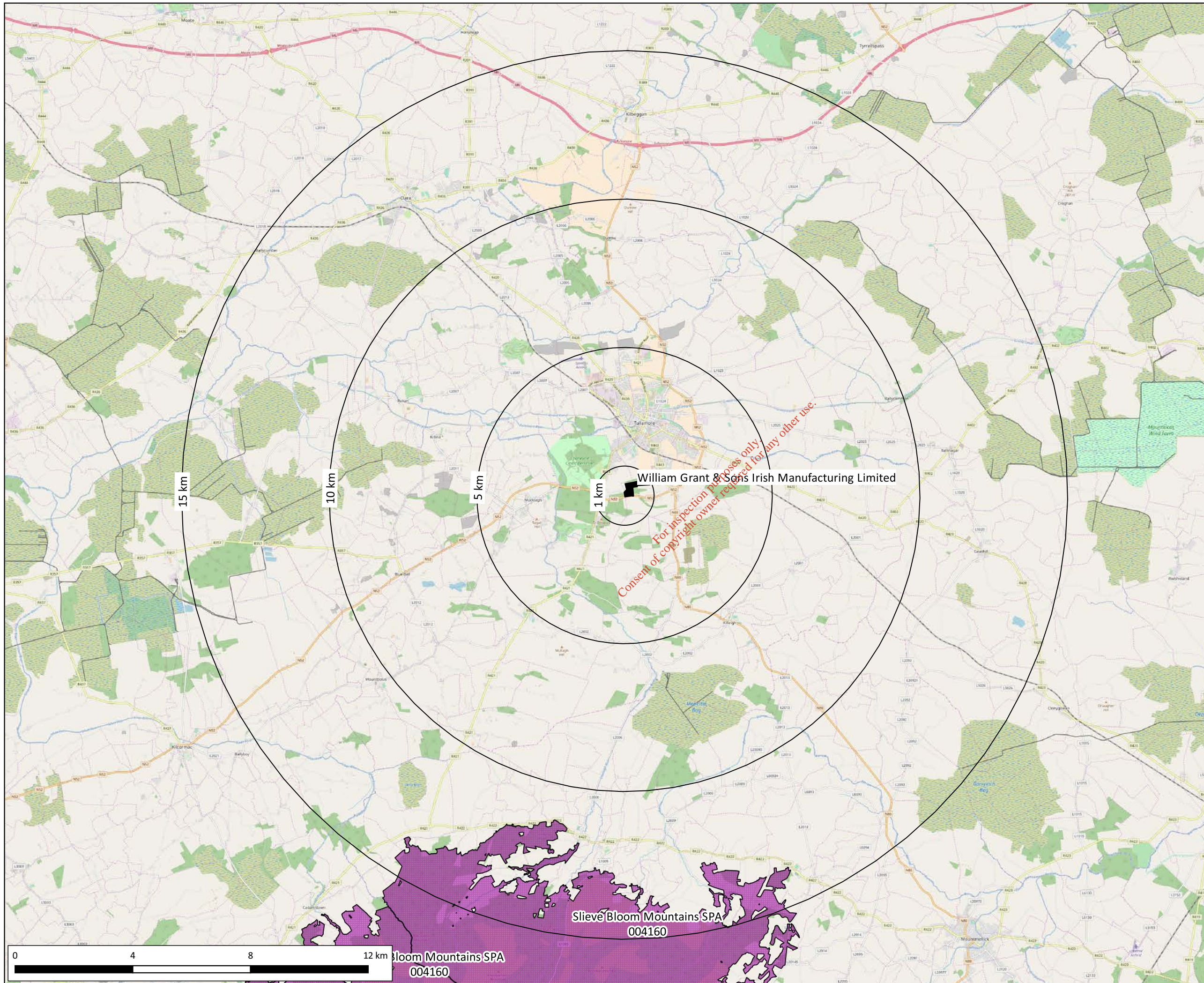
Regards,


Seamus Lee

Connections and Developer Services Regional Manager – 087-9788832

## APPENDIX 6: SPECIAL PROTECTION AREAS IN VICINITY OF WGS

For inspection purposes only.  
Consent of copyright owner required for any other use.

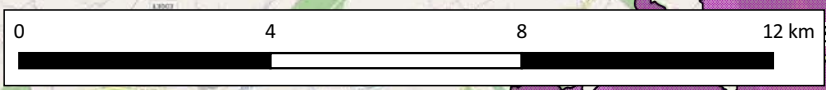


**Legend**  
 Special Protection Area (SPA)



For inspection purposes only.  
 Consent of copyright owner required for any other use.

William Grant & Sons Irish Manufacturing Limited



Slieve Bloom Mountains SPA  
004160



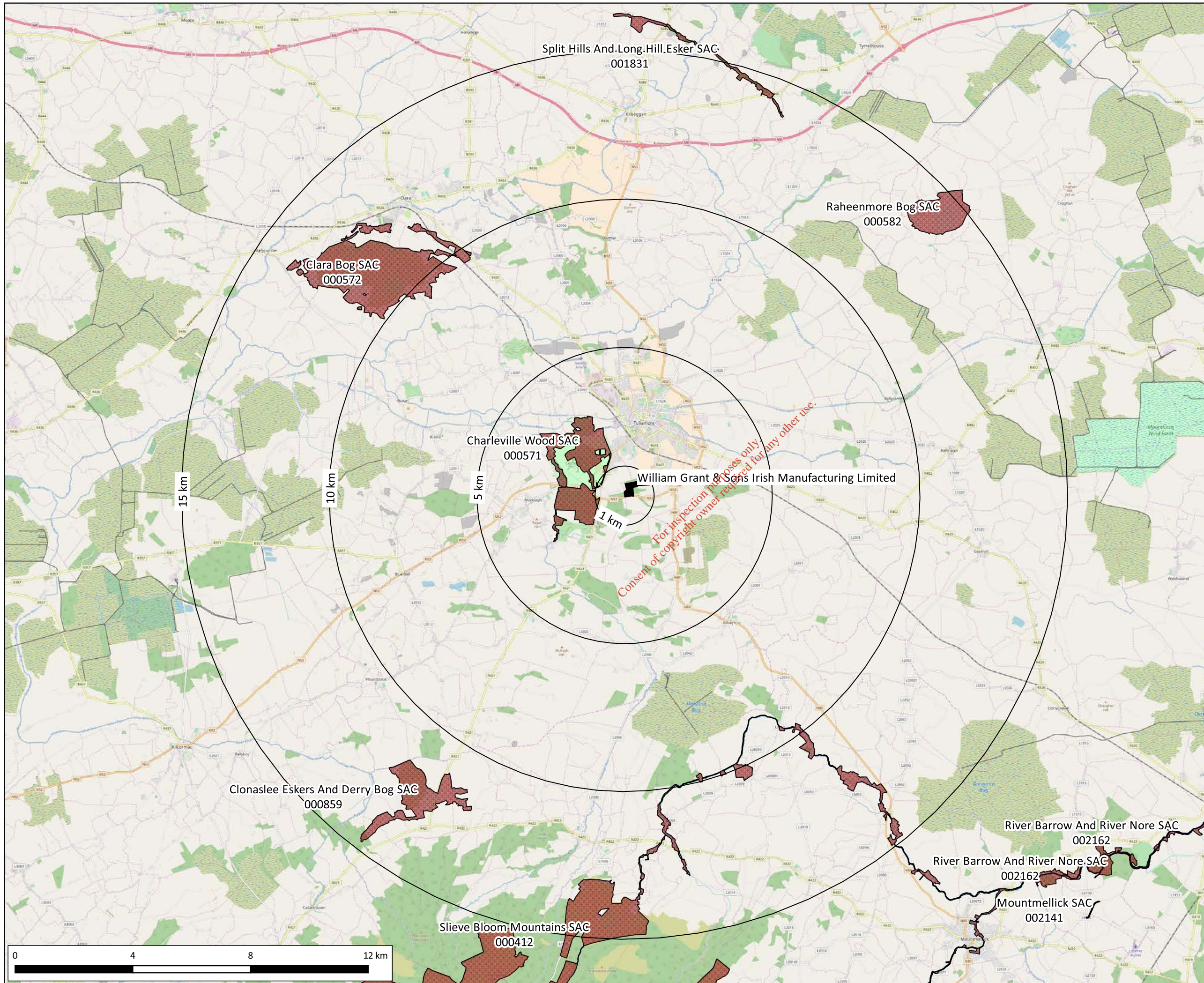
**Byrne Ó Cléirigh Ltd.**

30A Westland Square  
 Pearse Street, Dublin 2, D02 PN76, Ireland  
 t: 353 1 677 0733 | f: +353 1 677 0729 | e: info@boc.ie  
 www.boc.ie


Client	William Grant & Sons Irish Manufacturing		
Project	Screening for Appropriate Assessment		
Title	Special Protection Areas (SPA)		
Scale	1:200,000	472-X0010 Appendix 6	RO
FBS	472:07.02.18		


## APPENDIX 7: SPECIAL AREAS OF CONSERVATION IN VICINITY OF WGS

For inspection purposes only.  
Consent of copyright owner required for any other use.



