

Screening Report for Appropriate Assessment of a Strategic Housing Development at Colp West, Drogheda, Co. Meath

prepared by OPENFIELD Ecological Services
for Shannon Homes Drogheda Ltd

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October 2019



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1.0 INTRODUCTION

1.1 About OPENFIELD Ecological Services

OPENFIELD Ecological Services is headed by Pádraic Fogarty who has worked for 20 years in the environmental field and in 2007 was awarded an MSc from Sligo Institute of Technology for research into Ecological Impact Assessment (EclA) in Ireland. Pádraic has a primary degree in Analytical Science from DCU, and diplomas in Field Ecology (UCC), Environment and Geography (Open University) and Environmental Protection (IT Sligo). Since its inception in 2007 OPENFIELD has carried out numerous EclAs for Environmental Impact Assessment (EIA), Appropriate Assessment under the EU Habitats Directive, as well as individual planning applications. Pádraic is a full member of the Institute of Environmental Management and Assessment (IEMA).

1.2 Protection of biodiversity

Biodiversity is a contraction of the words 'biological diversity' and describes the enormous variability in species, habitats and genes that exist on Earth. It is an integral component of our heritage while also providing food, building materials, fuel and clothing, maintaining clean air, water, soil fertility and pollinating crops. A study by the Department of Environment, Heritage and Local Government placed the economic value of biodiversity to Ireland at €2.6 billion annually (Bullock et al., 2008) for these 'ecosystem services'.

All life depends on biodiversity and its current global decline is a major challenge facing humanity. In 1992, at the Rio Earth Summit, this challenge was recognised by the United Nations through the Convention on Biological Diversity which has since been ratified by 193 countries, including Ireland. Its goal to significantly slow down the rate of biodiversity loss on Earth has been echoed by the European Union, which set a target date of 2010 for *halting* the decline. This target was not met but in 2010 in Nagoya, Japan, governments from around the world set about redoubling their efforts and issued a strategy for 2020 called 'Living in Harmony with Nature'. In 2011 the Irish Government incorporated the goals set out in this strategy, along with its commitments to the conservation of biodiversity under national and EU law, in the second national biodiversity action plan (Dept. of Arts, Heritage and the Gaeltacht, 2011). A third plan was published in 2017.

In Europe, the main policy instruments for conserving biodiversity have been the Birds Directive of 1979 and the Habitats Directive of 1992, which are transposed into Irish law through Part XAB of the Planning and Development Act 2000. This legislation requires member states to designate areas of their territory that are important for certain listed habitats and species other than birds in the case of the Habitats Directive, and species or significant gatherings of birds in the case of the Birds Directive. These areas are known as Special Areas of Conservation (SAC) and Special Protection Areas (SPA) respectively. Together SACs and SPAs form the Natura 2000 network of protected sites. Unlike traditional nature reserves or national parks, Natura 2000 areas are not 'fenced-off' from human activity and are frequently in private ownership. It is the responsibility of the competent national authority to ensure that 'favourable conservation status' exists for their SACs and SPAs including that Article 6(3) of the Habitats Directive is met. Article 6(3) requires that an

'appropriate assessment' (AA) be carried out for those areas where projects, plans or proposals are likely to have a significant effect. In some cases this is obvious from the start, for instance where a road is to pass through a designated area. However, where this is not the case, a preliminary screening must first be carried out to determine whether or not the full AA is required.

1.3 Purpose of this Report

This document provides an assessment of a proposed residential development at Colpe Road, Drogheda, and its potential effects in relation to Natura 2000 sites (SACs and SPAs). It will allow the competent authority, An Bord Pleanála, to screen the proposed development for AA. This application is described thus, as per the planning application:

The proposed development consists of a residential development comprising of 357 no. residential units, a childcare facility and associated outdoor play area, road infrastructure, a pedestrian bridge over the railway line and associated pathways, all associated open space, cycle and pedestrian infrastructure, services and all other associated development on a site of c. 13.44 hectares.

