APPROPRIATE ASSESSMENT

STAGE 1 SCREENING

PROPOSED RESIDENTIAL DEVELOPMENT

BLUEBELL,

NAAS

COUNTY KILDARE

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1. INTRODUCTION

Ardstone Homes Limited (Ardstone) are preparing a planning application for a strategic housing development of 125 units on a site located just off the R448 road circa 1.6km south of Naas. The site covers 3.51 hectares (ha) and comprises agricultural pasturlands and tillage lands. An Appropriate Assessment Screening Assessment is required for inclusion with the planning application.

The European Union (EU) Habitats Directive (92/43/EC) and the EU Birds Directive (2009/147/EC) identify designated areas (Special Areas of Conservation (SAC) and Special Protection Areas (SPA) respectively), are collectively known as European Sites and otherwise as Natura 2000 Sites.

The Habitats Directive, which is implemented under the European Communities Birds and Natural Habitats) Regulations 2011 (S.I. No 477 of 2011), requires an “appropriate assessment” of the potential impacts any proposed development that may have an impact on the conservation objectives of any Natura 2000 site.

Article 6(3) of the Directive stipulates that any plan or project not directly connected with or necessary to the management of a Natura 2000 site, but likely to have a significant effect thereon…shall be subject to appropriate assessment of its implications for the site in view of the site’s conservation objectives.

Guidance documents issued by Department of Environment, Heritage and Local Government (DEHLG) and the National Parks and Wildlife Services (NPWS) recommend that the assessment be completed in a series of Stages, which comprise:

Stage 1: Screening

The purpose of this Stage is to determine, on the basis of a preliminary assessment and objective criteria, whether a plan or project, alone and in combination with other plans or projects, could have significant effects on a Natura 2000 site in respect of the site’s conservation objectives.

Stage 2: Appropriate Assessment

This Stage is required if the Stage 1 Screening exercise identifies that the project is likely to have a significant impacts on a Natura 2000 site.

Stage 3: Assessment of Alternative Solutions.

If Stage 2 determines that the project will have an adverse impact upon the integrity of a Natura 2000 site, despite the implementation of mitigation measures, it must be objectively concluded that no alternative solutions exist before the plan can proceed.
Stage 4: Compensatory Measures:

Where no alternative solutions are feasible and where adverse impacts remain but imperative reasons of overriding public interest require the implementation of a project an assessment of compensatory measures that will effectively offset the damage to the Natura 2000 Site is required.

1.1 Methodology

2. DESCRIPTION OF PROJECT

2.1 Site Location

The site is located just off the R448 road circa 1.6km south of Naas. It covers 3.76 hectares (ha) and comprises agricultural pasturelands and tillage lands (Figure 2.1).

2.2 Environmental Setting

2.2.1 Hydrology

The Naas Stream, a tributary stream of the River Liffey, flows from south to north c500m to the east of the site. The Castlesize River, which is also a tributary of the Liffey, flows from south to north c350m to the east of the site. Both streams join the main River Liffey c4km to the northeast of the site (Figure 2.2).

The Eastern River Basin District (ERBD) Management Plan shows the site lies within the Liffey Lower 2 Surface Water Body (SWB) catchment area (IE_EA_09_1870_2) and is part of the Liffey Water Management Unit (WMU). The overall status of this waterbody is ‘Moderate’.

2.2.2 Geology & Hydrogeology

The Teagasc maps indicates that the subsoil beneath the site comprises glacial tills derived from limestone. The Geological Survey of Ireland (GSI) bedrock geology map shows that the site is underlain by the Quinagh Formation comprising lenticular, very thin beds of dark mudrock, interbedded with pale coarse siltstone or fine sandstone.

The GSI has developed a classification system for aquifers based on the value of the resource and their hydrogeological characteristics. The gravel aquifer beneath the site is classified as a Regionally Important Gravel Aquifer (Rg). The bedrock aquifer beneath the gravel aquifer is described as a Poor Aquifer (Pl) which is generally unproductive except for local zones.

The site lies within the Naas Sand and Gravel Urban Ground Water Body (GWB) as designated in the ERBD Management Plan. The groundwater body chemical and quantitative status is Good.