**Legend**

 Special Area of Conservation (SAC)



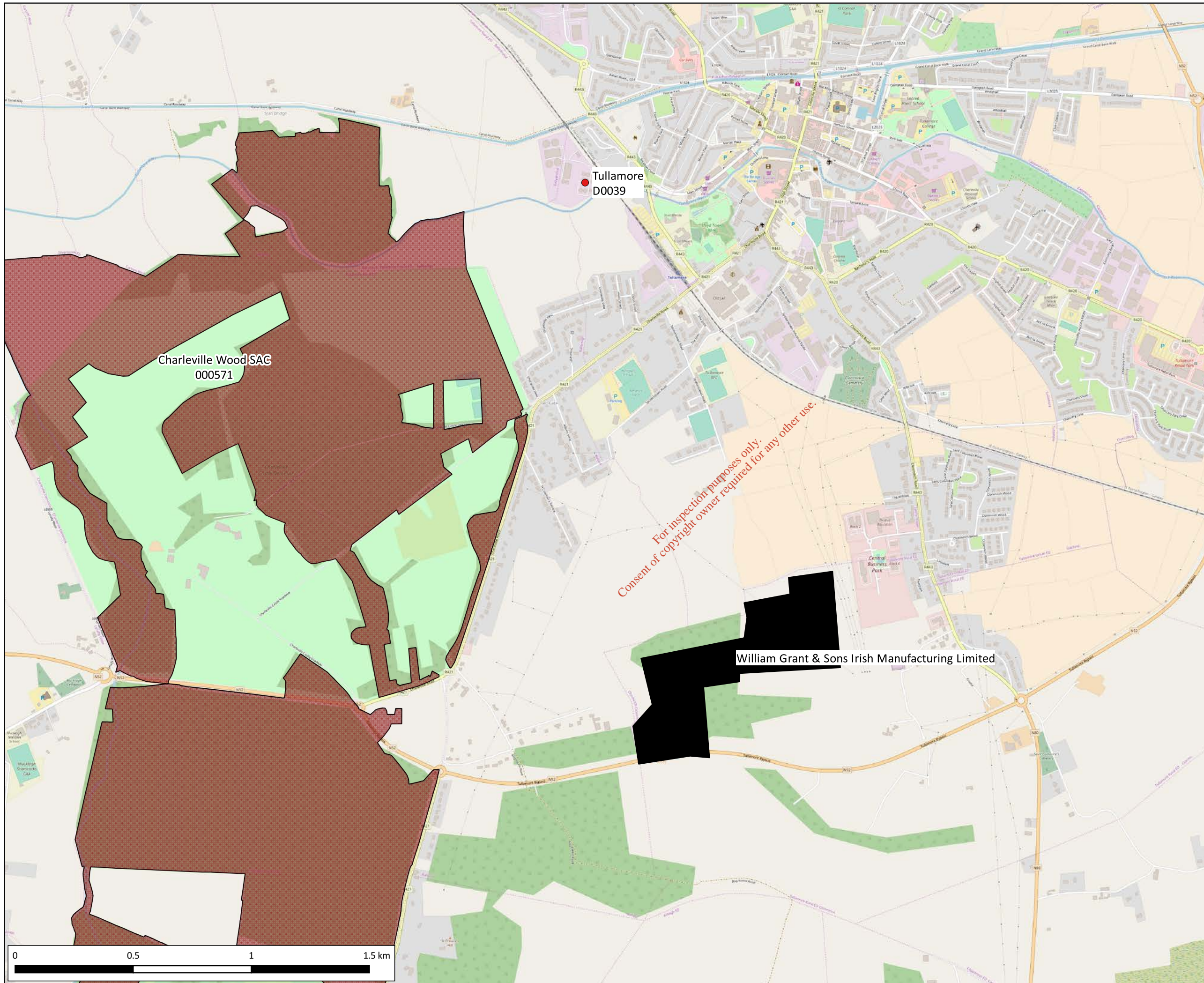


**Byrne Ó Cléirigh Ltd.**  
 30A Westland Square  
 Pearse Street, Dublin 2, D02 PN76, Ireland  
 t: 353 1 677 0733 | f: +353 1 677 0729 | e: info@boc.ie  
 www.boc.ie

Client	William Grant & Sons Irish Manufacturing		
Project	Screening for Appropriate Assessment		
Title	Special Areas of Conservation (SAC)		
Scale	1:200,000	472-X0010 R0 Appendix 7	RO
FBS	472:07.02.18		

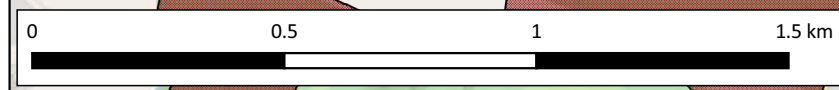
## APPENDIX 8: LOCATION OF WILLIAM GRANT & SONS AND TULLAMORE WWTP

For inspection purposes only.  
Consent of copyright owner required for any other use.



**Legend**

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



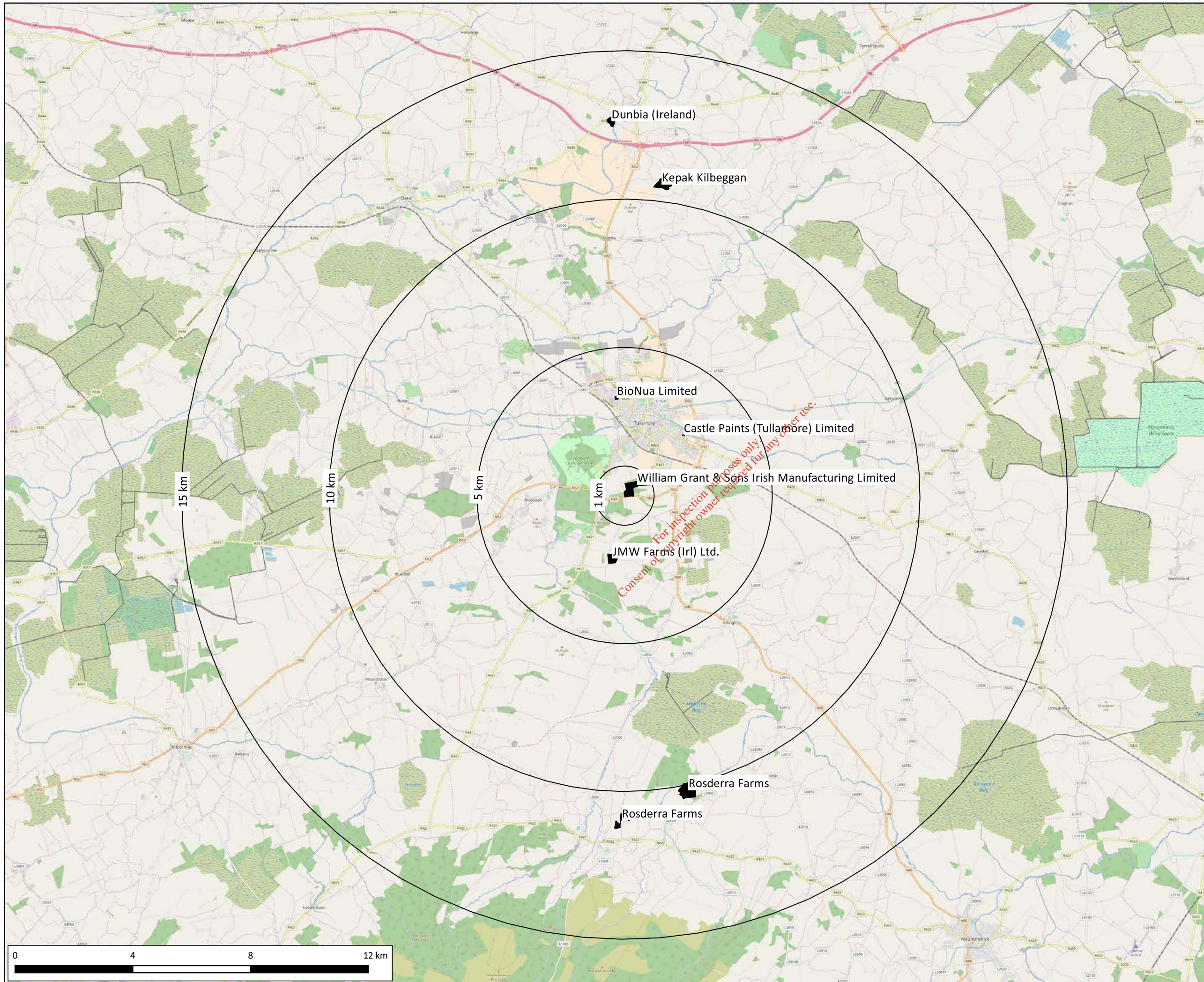
**Byrne Ó Cléirigh Ltd.**  
 30A Westland Square  
 Pearse Street, Dublin 2, D02 PN76, Ireland  
 t: 353 1 677 0733 | f: +353 1 677 0729 | e: info@boc.ie  
 www.boc.ie