The 357 no. residential units proposed consist of 169 no. houses, 52 no. duplex apartments and 136 no. apartments.

The 169 no. houses will consist of the following:

- 104 no. 3 bedroom units
- 65 no. 4 bedroom units

The 136 no. apartment units will consist of the following:

- 58 no. 1 bedroom units
- 78 no. 2 bedroom units

The 52 no. duplex units will consist of the following:

- 52 no. 3 bedroom units

The proposed childcare facility is a two storey building with a GFA of 439 sq.m. The proposed houses are 2/3 storeys in height and the duplex/apartment blocks are 3 - 6 storeys in height.

The development includes road infrastructure comprising of a link street approximately 720m in length (including changes to the previously permitted road infrastructure under Reg. Ref.: LB/180620), including bus bays, 1 no. roundabout, pedestrian crossings and c. 230m long connection of the link street to the east to facilitate a connection to the existing school on Mill Road (Gaelscoil an Bhradáin Feasa). The road infrastructure also includes the realignment of a section of Colpe Road and the realignment of the southern section of Mill Road, and includes proposed cycle lanes/paths, footpaths, grass verge, and the provision of a footpath and cyclepath / cycle lane on Colpe Road to tie-in with the existing shared footpath / cyclepath, to the south-west of the railway line.

The proposed new pedestrian bridge will cross the existing Belfast to Dublin railway line and will link the proposed SHD development to the existing Grangerath housing development to the south-west.

The development includes associated site and infrastructural works including all associated road infrastructure, foul and surface / storm water drainage (including upgrading of water services on Mill Road), surface water management including

attenuation and storage features, a pumping station, watermains and utilities, 592 no. car parking spaces, 532 no cycle parking spaces, public open space including a linear park, bin and bike stores, 2 no. substations, landscaping consisting of new tree planting, hedges, berms and grass planting, boundary treatments, public lighting, and all associated site and infrastructural works.

This document will assess whether effects to the Natura 2000 network are likely to occur as a result of the construction or operation phases of this project. This will be determined in light of the conservation objectives of those areas. It will conclude whether these effects are likely to be significant, and if so, will recommend that a full Appropriate Assessment be carried out by the planning authority.

1.4 Methodology

The assessment was carried out in accordance with the following methodologies and guidelines:

1. 'Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC' (Oxford Brookes, 2001). Annex 2 of this document sets out an assessment template that is used in this report.
2. 'Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities' (DOEHLG 2009).

Note: Reference from this point forth to the 'site' indicates the development site and not the SAC or SPA.

In accordance with the above mentioned guidance notes, the following steps are followed:

Step 1: Analysis of the relevant SACs/SPAs

This involves assessing the current status of the SAC/SPA and underlying trends affecting them. This is done through a combination of literature review, site survey, and consultation with relevant stakeholders.

Step 2: Analysis of the proposed development

Identifying aspects of the project that may affect the SAC/SPA

Step 3: Analysis of other plans and projects

Identifying aspects of other plans or projects that may act 'in combination' with the proposed development to significantly affect the SAC/SPA.

Step 4: Determination of significance

Determination whether any of these effects, either alone or in combination with other plans and projects, will be significant.

The AA process is an iterative one where the report actively identifies potential effects, the project is then modified to avoid or mitigate these effects, and then the new project design is re-assessed until such point as no significant effects are predicted to occur. It is important to note that, under the Planning and Development Act, any 'Appropriate Assessment' is carried out by the competent authority (in this case An Bord Pleanála) and this screening report has been prepared in order to aid that decision.

2.0 Step 1 – Analysis of the Natura 2000 network

2.1 Site location and extent

The development site is located to the south-east Drogheda, and south of the estuary of the River Boyne. It is in an area characterised by a combination of agricultural and built (most residential) land uses. This location is shown in figure 1 which also shows its position in relation to the boundary of nearby Natura 2000 areas.