There are four vulnerability categories defined by the GSI that are largely controlled by the nature and thickness of subsoils: Extreme (E), High (H), Moderate (M) and Low (L). The GSI vulnerability map indicates that the vulnerability across the site is High (H).
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CLIENT
Ardstone Residential Partners

TITLE
Hydrology

Details:
- Site Boundary
- Rivers

Figure 2.2

SITE LOCATION

Figure 2.2

Site Boundary

Details:
- Site Boundary
- Rivers

Figure 2.2

Ardstone Residential Partners

TITLE
Hydrology
A review of the GSI groundwater well database identified three (3 No.) wells within 500 m of the site. Two of these are located on the lands around Bluebell House, circa 500m to the south of the site. The wells are both c25m deep. One well has a yield of 32.7m³/day and the yield of the second well is unknown. The wells are most likely for agricultural and/or domestic use. There is also a borehole located c. 650 m to the southeast of the site. It is 22.5 m deep, but there is no groundwater information and this borehole may have been drilled for geotechnical purposes only.

2.3 Surrounding Land Use

There are residential housing estates along the eastern and northern site boundaries. There is a gallops immediately to the west. Bluebell House and associated farm buildings are c500m to the south of the site. The remaining lands to the west and south are in agricultural use (pasture and tillage). There is a narrow corridor of agricultural land along the southern site boundary that extends to the (R448) road to the east of the site.

2.4 Site Layout

The existing site layout (Figure 2.2).covers 3.76 hectares (ha) and comprises agricultural pasturelands and tillage lands.

2.5 Proposed Development

It is proposed to construct a residential development of 125 units on the site comprising 97 number detached and semi-detached houses together with a 4-storey apartment block providing 28 varied size apartments.

The development will include the construction of access roads, houses, services including foul and stormwater drains, electricity and gas.

2.5.1 Site Drainage

The management of surface water for the proposed development has been designed to comply with the policies and guidelines outlined in the Greater Dublin Strategic Drainage Study (GDSDS) and with the requirements of Kildare County Council.

The surface water strategy incorporates attenuation of storm water to limit discharge from the site, although storage facilities and SUDs elements will be designed to allow infiltration or reduction of run-off volumes and rates where possible.

- All private parking areas are to be permeable pavement
- House roof runoff to be routed in perforated pipes through permeable pavement to encourage infiltration and groundwater recharge before connection to main drainage system
• Runoff from roads and paths will be collected by gullies and discharged to main drainage network
• Main drainage network to pass through on-line systems which will provide storage and attenuation of storm-water while also being unlined allowing infiltration (‘Stormtech’ or similar approved).
• Voided stone below the units will allow for “interception” storage for small rainfall event so there would be no discharge from site for many rainfall events
• A flow control device such as Hydro-Brake Optimum or similar approved, will be provided downstream of the systems and the total run-off from the site will be limited to the green-field run-off rate before its final discharge from the site.
• The surface water outfall pipe will be routed across adjacent lands to discharge to the Upper Bluebell Stream approximately 380m west of the proposed site. A wayleave agreement for this pipe across third party lands will be put in place.
• The incorporation of the above SUDS elements will provide a sustainable manner in which to disperse surface water from the site, encourage groundwater recharge and provide treatment of run-off and subsequent improvement of discharge quality.
• Details of the surface water scheme are provided on DBFL drawings 170198-3201, 3202 & 3203. Surface Water drainage will involve the use of infiltration/attenuation tanks (stormtech underground units). There is a surface water outfall to an existing stream and flows leaving site will be restricted to greenfield rates which should result in no increased surface water discharge to the adjacent stream. Surface water sewers have been designed in accordance with IS EN 752 and the recommendations of the ‘Greater Dublin Strategic Drainage Study’, (GDSDS).

2.5.2 Services

Foul Sewer: Due to the topography of the site, the proposed foul drainage layout has been designed to discharge by gravity to a new pumping station located north-west of the site. The rising main from the pump station will be directed through the site and along the permitted and under construction access road to discharge to the existing Irish Water sewer in Kilcullen Road. A new discharge manhole will be placed on the Kilcullen Road prior to connection to the existing network. Works between the site boundary and the Kilcullen road are to be constructed as part of the road construction under 15/848.

Pipe layout generally follows the proposed road layout. Each residential unit is to be serviced by individual 100mm diameter connections.

DBFL drawing 170198-3202 shows an indicative layout of the proposed foul drainage network. Detailed design measures for the pumping station and foul layout will be agreed with Irish Water. Pumping station layout will be in general accordance with Irish water Standard Detail STD-WW-26 and will include a 24 hour emergency storage tank.

Water Supply; The proposed development will have one new water main connection to the existing 12” uPVC watermain in Kilcullen road. A spur from the Kilcullen road to the site boundary is to be constructed as part of road construction under 15/848.