Client	William Grant & Sons Irish Manufacturing		
Project	Screening for Appropriate Assessment		
Title	Location of William Grant & Sons and Tullamore WWTP (D0039)		
Scale	1:25,000	<b>472-X0010 Appendix 8</b>	RO
FBS	472:07.02.18		

## APPENDIX 9: IE & IPC FACILITIES WITHIN 15 KM OF WGS

For inspection purposes only.  
Consent of copyright owner required for any other use.





**Byrne Ó Cléirigh Ltd.**

30A Westland Square  
Pearse Street, Dublin 2, D02 PN76, Ireland  
t: 353 1 677 0733 | f: +353 1 677 0729 | e: info@boc.ie  
www.boc.ie

Client **William Grant & Sons Irish Manufacturing**

Project **Screening for Appropriate Assessment**

Title **IE & IPC Facilities within 15 km of William Grant & Sons**

Scale	1:200,000	472-X0010 R0 Appendix 9	RO
FBS	472:07.02.18		

## APPENDIX 10: SITE SYNOPSES FOR NATURA 2000 & RAMSAR SITES

For inspection purposes only.  
Consent of copyright owner required for any other use.

## SITE SYNOPSIS

**SITE NAME: SLIEVE BLOOM MOUNTAINS SPA**

**SITE CODE: 004160**

The Slieve Bloom Mountains SPA is situated on the border between Counties Offaly and Laois, and runs along a north-east/south-west aligned ridge for approximately 25 km. Much of the site is over 200 m in altitude, rising to a maximum height of 527 m at Arderin. The mountains are of Old Red Sandstone, flanked by Silurian rocks. Several important rivers rise within the site, including the Barrow, Delour and Silver.

The site has a near continuous ridge of mountain blanket bog, with wet and dry heaths also well represented. Species present in these habitats include Ling Heather (*Calluna vulgaris*), Crowberry (*Empetrum nigrum*), Bilberry (*Vaccinium myrtillus*), Cottongrasses (*Eriophorum* spp.), Deergrass (*Scirpus cespitosus*) and Bog Asphodel (*Narthecium ossifragum*). Much of the slopes are afforested, and overall coniferous plantations account for c. 60% of the site. The forests include first and second rotation plantations, with both pre-thicket and post-thicket stands present. Substantial areas of clear-fell are also present at any one time. The principal tree species present are Sitka Spruce (*Picea sitchensis*) and Lodgepole Pine (*Pinus contorta*). The remainder of the site is mostly rough grassland that is used for hill farming. This varies in composition and includes some wet areas with rushes (*Juncus* spp.) and some areas subject to scrub encroachment. Some stands of deciduous woodland also occur, especially within the river valleys.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for Hen Harrier.

This SPA is one of the strongholds for Hen Harrier in the country and, indeed, is the most easterly regular population. A survey in 2005 recorded eight pairs, whereas eleven pairs had been recorded in the 1998-2000 period. The numbers recorded in 2005 represent c. 3.7% of the all-Ireland total. The mix of forestry and open areas provides optimum habitat conditions for this rare bird, which is listed on Annex I of the E.U. Birds Directive. The early stages of new and second-rotation conifer plantations are the most frequently used nesting sites, though some pairs may still nest in tall heather of unplanted bogs and heath. Hen Harriers will forage up to c. 5 km from the nest site, utilising open bog and moorland, young conifer plantations and hill farmland that is not too rank. Birds will often forage in openings and gaps within forests. In Ireland, small birds and small mammals appear to be the most frequently taken prey.

The site is also a traditional site for a breeding pair of Peregrine. Several pairs of Merlin are known to breed within the site but further survey is required to determine the exact status of this small falcon. Red Grouse is found on many of the unplanted areas of bog and heath – this is a species that has declined in Ireland and is now Red-listed.

The Slieve Bloom Mountains SPA is of ornithological importance because it provides excellent nesting and foraging habitat for breeding Hen Harrier and is one of the top sites in the country for the species. The presence of three species, Hen Harrier, Merlin and Peregrine, which are listed on Annex I of the E.U. Birds Directive is of note. The Slieve Bloom Mountains is a Ramsar Convention site and a Biogenetic Reserve. Part of the Slieve Bloom Mountains SPA is a Statutory Nature Reserve.

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

20.1.2015

**Site Name: Charleville Wood SAC**

**Site Code: 000571**

Charleville Wood is a large Oak woodland surrounded by estate parkland and agricultural grassland located about 3 km south-west of Tullamore in Co. Offaly. The site, which is underlain by deep glacial deposits, includes a small lake with a wooded island, and a stream runs along the western perimeter. The woodland is considered to be one of very few ancient woodlands remaining in Ireland, with some parts undisturbed for at least 200 years.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (\* = priority; numbers in brackets are Natura 2000 codes):

[91A0] Old Oak Woodlands [1016] Desmoulin's Whorl Snail ( <i>Vertigo moulinsiana</i> )
---

At Charleville Wood, approximately 10% of the woodland has been under-planted with conifers and other exotic trees, but the rest of the area is dominated by Pedunculate Oak (*Quercus robur*). Apart from Oak, there is much Ash (*Fraxinus excelsior*) and scattered Wych Elm (*Ulmus glabra*), while birch (*Betula* spp.) is a feature of the boggy margins. The shrub layer is composed largely of Hazel (*Corylus avellana*), Hawthorn (*Crataegus monogyna*) and Blackthorn (*Prunus spinosa*). The ground layer is varied, including damp flushed slopes with Ramsons (*Allium ursinum*) and drier, more open areas with a moss sward composed largely of *Rhytidiadelphus triquetris*. The fungal flora of the woodland is notable for the presence of several rare Myxomycete species, namely *Hemitrichia calyculata*, *Perichaena depressa*, *Amaurochaete atra*, *Collaria arcyriomema*, *Stemonitis nigrescens* and *Diderma deplanata*.

Extensive swamps of Bulrush (*Typha latifolia*) and Bottle Sedge (*Carex rostrata*) have developed in the lake shallows. The wooded island at its centre is famed for its long history of non-disturbance. Hazel, Spindle (*Euonymus europaeus*) and Ivy (*Hedera helix*) reach remarkable sizes here.

The lake is an important wildfowl habitat - it supports populations of Mute and Whooper Swan and a number of duck species, including Teal, Wigeon, Shoveler, Pochard and Tufted Duck.

A number of unusual insects have been recorded in Charleville Wood, notably *Mycetobia obscura* (Order Diptera), a species known from only one other site in Ireland. The site is also notable for the presence of a large population of the rare snail species, *Vertigo moulinsiana*.

Charleville Wood is one of the most important ancient woodland sites in Ireland. The woodland has a varied age structure and is relatively intact with areas of both closed and open canopy, with regenerating saplings present in the latter. The understorey and ground layers are also well-represented. Old oak woodland is a habitat listed on Annex I of the E.U. Habitats Directive, while the rare snail species, *Vertigo moulinsiana*, is listed on Annex II of this Directive. The wetland areas, with their associated bird populations, rare insect and Myxomycete species, contribute further to the conservation significance of the site.

For inspection purposes only.  
Consent of copyright owner required for any other use.