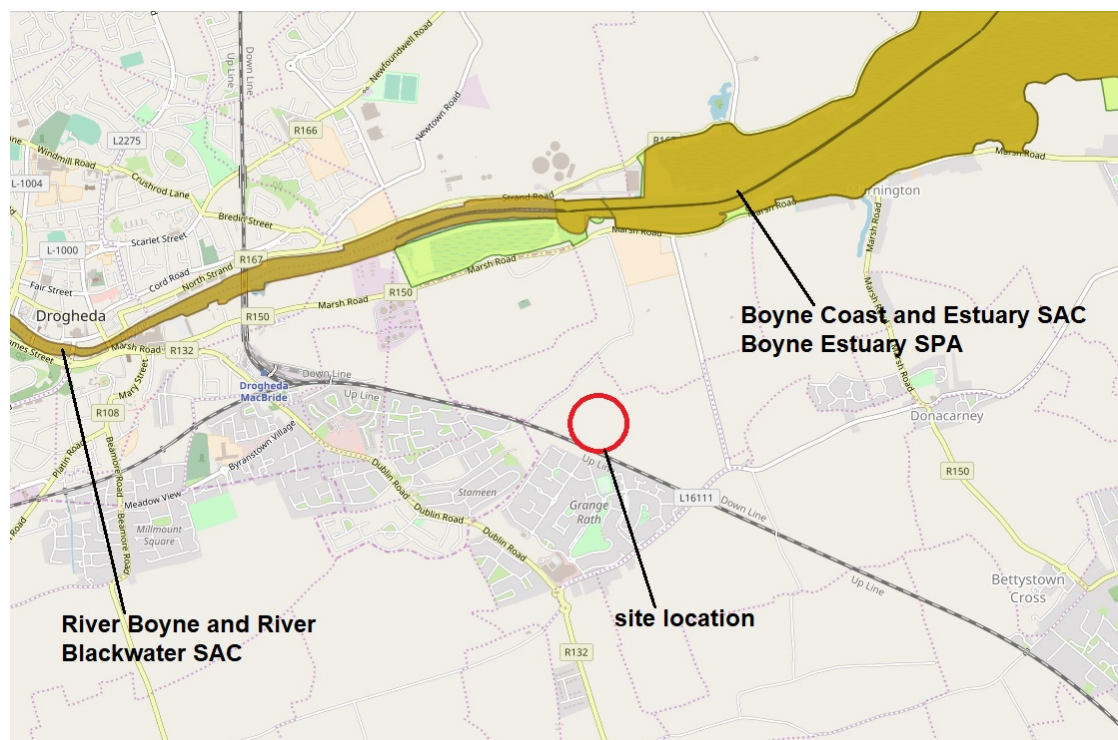


Figure 1 – Location of development site at Colpe Road, Co. Meath. Boundaries of SACs are shown in tan while the boundary of the SPA his shown in lime green (from www.epa.ie)

There is no prescribed radius around a site for determining what Natura 2000 sites should be studied. This is determined by the zone of influence of the project. Figure 1 shows there are three such areas close to the site: the River Boyne and River Blackwater SAC, the Boyne Coast and Estuary SAC and the Boyne Estuary SPA. These areas can be found approximately 1km to the north. 2km is an arbitrary distance and impact may occur beyond 2km from the development site, depending on the zone of influence of the project. These Natura 2000 sites are nevertheless the only such area considered to fall within this zone.

OSI mapping shows that the site is in an area of agricultural land although in general this locality can be considered to be moderately urbanised with extensive built surfaces, vehicle traffic etc. It is close to a busy railway line and existing housing developments.

The site boundary is shown in figure 2.



Figure 2 – Indicative site boundary and habitat map (aerial photo from Bing)

2.2 Brief Description of Natura 2000 Sites

There is no prescribed distance to determine which Natura 2000 sites should be examined. This is determined by the zone of influence of the project. A number of such areas are considered can be found within 15km of the development site and these are detailed below.