Gas Supply: Service Records indicate a 125mm diameter PE gas service on the Kilcullen Road. Subject to obtaining a connection agreement with Gas Networks Ireland, this should provide a suitable connection for the site.
ESB Supply: Service Records indicate 38kv and MV overhead ESB infrastructure traversing the site. Diversions of this infrastructure will be required to facilitate development at the site. Subject to obtaining a connection agreement with ESB it is considered that suitable electrical infrastructure is in place to supply the site.
3. NATURA 2000 SITES

SACs are selected for the conservation and protection of habitats listed on Annex I and species (other than birds) listed on Annex II of the Habitats Directive, and their habitats. The habitats listed in Annex I require special conservation measures. SPAs are selected for the conservation and protection of bird species listed on Annex I of the Birds Directive and regularly occurring migratory species, and their habitats, particularly wetlands. The selected habitats and species are termed Qualifying Interests.

A statement of Conservation Objectives is prepared for each designated site which identifies the qualifying interests or conservation features. The Conservation Objectives are intended to ensure that the relevant habitats and species present on a site are maintained, and where necessary restored, at a Favourable Conservation Status.

Favourable Conservation Status of a habitat, as defined in 2011 Birds and Natural Habitats Regulations, is when:

- Its natural range, and area it covers within that range, are stable or increasing,
- 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

Conservation Status of a species is when:

- The Favourable 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,
- 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 designated SACs and SPAs within 15km of the site that could potentially be affected by the proposed changes are listed in Table 3.1 and shown on Figure 3.1.

Table 3.1. Natura 2000 Sites within 15 km of the Bluebell Site

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</tr>
<tr>
<td>Mouds Bog</td>
<td>002331</td>
<td>8.0 km North West</td>
</tr>
<tr>
<td>Red Bog</td>
<td>000397</td>
<td>8.0 km East</td>
</tr>
<tr>
<td>SPA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poulaphouca Reservoir</td>
<td>004063</td>
<td>8.5 km South East</td>
</tr>
</tbody>
</table>
3.1 Mouds Bog SAC

Mouds Bog comprises a raised bog that includes both areas of high bog and cutover bog. Much of the margins of the site are bounded by trackways. The Site Synopsis for the SPA, listing the full Qualifying Interests, and the Conservation Objectives are in Appendix 1 and the information is summarised below.

*Qualifying Interests*

The listed species are; Raised Bog (Active), Degraded Raised Bog and Rhynchosporion Vegetation.

Mouds Bog is significant in terms of its high bog area and geographical location as it is at the eastern extreme of the range of raised bogs in Ireland. It is a site of considerable conservation significance comprising a large raised bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland.

This site supports a good diversity of raised bog microhabitats including hummock/hollow complexes, pools and flushes, and cutover, all of which add to the diversity and scientific value of the site.

Active raised bog is listed as a priority habitat on Annex I of the E.U. Habitats Directive. Priority status is given to habitats and species that are threatened throughout the E.U. Ireland has a high proportion of the total EU resource of this habitat type (over 60%) and so has a special responsibility for its conservation at an international level.

*Conservation Objectives*

The conservation objective is to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA and also the wetlands.

3.2 Red Bog SAC

Red Bog comprises a wetland complex of lake, fen and bog situated in a hollow between ridges of glacially-deposited material and underlain by rocks of Ordovician age. The Site Synopsis, which lists the full Qualifying Interests, and the Conservation Objectives are in Appendix 2 and the information is summarised below.

*Qualifying Interests*

The shores of the lake are muddy and support such species as Bog Stitchwort (Stellariaalsine), Brooklime (Veronica beccabunga) and Soft Rush (Juncuseffusus). Fringing the lakeshore is a narrow zone with emergent Soft Rush, Water-plantain (Alismaplantago-aquatica), Bottle Sedge (Carexrostrata), as well as the moss Climacium dendroides.

Red Bog is of ornithological significance and breeding birds recorded from the site include Mute Swan, Mallard, Tufted Duck, Coot, Moorhen, Snipe and Black-headed Gull (estimated <20 pairs). Gravel extraction, drainage and eutrophication of the wetland from agricultural
activities in the surrounding lands all pose a threat to the site. Red Bog, Kildare is a site of particular conservation significance, supporting a good example of transition mire, a habitat that is listed on Annex I of the E.U. Habitats Directive.

Conservation Objectives

The conservation objectives are to maintain or restore the favorable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.

3.3 Poulaphouca Reservoir SPA

Poulaphouca Reservoir SPA covers an area of approximately 20 square kilometres and is the largest inland water body in the mid-east and south-east regions. The reservoir receives water from two main sources, the River Liffey at the northern end, and the Kings River at the southern end. The exit is into the River Liffey gorge at the western end. Underlying the reservoir are sands and gravels deposited during the last glaciation. The shores of the lake are mostly sandy.