**Site Name: Clara Bog SAC**

**Site Code: 000572**

Clara Bog is situated some 2 km south of Clara village in Co. Offaly. Much of it is State-owned and designated a statutory Nature Reserve.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (\* = priority; numbers in brackets are Natura 2000 codes):

[6210] Orchid-rich Calcareous Grassland*
[7110] Raised Bog (Active)*
[7120] Degraded Raised Bog
[7150] Rhynchosporion Vegetation
[91D0] Bog Woodland*

Active raised bog comprises areas of high bog that are wet and actively peat-forming, where the percentage cover of bog mosses (*Sphagnum* spp.) is high, and where some or all of the following features occur: hummocks, pools, wet flats, *Sphagnum* lawns, flushes and soaks. Degraded raised bog corresponds to those areas of high bog where hydrology has been adversely affected by peat cutting, drainage and other land use activities, but which are capable of regeneration. The Rhynchosporion habitat occurs in wet depressions, pool edges and erosion channels where the vegetation includes White Beak-sedge (*Rhynchospora alba*) and/or Brown Beak-sedge (*R. fusca*), and at least some of the following associated species: Bog Asphodel (*Narthecium ossifragum*), sundews (*Drosera* spp.), Deergrass (*Scirpus cespitosus*) and Carnation Sedge (*Carex panicea*).

Clara Bog has long been regarded as one of the most important raised bogs in the country, being the largest remaining example of the true midland sub-type. It has well-developed hummock and hollow complexes, and one of the few remaining soak systems. The bog vegetation at this site has been much-studied. Variations in the proportions of bog mosses (*Sphagnum* spp.), Heather (*Calluna vulgaris*) and cottongrasses (*Eriophorum* spp.) have been related to ecological features such as pools, soaks and ridges.

Rhynchosporion vegetation is widespread at this site but is best developed in the wettest areas of active raised bog. This vegetation occurs along pool edges and on flats underlain by deep, wet and quaking peat. Typical plant species which have been recorded from the habitat at the site include the bog mosses *S. cuspidatum* and *S.*

*auriculatum*, Bogbean (*Menyanthes trifoliata*), White Beak-sedge, Common Cottongrass (*Eriophorum angustifolium*) and the nationally scarce Brown Beak-sedge.

The largest part of the uncut high bog surface is comprised of degraded raised bog. Although the areas of degraded raised bog have a relatively well-developed raised bog flora, they are affected by water loss, to varying degrees, and thus they tend to be associated with the more marginal, sloping areas of the high bog. Common vascular plant species of degraded raised bog areas include Heather, Bog Asphodel, Hare's-tail Cottongrass (*Eriophorum vaginatum*), Deergrass, Cross-leaved Heath (*Erica tetralix*) and Carnation Sedge. Indicator species of midland raised bog habitat, such as Bog-rosemary (*Andromeda polifolia*) and *Sphagnum magellanicum*, are present even within areas of degraded bog, however their cover is generally low. The cover of *Sphagnum* is also low (typically < 30%) due to low water levels and perhaps other factors such as burning.

Bog woodland on Clara Bog occurs in several small stands associated with flushes on the western side of the bog, the largest of which lies to the west of Shanley's Lough. There is a good example of a wet birch (*Betula* sp.) woodland which has a diverse vegetation, and the most easterly flush has open water associated with it.

The transitions into calcareous woodland, to the east and to the esker ridge, to the north, are contained within the site, and some excellent examples of esker grassland also occur. Some peripheral reclaimed farmland is also included in the site, because management undertaken in these areas can affect the hydrology of the bog.

Several rare invertebrate species are associated with the soak on this bog, including the midge, *Lasiodiamesa sphagnicola* (Order Diptera), for which Clara Bog is its only known Irish site, a click beetle *Ampedus pomorum* (Order Coleoptera), and another midge, *Parhelophilus consimilis* (Order Diptera). Marsh Fritillary (*Euphydryas aurinia*, Order Lepidoptera), a butterfly listed on Annex II of the E.U. Habitats Directive, has been recorded from the site, but in its present condition the habitat is only marginally suitable for the species and any populations present are likely to be intermittent, small and short-lived. Natural and human-induced changes are likely to make the habitat less suitable in the future. The bog is also important at the only known Irish station for the rare moss *Tetraplodon angustatus*.

Clara Bog supports breeding Merlin (1-2 pairs), a scarce species in Ireland and one that is listed on Annex I of the E.U. Birds Directive. Red Grouse also breeds, along with other common bogland species such as Meadow Pipit and Skylark.

The site has been divided into a western and an eastern section by a road. The eastern part of the site has been damaged by previous drainage works, although restoration work is in progress. Continuing peat extraction from the southern margins is also damaging and has a potential effect upon much of the internal bog, including the soak system. Ideally the whole bog should be managed as a hydrological unit.



Active raised bogs, once characteristic of central Ireland, are now rare and vulnerable, and have been recognised by the E.U. as habitats of international importance. Ireland has a special responsibility to conserve the best of its remaining bogs. Further drainage, peat extraction, burning or attempted land reclamation is not consistent with this responsibility.

*For inspection purposes only.  
Consent of copyright owner required for any other use.*



**Site Name: Raheenmore Bog SAC**

**Site Code: 000582**

This raised bog developed in a small basin in the catchment of two major river systems i.e. the Brosna and the Boyne. It is situated about 5 km from Daingean in Co. Offaly. The peat is very deep, up to 15 m in places. The bog has a well-developed hummock and hollow system.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (\* = priority; numbers in brackets are Natura 2000 codes):

[7110] Raised Bog (Active)*
[7120] Degraded Raised Bog
[7150] Rhynchosporion Vegetation

Active raised bog comprises areas of high bog that are wet and actively peat-forming, where the percentage cover of bog mosses (*Sphagnum* spp.) is high, and where some or all of the following features occur: hummocks, pools, wet flats, *Sphagnum* lawns, flushes and soaks. Degraded raised bog corresponds to those areas of high bog whose hydrology has been adversely affected by peat cutting, drainage and other land use activities, but which are capable of regeneration. The Rhynchosporion habitat occurs in wet depressions, pool edges and erosion channels where the vegetation includes White Beak-sedge (*Rhynchospora alba*) and/or Brown Beak-sedge (*R. fusca*), and at least some of the following associated species, Bog Asphodel (*Narthecium ossifragum*), sundews (*Drosera* spp.), Deergrass (*Scirpus cespitosus*) and Carnation Sedge (*Carex panicea*).

Raheenmore Bog contains a relatively large wet central core of active raised bog. The hummocks are often colonised by the bog mosses *S. imbricatum* and *S. fuscum*. Pools are well-represented, and it is the pool edges and wet lawns that the Rhynchosporion habitat is best developed. These areas are typically dominated by the bog moss *S. cuspidatum*. The associated vascular plant flora is species-poor, with Bogbean (*Menyanthes trifoliata*), White Beak-sedge, Bog Asphodel, Common Cottongrass (*Eriophorum angustifolium*) and Great Sundew (*Drosera anglica*) being the main species. In places, lawns of *Sphagnum magellanicum* have infilled the pools. Overall, the cover of *Sphagnum* moss on the bog is very good.

Degraded raised bog dominates the marginal areas of the uncut high bog where drainage effects are most pronounced. The vegetation of these degraded areas is still dominated by plant species typical of intact raised bog, though the vegetation tends to be less species-rich than in intact areas and the cover of *Sphagnum* is usually below

25%. The typical dominant species in degraded areas include Heather (*Calluna vulgaris*), Bog Asphodel, Cottongrasses (*Eriophorum* spp.), Deergrass, Cross-leaved Heath (*Erica tetralix*) and Carnation Sedge.

Of note at this site is the fact that, on the western side, mineral springs feeding the lagg zone still survive. A lagg zone is the transitional area at the edge of a bog, between the raised bog peat and the surrounding mineral soils. Conditions are often different here due to the fact that the water in the lagg zone is a mix of water coming from the bog as well as mineral-rich waters from outside. Lagg zones are uncommon features now, due to peat cutting and other land use activities which have removed or altered them significantly in most cases.

The high bog is surrounded by cutover bog. Some sections of old cutover have narrow strips of Downy Birch (*Betula pubescens*) woodland developing. Much of the rest of the cutover is now wet grassland, rich in rushes (*Juncus* spp.) and Purple Moor-grass (*Molinia caerulea*). Common Valerian (*Valeriana officinalis*), Meadowsweet (*Filipendula ulmaria*) and Brown Sedge (*Carex disticha*) can also be found in fields at the bog margins.