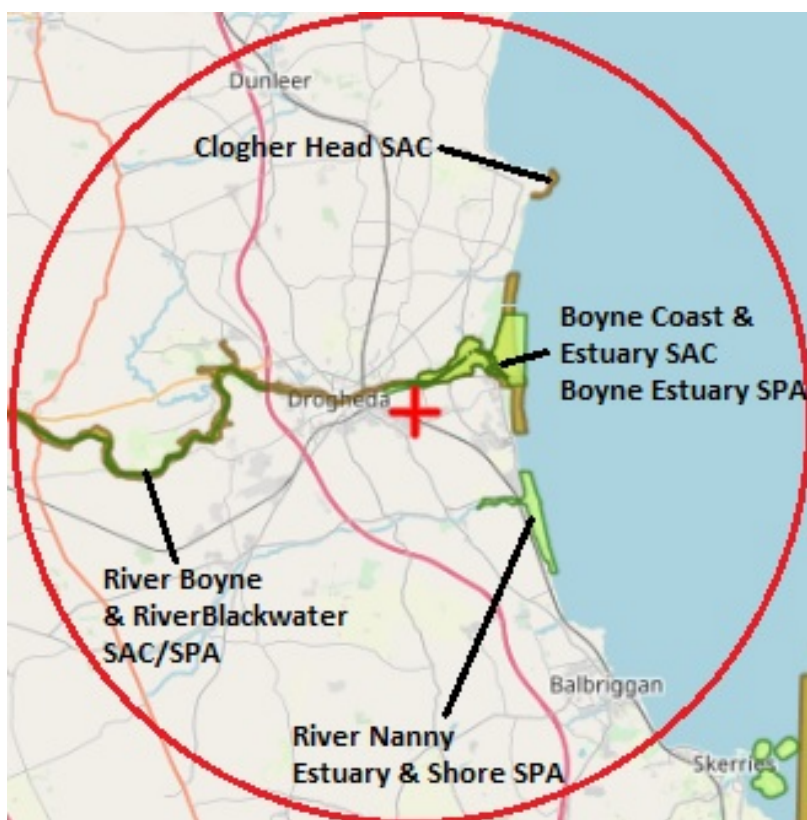


Figure 3 – Site location (red cross) and Natura 2000 site within an approximate 15km radius (from www.epa.ie).

Boyne Estuary SPA (site code: 4080)

The tidal estuary of the Boyne is located to the east of the town of Drogheda. A site synopsis report states that it is home to ten bird species with a population of national importance (Shelduck *Tadorna tadorna*, Oystercatcher *Haematopus ostralegus*, Golden plover *Pluvialis apricaria*, Grey plover *Pluvialis squatarola*, Lapwing *Vanellus vanellus*, Knot, Sanderling, Black-tailed godwit *Limosa limosa*, Redshank *Tringa totanus* and Turnstone *Arenaria interpres*). Two of these species are listed on Annex I of the Birds Directive (Golden plover and Black-tailed godwit). An additional Annex I species, Little Tern, has been re-established through a conservation programme at Baltray.

Table 1 – Features of interest for the Boyne Coast & Estuary SPA (EU code in square parenthesis)

Oystercatcher (<i>Haematopus ostralegus</i>) [A130]
Golden Plover (<i>Pluvialis apricaria</i>) [A140]
Grey Plover (<i>Pluvialis squatarola</i>) [A140]

Knot (<i>Calidris canutus</i>) [A143]
Sanderling (<i>Calidris alba</i>) [A144]
Black-tailed Godwit (<i>Limosa limosa</i>) [A156]
Redshank (<i>Tringa totanus</i>) [A162]
Turnstone (<i>Arenaria interpres</i>) [A169]
Little Tern (<i>Sterna albifrons</i>) [A195]
Lapwing (<i>Vanellus vanellus</i>) [A142]
Wetlands & Waterbirds [A999]