The Site Synopsis, which lists the full Qualifying Interests, and the Conservation Objectives are in Appendix 3 and the information is summarised below.

Qualifying Interests

The principal interest of the site is the Greylag Goose population, which is of national importance. A range of other wildfowl species also occurs, including Whooper Swan, a species that is listed on Annex I of the E.U. Birds Directive. The site is also notable as a winter roost for gulls, especially Lesser Black-backed Gull. Part of Poulaphouca Reservoir SPA is a Wildfowl Sanctuary.

Conservation Objectives

The conservation objectives are to maintain or restore the favorable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.
4. LIKELY EFFECTS

4.1 Direct Effects

The proposed development is not located within any designated Natura 2000 Site and therefore the proposed development will not result in any direct habitat loss or fragmentation of any SPA or SAC. The development of site infrastructure will be undertaken in accordance with best practice guidance.

4.2 Indirect Effects

There is no potential for indirect impacts on the Natura 2000 Sites.

4.3 Assessment of Effects

There will be no adverse effects on the Natura 2000 sites identified as a result of the proposed development.
5. SCREENING CONCLUSION & STATEMENT

5.1 Conclusion
The proposed development strategy for the site does not present a risk to any Natura 2000 site.

5.2 Statement
The proposed development does not present a risk of significant effects on the Qualifying Interests and Conservation Objectives of Mouds Bog SAC, Red Bog SAC or Poulaphouca Reservoir SPA.
SITE SYNOPSIS

Site Name: Moods Bog SAC

Site Code: 002331

Moods Bog is located about 3 km north-west of Newbridge in Co. Kildare, close to the Hill of Allen, and includes amongst others, the townlands of Grangehiggin, Barretstown and Hawkfield. The site comprises a raised bog that includes both areas of high bog and cut-over bog. Much of the margins of the site are bounded by trackways.

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):

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<th>Description</th>
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<td>[7110]</td>
<td>Raised Bog (Active)*</td>
</tr>
<tr>
<td>[7120]</td>
<td>Degraded Raised Bog</td>
</tr>
<tr>
<td>[7150]</td>
<td>Rhynchosporian Vegetation</td>
</tr>
</tbody>
</table>

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 Rhynchosporian 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).

This site consists of two basins of high bog separated by a central ridge. Otherwise the bog is flat, with slopes at its margins. An area of wet quaking bog with well-developed flushes and pools is present at the north-west basin.
dominates the drier central ridge. The three flush areas along the southern perimeter of the east and west dome support a hummock/hollow system with Heather, Bog-myrtle (Myrica gale) and in places Crowberry (Empetrum nigrum). The wet hollows support a variety of bog mosses, including S. tenellum. A wet quaking soak to the south supports abundant bog moss (S. cuspidatum) and tall Common Cottongrass (Eriophorum angustifolium). Cutover areas to the north-east support Purple Moor-grass (Molinia caerulea), Soft Rush (Juncus effusus) and there is encroaching Downy Birch and Gorse (Ulex europaeus) in places.

Red Grouse, a Red Listed species and one that is becoming increasingly rare in Ireland, has been recorded on this site. Other birds noted on the site include Skylark, Meadow Pipit, Curlew and Kestrel.

Current land use on the site consists of peat-cutting, with extensive active industrial peat moss production in the western section of the remaining high bog. Domestic turf cutting is widely practised along the southern margin of the bog, in the south-west corner and in the centre of the northern edge. Apart from the western cutover margin, the high bog is not being actively drained. Some small areas of the cutover have been reclaimed for agriculture in recent years. Burning has taken place in the recent past, and there is extensive damage in the west of the site due to industrial peat production. These are all activities that have resulted in loss of habitat and damage to the hydrological status of the site, and pose a continuing threat to its viability. Despite the damaging effects the high bog has retained some wet areas largely due to the topography of the site.

Mouds Bog is significant in terms of its high bog area and geographical location as it is at the eastern extreme of the range of raised bogs in Ireland. It is a site of considerable conservation significance comprising a large raised bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland. This site supports a good diversity of raised bog microhabitats including hummock/hollow complexes, pools and flushes, and cutover, all of which add to the diversity and scientific value of the site. Active raised bog is listed as a priority habitat on Annex I of the E.U. Habitats Directive. Priority status is given to habitats and species that are threatened throughout the E.U. Ireland has a high proportion of the total E.U. resource of this habitat type (over 60%) and so has a special
APPENDIX 2
SITE SYNOPSIS

Site Name: Red Bog, Kildare SAC

Site Code: 000397

Red Bog, Kildare is located 3 km north of the village of Blessington in east Co. Kildare, close to the boundary with Co. Wicklow. It comprises a wetland complex of lake, fen and bog situated in a hollow between ridges of glacially-deposited material and underlain by rocks of Ordovician age.