In 1959, the very rare Rannock-rush (*Scheuchzeria palustris*), found in its only Irish station in a nearby bog, was transplanted to Raheenmore Bog. However, it has not been recorded recently and may be now extinct.

Raheenmore Bog is within the breeding territory of a pair of Merlin, a scarce species in Ireland and one that is listed on Annex I of the E.U. Birds Directive. Other typical bogland birds which breed here include Red Grouse and Snipe. Red Grouse has declined in Ireland in recent years and is now a Red-listed species.

The structure of the bog habitat has been affected by drainage. This has resulted from peat-cutting along the margins of the bog which has led to the lowering of the water table within the adjoining, intact high bog areas. However, the prospects for the future functioning of the habitat are generally good, as the National Parks and Wildlife Service (NPWS) own much of the site and an extensive programme of drain blocking has taken place. Although the north-eastern section of the bog suffered from burning in the past, the majority of the site is relatively unaffected by this practice at present. Also, peat extraction has largely discontinued.

Raheenmore Bog is a classic example of a midland raised bog and the deepest remaining in Ireland. It is of high conservation importance as it contains good examples of the priority Annex I habitat active raised bog, and the non-priority habitats degraded raised bog and depressions on peat substrates (Rhynchosporion). Most of the site is owned by the NPWS and there has been considerable research and restoration work carried out on the site over the past 15 years. Of particular notes is that this is one of the few raised bogs where restoration of the lagg zone remains feasible.



**Site Name: Split Hills and Long Hill Esker SAC**

**Site Code: 001831**

Split Hills and Long Hill Esker is a 5 km long site which crosses the main Galway-Dublin road mid-way between Kilbeggan and Tyrrellspass in Co. Westmeath. It is a prominent feature on the local landscape.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (\* = priority; numbers in brackets are Natura 2000 codes):

[6210] Orchid-rich Calcareous Grassland*
--

The main habitat at this site is semi-natural woodland dominated by Hazel (*Corylus avellana*), Ash (*Fraxinus excelsior*) and Hawthorn (*Crataegus monogyna*). Pedunculate Oak (*Quercus robur*), Wych Elm (*Ulmus glabra*) and Irish Whitebeam (*Sorbus hibernica*) are other important constituents. There are very fine examples of these trees throughout the site, with some of the Hazel trees, in particular, being impressive. The ground flora is species-rich and includes Primrose (*Primula vulgaris*), Enchanter's-nightshade (*Circaea lutetiana*), Golden-saxifrage (*Chrysosplenium oppositifolium*), Bluebell (*Hyacinthoides non-scripta*), Ground-ivy (*Glechoma hederacea*), Sanicle (*Sanicula europaea*) and other typical woodland plants. The scarce woodland grass, Wood Fescue (*Festuca altissima*), is present, and the scarce Bird's-nest Orchid (*Neottia nidus-avis*) has also been recorded here. The presence of Wych Elm is interesting in view of its decline due to Dutch elm disease.

Several areas of species-rich calcareous grassland occur, with typical calcicole species such as Yellow-wort (*Blackstonia perfoliata*), Carlina Thistle (*Carlina vulgaris*), Mountain Everlasting (*Antennaria dioica*) and Early-purple Orchid (*Orchis mascula*). These occur on unstable old and active quarry faces, and on cleared woodland areas.

Areas of scrub with Blackthorn (*Prunus spinosa*) and Gorse (*Ulex europaeus*) occur, and regenerating Hazel scrub exists in some areas where woodland has been cleared. Other habitats in the site include a small lake and freshwater marsh with Slender Sedge (*Carex lasiocarpa*).

Narrow-leaved Bitter-cress (*Cardamine impatiens*) occurs among the woodland flora at this site. It is an annual or biennial, whose populations are known to 'disappear' in some years only to 'reappear' again. The species is protected under the Flora (Protection) Order, 1999, and this is its only known location in Ireland. Another legally protected species, Red Hemp-nettle (*Galeopsis angustifolia*), occurs on more open ground on the esker.

The main threat to the esker is quarrying for sand and gravel. This activity already occurs on the site at several locations. Grazing is a critical factor affecting esker habitats, and getting a balance right is important. The presence of too many grazers causes damage to the ground vegetation in both woodlands and grasslands and prevents regeneration of woody species. However, if the grazing level is too low, grasslands are vulnerable to the encroachment of scrub at the expense of species which require open conditions. Fertiliser application, associated with agricultural improvement, also leads to a reduction in species-richness of grasslands.

Split Hill and Long Hill Esker is one of the finest and longest wooded eskers in the country. It is also one of the few woodlands in the area and a fine geomorphological feature of great scenic value. The trees are particularly well-grown and impressive, and much of the woodland has developed naturally on its steep slopes. The presence of a species-rich ground flora, which includes a rare and legally protected plant species at its only known Irish location, makes this site of great botanical and ecological importance. The site also supports some excellent examples of calcareous grassland which is rich in orchids. The increasing rarity of this habitat (due to agricultural intensification) is recognised in that it is awarded priority status on Annex I of the E.U. Habitats Directive.

For inspection purposes only.  
Consent of copyright owner required for any other use.



**Site Name: Clonaslee Eskers and Derry Bog SAC**

**Site Code: 000859**

Located approximately 5 km west of the town of Clonaslee, and largely in Co. Laois, this site consists of a series of morainic hills and esker ridges which are the legacy of the last period of glaciation. To the north-west, the Derry Hills are two isolated hills situated in a bog, which forms part of the site. The main esker ridge runs along the southern part of the site.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (\* = priority; numbers in brackets are Natura 2000 codes):

[7230] Alkaline Fens
[1013] Geyer's Whorl Snail ( <i>Vertigo geyeri</i> )

An unusual assemblage of plants is found on the western part of the esker and on the Derry Hills. Calcicole species such as Mountain Everlasting (*Antennaria dioica*), Yellow-wort (*Blackstonia perfoliata*), Autumn Gentian (*Gentianella amarella*) and Carlina Thistle (*Carlina vulgaris*) grow with species more typical of acid heaths. These include Tormentil (*Potentilla erecta*), Fragrant Orchid (*Gymnadenia conopsea*), Goldenrod (*Solidago virgaurea*) and Heather (*Calluna vulgaris*). Wood Vetch (*Vicia silvatica*) and Bitter-vetch (*Lathyrus montanus*) occur in limestone heath on the Derry Hills. These species are very restricted in their distribution in Ireland. Blue Moor-grass (*Sesleria albicans*) has also been recorded, a rare occurrence of this species in a location east of the River Shannon.

Small disused gravel pits occur within the site, which are vegetated by species such as Field Madder (*Sherardia arvensis*), Common Whitlowgrass (*Erophila verna*) and Thyme-leaved Sandwort (*Arenaria serpyllifolia*).

Both the southern esker and the Derry Hills support patches of woodland. In some areas, an open canopy of Sessile Oak (*Quercus petraea*) and Silver Birch (*Betula pendula*) occurs. Beneath this, the ground flora includes Wood Anemone (*Anemone nemorosa*), Wood Sage (*Teucrium scorodonia*) and Bilberry (*Vaccinium myrtillus*). In the south-western part of the site, woodland dominated by Hazel (*Corylus avellana*) is more common. Ash (*Fraxinus excelsior*), Hawthorn (*Crataegus monogyna*) and Sycamore (*Acer pseudoplatanus*) also occur, with Sessile Oak and Downy Birch.

To the east of the road water percolates down through the glacial material of the esker ridge and emerges in a series of small, calcium-rich springs which flow into cut-away bog to the north. This has resulted in the creation of a species-rich alkaline

fen. Black Bog-rush (*Schoenus nigricans*) dominates the vegetation here. Also present are Pale Butterwort (*Pinguicula lusitanica*), Meadow Thistle (*Cirsium dissectum*), Round-leaved Sundew (*Drosera rotundifolia*) and the distinctive Fly Orchid (*Ophrys insectifera*). The latter species is confined to parts of the west and midlands of Ireland, where it occurs only occasionally.

Derry Bog, which is a cut-away raised bog, lies to the north-west of the site. This supports a typical range of bog mosses (*Sphagnum* spp.) and flowering plants, such as Heather and Bog Asphodel (*Narthecium ossifragum*).

The rare whorl snail *Vertigo geyeri* was recorded from the fen area at this site in 1998. This species is a glacial relic with a disjunct European population, which is considered vulnerable due to loss of habitat, particularly through drainage.

Two plant species protected under the Flora (Protection) Order, 1999, occur within the site. Wood Bitter-vetch (*Vicia orobus*) occurs in quantity among oak/birch scrub on the Derry Hills. This species has declined due to land reclamation and has only been seen at one other location since 1970. Basil Thyme (*Acinos arvensis*) occurs in a disused gravel pit and has been seen at only three other sites since 1970. This species favours open gravel and has declined due to the agricultural use of herbicides. Blue Fleabane (*Erigeron acer*) had been recorded with Basil Thyme at this site. This species is rare and threatened in Ireland, and is listed in the Red Data Book as a species confined mostly to open gravel habitats in central and south-eastern Ireland.

A significant land use practice within the site is the extraction of gravel. One quarry west of the road is currently being worked. This activity leads directly to destruction of the esker and irreparable damage to the site. Some of the esker grasslands (mostly at the western end) have been improved either for pasture or for arable farming.

This site is of conservation importance for the presence of alkaline fen vegetation and is considered one of the best sites in the south-east region for this habitat. Also of interest is the extremely unusual assemblage of plants associated with the esker ridges, which includes three rare plants, two of which are legally protected in Ireland. Of further conservation importance is the presence of the rare snail *Vertigo geyeri*.

**Site Name: River Barrow and River Nore SAC**

**Site Code: 002162**

This site consists of the freshwater stretches of the Barrow and Nore River catchments as far upstream as the Slieve Bloom Mountains, and it also includes the tidal elements and estuary as far downstream as Creadun Head in Waterford. The site passes through eight counties – Offaly, Kildare, Laois, Carlow, Kilkenny, Tipperary, Wexford and Waterford. Major towns along the edge of the site include Mountmellick, Portarlinton, Monasterevin, Stradbally, Athy, Carlow, Leighlinbridge, Graiguenamanagh, New Ross, Inistioge, Thomastown, Callan, Bennettsbridge, Kilkenny and Durrow. The larger of the many tributaries include the Lerr, Fushoge, Mountain, Aughavaud, Owenass, Boherbaun and Stradbally Rivers of the Barrow, and the Delour, Dinin, Erkina, Owveg, Munster, Arrigle and King’s Rivers on the Nore.

Both rivers rise in the Old Red Sandstone of the Slieve Bloom Mountains before passing through a band of Carboniferous shales and sandstones. The Nore, for a large part of its course, traverses limestone plains and then Old Red Sandstone for a short stretch below Thomastown. Before joining the Barrow it runs over intrusive rocks poor in silica. The upper reaches of the Barrow also run through limestone. The middle reaches and many of the eastern tributaries, sourced in the Blackstairs Mountains, run through Leinster Granite. The southern end, like the Nore runs over intrusive rocks poor in silica. Waterford Harbour is a deep valley excavated by glacial floodwaters when the sea level was lower than today. The coast shelves quite rapidly along much of the shore.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (\* = priority; numbers in brackets are Natura 2000 codes):

- [1130] Estuaries
- [1140] Tidal Mudflats and Sandflats
- [1170] Reefs
- [1310] *Salicornia* Mud
- [1330] Atlantic Salt Meadows
- [1410] Mediterranean Salt Meadows
- [3260] Floating River Vegetation
- [4030] Dry Heath
- [6430] Hydrophilous Tall Herb Communities
- [7220] Petrifying Springs\*
- [91A0] Old Oak Woodlands



[91E0] Alluvial Forests\*

- [1016] Desmoulin's Whorl Snail (*Vertigo moulinsiana*)
- [1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*)
- [1092] White-clawed Crayfish (*Austropotamobius pallipes*)
- [1095] Sea Lamprey (*Petromyzon marinus*)
- [1096] Brook Lamprey (*Lampetra planeri*)
- [1099] River Lamprey (*Lampetra fluviatilis*)
- [1103] Twaite Shad (*Alosa fallax*)
- [1106] Atlantic Salmon (*Salmo salar*)
- [1355] Otter (*Lutra lutra*)
- [1421] Killarney Fern (*Trichomanes speciosum*)
- [1990] Nore Freshwater Pearl Mussel (*Margaritifera durrovensis*)

Good examples of alluvial forest (a priority habitat on Annex I of the E.U. Habitats Directive) are seen at Rathsnagadan, Murphy's of the River, in Abbeyleix estate and along other shorter stretches of both the tidal and freshwater elements of the site. Typical species seen include Almond Willow (*Salix triandra*), White Willow (*S. alba*), Rusty Willow (*S. cinerea* subsp. *oleifolia*), Crack Willow (*S. fragilis*) and Osier (*S. viminalis*), along with Iris (*Iris pseudacorus*), Hemlock Water-dropwort (*Oenanthe crocata*), Wild Angelica (*Angelica sylvestris*), Thin-spiked Wood-sedge (*Carex strigosa*), Pendulous Sedge (*C. pendula*), Meadowsweet (*Filipendula ulmaria*), Common Valerian (*Valeriana officinalis*) and the Red Data Book species Nettle-leaved Bellflower (*Campanula trachelium*).

A good example of petrifying springs with tufa formations occurs at Dysart Wood along the Nore. This is a rare habitat in Ireland and one listed with priority status on Annex I of the E.U. Habitats Directive. These hard water springs are characterised by lime encrustations, often associated with small waterfalls. A rich bryophyte flora is typical of the habitat and two diagnostic species, *Palustriella commutata* and *Eucladium verticillatum*, have been recorded.

The best examples of old oak woodlands are seen in the ancient Park Hill woodland in the estate at Abbeyleix; at Kyleadohir, on the Delour, Forest Wood House, Kylecorragh and Brownstown Woods on the Nore; and at Cloghristic Wood, Drummond Wood and Borris Demesne on the Barrow, though other patches occur throughout the site. Abbeyleix Woods is a large tract of mixed deciduous woodland which is one of the only remaining true ancient woodlands in Ireland. Historical records show that Park Hill has been continuously wooded since the 16<sup>th</sup> century and has the most complete written record of any woodland in the country. It supports a variety of woodland habitats and an exceptional diversity of species including 22 native trees, 44 bryophytes and 92 lichens. It also contains eight indicator species of ancient woodlands. Park Hill is also the site of two rare plants, Nettle-leaved

Bellflower and the moss *Leucodon sciuroides*. The rare Myxomycete fungus, *Licea minima* has been recorded from woodland at Abbeyleix.

Oak woodland covers parts of the valley side south of Woodstock and is well developed at Brownsford where the Nore takes several sharp bends. The steep valley side is covered by oak (*Quercus* spp.), Holly (*Ilex aquifolium*), Hazel (*Corylus avellana*) and Downy Birch (*Betula pubescens*), with some Beech (*Fagus sylvatica*) and Ash (*Fraxinus excelsior*). All the trees are regenerating through a cover of Bramble (*Rubus fruticosus* agg.), Foxglove (*Digitalis purpurea*), Great Wood-rush (*Luzula sylvatica*) and Broad Buckler-fern (*Dryopteris dilatata*).

On the steeply sloping banks of the River Nore, about 5 km west of New Ross, in Co. Kilkenny, Kylecorragh Woods form a prominent feature in the landscape. This is an excellent example of relatively undisturbed, relict oak woodland with a very good tree canopy. The wood is quite damp and there is a rich and varied ground flora. At Brownstown, a small, mature oak dominated woodland occurs on a steep slope. There is younger woodland to the north and east of it. Regeneration throughout is evident. The understorey is similar to the woods at Brownsford. The ground flora of this woodland is developed on acidic, brown earth type soil and comprises a thick carpet of Bilberry (*Vaccinium myrtillus*), Heather (*Calluna vulgaris*), Hard Fern (*Blechnum spicant*), Common Cow-wheat (*Melampyrum pratense*) and Bracken (*Pteridium aquilinum*).

Borris Demesne contains a very good example of a semi-natural broadleaved woodland in very good condition. There is quite a high degree of natural regeneration of oak and Ash through the woodland. At the northern end of the estate oak species predominate. Drummond Wood, also on the Barrow, consists of three blocks of deciduous woods situated on steep slopes above the river. The deciduous trees are mostly oak species. The woods have a well-established understorey of Holly, and the herb layer is varied, with Bramble abundant. The whitebeam *Sorbus devoniensis* has also been recorded here.

Eutrophic tall herb vegetation occurs in association with the various areas of alluvial forest and elsewhere where the floodplain of the river is intact. Characteristic species of the habitat include Meadowsweet, Purple Loosestrife (*Lythrum salicaria*), Marsh Ragwort (*Senecio aquaticus*), Ground Ivy (*Glechoma hederacea*) and Hedge Bindweed (*Calystegia sepium*). Indian Balsam (*Impatiens glandulifera*), an introduced and invasive species, is abundant in places.