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):

[7140] Transition Mires

The shores of the lake are muddy and support such species as Bog Stitchwort (Stellaria aline), Brooklime (Veronica beccabunga) and Soft Rush (Juncus effusus). Fringing the lakeshore is a narrow zone with emergent Soft Rush, Water-plantain (Alisma plantago-aquatica), Bottle Sedge (Carex rostrata), as well as the moss Climacium dendroides. In places, particularly at either end of the lake and along its south-eastern side, this zone grades into extensive areas of quaking scraw vegetation of dense Bogbean (Menyanthes trifoliata) and Marsh Cinquefoil (Potentilla palustris), accompanied by such species as Sharp-flowered Rush (Juncus acutiflorus), Cuckooflower (Cardamine pratensis), Marsh Speedwell (Veronica scutellata), Common Marsh-bedstraw (Galium palustre), Water Horsetail (Equisetum fluviatile), Common Sedge (Carex nigra), Common Spotted-orchid (Dactylorhiza fuchsii) and the mosses Rhytidiadelphus squarrosum and Sphagnum squarrosum. Bulrush (Typha latifolia) and areas of Willow (Salix spp.) scrub also occur in association with this vegetation.

The deeper water supports submerged aquatic plants such as Water-starworts (Callitriche spp.) and Water-crowfoots (Ranunculus spp.), while in sheltered areas floating plants including Common Duckweed (Lemna minor) and the liverwort Riccia
Red Bog is of ornithological significance and breeding birds recorded from the site include Mute Swan, Mallard, Tufted Duck, Coot, Moorhen, Snipe and Black-headed Gull (estimated <20 pairs).

Gravel extraction, drainage and eutrophication of the wetland from agricultural activities in the surrounding lands all pose a threat to the site.

Red Bog, Kildare is a site of particular conservation significance, supporting a good example of transition mire, a habitat that is listed on Annex I of the E.U. Habitats Directive.
Poulaphouca Reservoir SPA, located in the western foothills of the Wicklow Mountains, was created in 1944 by damming of the River Liffey for the purpose of generating electricity from hydropower. The reservoir covers an area of approximately 20 square kilometres and is the largest inland water body in the mid-east and south-east regions. The reservoir receives water from two main sources, the River Liffey at the northern end, and the Kings River at the southern end. The exit is into the River Liffey gorge at the western end. Underlying the reservoir are sands and gravels deposited during the last glaciation. The shores of the lake are mostly sandy. When water levels are low the exposed lake muds are colonised by an ephemeral flora of annual plant species. Wet grassland areas occur in sheltered bays around the lake but especially in the northern part. Reed Canary-grass (*Phalaris arundinacea*) is the main grass species present, but other plant species characteristic of wet grasslands occur, including Creeping Bent (*Agrostis stolonifera*), Meadowsweet (*Filippendula ulmaria*), Yellow Iris (*Iris pseudacorus*) and Water Mint (*Mentha aquatica*). Sedges (*Carex spp.*) are locally common, while Rusty Willow (*Salix cinerea* subsp. *oleifolia*) scrub is often found associated with the wet grassland. In some places the water washes against grassy banks which are generally less than a metre high, and in a few places there are steep sand and clay cliffs, up to 15 m high - these are remnants of the old River Liffey channel. In many places the banks are actively eroding, and a strip of conifers has been planted around much of the perimeter of the reservoir in an attempt to stabilize the banks.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Greylag Goose and Lesser Black-backed Gull.

Poulaphouca Reservoir is of national importance for its Greylag Goose population, which is one of the largest in the country. The site provides the main roost for the birds, with feeding occurring mostly on improved grassland outside of the site. A count made in 2001 indicated that, on average, the figures range from 1995/96 to 1998/2000.
The principal interest of the site is the Greylag Goose population, which is of national importance. A range of other wildfowl species also occurs, including Whooper Swan, a species that is listed on Annex I of the E.U. Birds Directive. The site is also notable as a winter roost for gulls, especially Lesser Black-backed Gull. Part of Poulaphouca Reservoir SPA is a Wildfowl Sanctuary.