Floating river vegetation is well represented in the Barrow and in the many tributaries of the site. In the Barrow the species found include water-starworts (*Callitriche* spp.), Canadian Pondweed (*Elodea canadensis*), Bulbous Rush (*Juncus bulbosus*), water-milfoils (*Myriophyllum* spp.), the pondweed *Potamogeton x nitens*, Broad-leaved Pondweed (*P. natans*), Fennel Pondweed (*P. pectinatus*), Perfoliated Pondweed (*P. perfoliatus*) and crowfoots (*Ranunculus* spp.). The water quality of the Barrow has improved since the vegetation survey was carried out (EPA, 1996).

Dry heath at the site occurs in pockets along the steep valley sides of the rivers especially in the Barrow Valley and along the Barrow tributaries where they occur in the foothills of the Blackstairs Mountains. The dry heath vegetation along the slopes of the river bank consists of Bracken and Gorse (*Ulex europaeus*) with patches of acidic grassland vegetation. Additional typical species include Heath Bedstraw (*Galium saxatile*), Foxglove, Common Sorrel (*Rumex acetosa*) and Creeping Bent (*Agrostis stolonifera*). On the steep slopes above New Ross the Red Data Book species Greater Broomrape (*Orobanche rapum-genistae*) has been recorded. Where rocky outcrops are shown on the maps Bilberry and Great Wood-rush are present. At Ballyhack a small area of dry heath is interspersed with patches of lowland dry grassland. These support a number of clover species, including the legally protected Clustered Clover (*Trifolium glomeratum*) - a species known from only one other site in Ireland. This grassland community is especially well developed on the west side of the mud-capped walls by the road. On the east of the cliffs a group of rock-dwelling species occur, i.e. English Stonecrop (*Sedum anglicum*), Sheep's-bit (*Jasione montana*) and Wild Madder (*Rubia peregrina*). These rocks also support good lichen and moss assemblages with *Ramalina subfarinacea* and *Hedwigia ciliata*.

Dry heath at the site generally grades into wet woodland or wet swamp vegetation lower down the slopes on the river bank. Close to the Blackstairs Mountains, in the foothills associated with the Aughnabriskey, Aughavaud and Mountain Rivers there are small patches of wet heath dominated by Purple Moor-grass (*Molinia caerulea*) with Heather, Tormentil (*Potentilla erecta*), Carnation Sedge (*Carex panicea*) and Bell Heather (*Erica cinerea*).

Salt meadows occur at the southern section of the site in old meadows where the embankment has been breached, along the tidal stretches of in-flowing rivers below Stokestown House, in a narrow band on the channel side of Common Reed (*Phragmites australis*) beds and in narrow fragmented strips along the open shoreline. In the larger areas of salt meadow, notably at Carrickloney, Ballinlaw Ferry and Rochestown on the west bank; Fisherstown, Alderton and Great Island to Dunbrody on the east bank, the Atlantic and Mediterranean sub types are generally intermixed. At the upper edge of the salt meadow in the narrow ecotonal areas bordering the grasslands where there is significant percolation of salt water, the legally protected species Borrer's Saltmarsh-grass (*Puccinellia fasciculata*) and Meadow Barley (*Hordeum secalinum*) are found. The very rare and also legally protected Divided Sedge (*Carex divisa*) is also found. Sea Rush (*Juncus maritimus*) is also present. Other plants recorded and associated with salt meadows include Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Sea Couch (*Elymus pycnanthus*), Spear-leaved Orache (*Atriplex prostrata*), Lesser Sea-spurrey (*Spergularia marina*), Sea Arrowgrass (*Triglochin maritima*) and Sea Plantain (*Plantago maritima*).

Glassworts (*Salicornia* spp.) and other annuals colonising mud and sand are found in the creeks of the saltmarshes and at the seaward edges of them. The habitat also occurs in small amounts on some stretches of the shore free of stones.

The estuary and the other E.U. Habitats Directive Annex I habitats within it form a large component of the site. Extensive areas of intertidal flats, comprised of substrates ranging from fine, silty mud to coarse sand with pebbles/stones are present. Good quality intertidal sand and mudflats have developed on a linear shelf on the western side of Waterford Harbour, extending for over 6 km from north to south between Passage East and Creadaun Head, and in places are over 1 km wide. The sediments are mostly firm sands, though grade into muddy sands towards the upper shore. They have a typical macro-invertebrate fauna, characterised by polychaetes and bivalves. Common species include *Arenicola marina*, *Nephtys hombergii*, *Scoloplos armiger*, *Lanice conchilega* and *Cerastoderma edule*. An extensive area of honey-comb worm biogenic reef occurs adjacent to Duncannon, Co. Wexford on the eastern shore of the estuary. It is formed by the polychaete worm *Sabellaria alveolata*. This intertidal *Sabellaria alveolata* reef is formed as a sheet of interlocking tubes over a considerable area of exposed bedrock. This polychaete species constructs tubes, composed of aggregated sand grains, in tightly packed masses with a distinctive honeycomb-like appearance. These can be up to 25cm proud of the substrate and form hummocks, sheets or more massive formations. A range of species are reported from these reefs including: *Enteromorpha* sp.; *Ulva* sp.; *Fucus vesiculosus*; *Fucus serratus*; *Polysiphonia* sp.; *Chondrus crispus*; *Palmaria palmate*; *Coralinus officinalis*; *Nemertea* sp.; *Actinia equine*; *Patella vulgate*; *Littorina littorea*; *Littorina obtusata* and *Mytilus edulis*.

The western shore of the harbour is generally stony and backed by low cliffs of glacial drift. At Woodstown there is a sandy beach, now much influenced by recreation pressure and erosion. Behind it a lagoonal marsh has been impounded which runs westwards from Gaultiere Lodge along the course of a slow stream. An extensive reedbed occurs here. At the edges is a tall fen dominated by sedges (*Carex* spp.), Meadowsweet, willowherbs (*Epilobium* spp.) and rushes (*Juncus* spp.). Wet woodland also occurs.

The dunes which fringe the strand at Duncannon are dominated by Marram (*Ammophila arenaria*) towards the sea. Other species present include Wild Clary/Sage (*Salvia verbenaca*), a rare Red Data Book species. The rocks around Duncannon ford have a rich flora of seaweeds typical of a moderately exposed shore and the cliffs themselves support a number of coastal species on ledges, including Thrift, Rock Samphire (*Crithmum maritimum*) and Buck's-horn Plantain (*Plantago coronopus*).

Other habitats which occur throughout the site include wet grassland, marsh, reedswamp, improved grassland, arable land, quarries, coniferous plantations, deciduous woodland, scrub and ponds.

Seventeen Red Data Book plant species have been recorded within the site, most in the recent past. These are Killarney Fern (*Trichomanes speciosum*), Divided Sedge, Clustered Clover, Basil Thyme (*Acinos arvensis*), Red Hemp-nettle (*Galeopsis angustifolia*), Borrer's Saltmarsh-grass, Meadow Barley, Opposite-leaved Pondweed (*Groenlandia densa*), Meadow Saffron/Autumn Crocus (*Colchicum autumnale*), Wild Clary/Sage, Nettle-leaved Bellflower, Saw-wort (*Serratula tinctoria*), Bird Cherry

(*Prunus padus*), Blue Fleabane (*Erigeron acer*), Fly Orchid (*Ophrys insectifera*), Ivy Broomrape (*Orobanche hederæ*) and Greater Broomrape. Of these, the first nine are protected under the Flora (Protection) Order, 2015. Divided Sedge was thought to be extinct but has been found in a few locations in the site since 1990. In addition plants which do not have a very wide distribution in the country are found in the site including Thin-spiked Wood-sedge, Field Garlic (*Allium oleraceum*) and Summer Snowflake. Six rare lichens, indicators of ancient woodland, are found including *Lobaria laetevirens* and *L. pulmonaria*. The rare moss *Leucodon sciuroides* also occurs.

The site is very important for the presence of a number of E.U. Habitats Directive Annex II animal species including Freshwater Pearl Mussel (both *Margaritifera margaritifera* and *M. m. durrovensis*), White-clawed Crayfish, Salmon, Twaite Shad, three lamprey species – Sea Lamprey, Brook Lamprey and River Lamprey, the tiny whorl snail *Vertigo moulinsiana* and Otter. This is the only site in the world for the hard water form of the Freshwater Pearl Mussel, *M. m. durrovensis*, and one of only a handful of spawning grounds in the country for Twaite Shad. The freshwater stretches of the River Nore main channel is a designated salmonid river. The Barrow/Nore is mainly a grilse fishery though spring salmon fishing is good in the vicinity of Thomastown and Inistioge on the Nore. The upper stretches of the Barrow and Nore, particularly the Owenass River, are very important for spawning.

The site supports many other important animal species. Those which are listed in the Irish Red Data Book include Daubenton's Bat, Badger, Irish Hare and Common Frog. The rare Red Data Book fish species Smelt (*Osmerus eperlanus*) occurs in estuarine stretches of the site. In addition to the Freshwater Pearl Mussel, the site also supports two other freshwater mussel species, *Anodonta anatina* and *A. cygnea*.

Three rare invertebrates have been recorded in alluvial woodland at Murphy's of the River. These are: *Neoascia obliqua* (Order Diptera: Syrphidae), *Tetanocera freyi* (Order Diptera: Sciomyzidae) and *Dictya umbrarum* (Order Diptera: Sciomyzidae). The rare invertebrate, *Mitostoma chrysomelas* (Order Arachnida), occurs in the old oak woodland at Abbeyleix and only two other sites in the country. Two flies (Order Diptera) *Chrysogaster virescens* and *Hybomitra muhlfeldi* also occur at this woodland.

The site is of ornithological importance for a number of E.U. Birds Directive Annex I species, including Greenland White-fronted Goose, Whooper Swan, Bewick's Swan, Bar-tailed Godwit, Peregrine and Kingfisher. Nationally important numbers of Golden Plover and Bar-tailed Godwit are found during the winter. Wintering flocks of migratory birds are seen in Shanahoe Marsh and the Curragh and Goul Marsh, both in Co. Laois, and also along the Barrow Estuary in Waterford Harbour. There is also an extensive autumnal roosting site in the reedbeds of the Barrow Estuary used by Swallows before they leave the country. The old oak woodland at Abbeyleix has a typical bird fauna including Jay, Long-eared Owl and Raven. The reedbed at Woodstown supports populations of typical waterbirds including Mallard, Snipe, Sedge Warbler and Water Rail.

Land use at the site consists mainly of agricultural activities – mostly intensive in nature and principally grazing and silage production. Slurry is spread over much of the area. Arable crops are also grown. The spreading of slurry and fertiliser poses a threat to the water quality of the salmonid river and to the populations of E.U. Habitats Directive Annex II animal species within the site. Many of the woodlands along the rivers belong to old estates and support many non-native species. Little active woodland management occurs. Fishing is a main tourist attraction along stretches of the main rivers and their tributaries and there are a number of Angler Associations, some with a number of beats. Fishing stands and styles have been erected in places. Both commercial and leisure fishing takes place on the rivers. There is net fishing in the estuary and a mussel bed also. Other recreational activities such as boating, golfing and walking, particularly along the Barrow towpath, are also popular. There is a golf course on the banks of the Nore at Mount Juliet and GAA pitches on the banks at Inistioge and Thomastown. There are active and disused sand and gravel pits throughout the site. Several industrial developments, which discharge into the river, border the site. New Ross is an important shipping port. Shipping to and from Waterford and Belview ports also passes through the estuary.

The main threats to the site and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, over-grazing within the woodland areas, and invasion by non-native species, for example Cherry Laurel (*Prunus laurocerasus*) and Rhododendron (*Rhododendron ponticum*). The water quality of the site remains vulnerable. Good quality water is necessary to maintain the populations of the Annex II animal species listed above. Good quality is dependent on controlling fertilisation of the grasslands, particularly along the Nore. It also requires that sewage be properly treated before discharge. Drainage activities in the catchment can lead to flash floods which can damage the many Annex II species present. Capital and maintenance dredging within the lower reaches of the system pose a threat to migrating fish species such as lamprey and shad. Land reclamation also poses a threat to the salt meadows and the populations of legally protected species therein.

Overall, the site is of considerable conservation significance for the occurrence of good examples of habitats and of populations of plant and animal species that are listed on Annexes I and II of the E.U. Habitats Directive. Furthermore it is of high conservation value for the populations of bird species that use it. The occurrence of several Red Data Book plant species including three rare plants in the salt meadows and the population of the hard water form of the Freshwater Pearl Mussel, which is limited to a 10 km stretch of the Nore, add further interest to this site.



**Site Name: Slieve Bloom Mountains SAC**

**Site Code: 000412**

The Slieve Bloom Mountains lie on the Offaly-Laois border, starting about 8 km north-east of Roscrea and running about 24 km north-east, towards Clonaslee. The mountains are of Old Red Sandstone, flanked by Silurian rocks. The site extends from approximately 180 m to 529 m O.D.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (\* = priority; numbers in brackets are Natura 2000 codes):

[4010] Wet Heath
[7130] Blanket Bogs (Active)*
[91E0] Alluvial Forests*

This site is remarkable for its mountain blanket bog habitat. Generally uniform in character, the vegetation consists of a deep, spongy mat of the bog moss *Sphagnum capillifolium*, with other mosses and lichens. Growing on this are Heather (*Calluna vulgaris*) and Crowberry (*Empetrum nigrum*), with smaller amounts of Cottongrasses (*Eriophorum* spp.), Bilberry (*Vaccinium myrtillus*), Deergrass (*Scirpus cespitosus*) and Bog Asphodel (*Narthecium ossifragum*). An unusual feature is the abundance of Bog-rosemary (*Andromeda polifolia*) and Cranberry (*Vaccinium oxycoccos*), species usually associated with raised bogs. The uncommon Lesser Twayblade (*Listera cordata*) occurs under Heather at this site.

This extensive site is dominated by blanket bog on a high plateau. However, on more steeply-sloping flanks wet heath vegetation occurs on shallower peat (typically 0.5-1.5 m deep). The dominant species in the wet heath are Heather and Purple Moor-grass (*Molinia caerulea*), with species such as Cross-leaved Heath (*Erica tetralix*), Tormentil (*Potentilla erecta*), Lousewort (*Pedicularis sylvatica*) and the bog moss *S. capillifolium* also being frequent components. Often wet heath vegetation is associated with flushed areas along the margins of narrow streams.

Alluvial forest occurs along the Camcor River in the northern part of the site, on the floodplain of the river and on adjacent slopes along the valley. The canopy consists of scattered tall Ash (*Fraxinus excelsior*), Pedunculate Oak (*Quercus robur*) and Alder (*Alnus glutinosa*). Rusty Willow (*Salix cinerea* subsp. *oleifolia*), Hawthorn (*Crataegus monogyna*), Hazel (*Corylus avellana*) and Downy Birch (*Betula pubescens*) form a lower canopy. The ground flora is species-rich, with Bluebell (*Hyacinthoides non-scripta*), Enchanter's-nightshade (*Circaea lutetiana*), Wood-sorrel (*Oxalis acetosella*) and Bugle (*Ajuga reptans*). Marsh-marigold (*Caltha palustris*) and Meadowsweet (*Filipendula*

*ulmaria*) typify the wetter areas. The natural flood regime at the site has been altered by drainage activities for forestry (embankments, etc.), though the least disturbed areas in the floodplain still retain a substantial wetness. Seepage areas on the slopes also contribute to the wetness of the woods.

The uplands at this site provide excellent habitat for Peregrine, a species listed on Annex I of the E.U. Birds Directive. Breeding pairs occur here.

For the main part, the site is fringed by forestry plantations, although in a few places there remains a relatively undisturbed transition downslope to poorly-drained acidic grassland. The primary threats to Irish blanket bogs in general are afforestation, drainage and over-grazing, and current habitat quality is often dependent on past land use. On the Slieve Blooms, the Heather forms tall, dense stands, with individual stems up to 20 years old, suggesting that burning has not been extensive in recent years. There is little evidence of grazing or erosion. Overall, vegetation structure is exceptionally well-conserved due to lack of disturbance. A large portion of the site lies within a Statutory Nature Reserve.

Blanket bogs are an increasingly rare habitat in Europe, and in Ireland are continually under threat. The Slieve Bloom Mountains are an important link in the east-to-west gradient of bogs in Ireland, and are floristically linked to the midland raised bogs north of the site. The intactness of the blanket bog here is remarkable and is echoed in few other areas in Ireland, making this site of unique conservation value. Also of conservation importance is the presence of wet heath and an example of alluvial forest.

For inspection purposes only  
Consent of copyright owner required for any other use