- **Grey Plover.** These birds do not breed in Ireland but winter throughout coastal estuaries and wetlands. Its population and distribution is considered to be stable
- **Redshank.** Once common breeders throughout the peatlands and wet grasslands of the midlands Redshanks have undergone a 55% decline in distribution in the past 40 years. Agricultural intensification, drainage of wetlands and predation are the chief drivers of this change.
- **Lapwing.** Although still one of the most widespread of the breeding waders Lapwing populations have declined by over 50% in the past 40 years. This has been driven by changes in agricultural practices and possibly increased predation.
- **Black-tailed Godwit.** Breeding in Iceland these waders winter in selected sites around the Irish coast, but predominantly to the east and southern halves. Their range here has increased substantially of late.
- **Turnstone.** This winter visitor to Irish coasts favours sandy beaches, estuaries and rocky shores. It is found throughout the island but changes may be occurring due to climate change.
- **Little Tern.** Breeding colonies have declines in nearly all scattered Irish nesting localities over the past 40 years. On mainland colonies wardening, to prevent predation effects, is now crucial for long-term survival.

Specific conservation objectives have been set for this SPA. They are to maintain a population trend that is stable or increasing, and maintain the current distribution in time and space for each species listed (NPWS, 2013a).

Boyne Coast and Estuary SAC (site code: 1957)

This SAC encompasses the tidal sections of the River Boyne, as far upriver as Drogheda. Its habitat value is centred on coastal and intertidal areas and includes salt marshes and sand dunes in various successional stages. A number of scarce or notable plants have been recorded from the dunes including the Wild Clary *Salvia verbenaca*, which is listed on the Red Data Book (Curtis & McGough, 1988).

Table 2 – Qualifying interests of the Boyne Coast and Estuary SAC

Aspect	Level of Protection
Fixed coastal dunes with herbaceous vegetation	Habitats Directive Annex I priority

Embryonic shifting dunes	Habitats Directive Annex I
Shifting dunes with <i>Ammophila arenaria</i> (Marram grass)	
Mediterranean salt meadows	
Atlantic salt meadows	
Estuaries	
Mudflats and sandflats not covered by seawater at low tide	
Salicornia and other annuals colonising mud and sand	

- **Embryonic shifting dunes (2110).** As their name suggests these sand structures represent the start of a sand dune's life. Perhaps only a meter high they are a transient habitat, vulnerable to inundation by the sea, or developing further into white dunes with Marram Grass. They are threatened by recreational uses, coastal defences, trampling and erosion.
- **Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) (2120).** These are the second stage in dune formation and depend upon the stabilising effects of Marram Grass. The presence of the grass traps additional sand, thus growing the dunes. They are threatened by erosion, climate change, coastal flooding and built development.
- **Fixed coastal dunes with herbaceous vegetation (grey dunes) (2130 – priority habitat).** These are more stable dune systems, typically located on the landward side of the mobile dunes. They have a more or less permanent, and complete covering of vegetation, the quality of which depends on local hydrology and grazing regimes. They are the most endangered of the dune habitat types and are under pressure from built developments such as golf courses and caravan parks, over-grazing, under-grazing and invasive species.
- **Atlantic and Mediterranean salt meadows (1330 & 1410):** these are intertidal habitats that differ somewhat in their vegetation composition. They are dynamic habitats that depend upon processes of erosion, sedimentation and colonisation by a typical suite of salt-tolerant organisms. The main pressures are invasion by the non-native *Spartina anglica* and overgrazing by cattle and sheep.
- **Estuary (1130):** This is the portion of a river that is influenced by the tide but retaining a significant freshwater influence. Substrates can range from rocks and boulders, to expanses of fine mud and sand. They are an important resource for birds and other fauna and many estuaries have twin designations (i.e. both SAC and SPA). It considered that the majority of estuary habitat is in good condition however approximately a quarter is negatively affected by excess nutrient input and damaging fishing practices.
- **Tidal mudflats (1140).** This is an intertidal habitat characterised by fine silt and sediment. Most of the area in Ireland is of favourable status however water quality and fishing activity, including aquaculture, are negatively affecting some areas.
- **Salicornia mudflats (1310):** This is a pioneer saltmarsh community and so is associated with intertidal areas. It is dependant upon a supply of fresh, bare mud and can be promoted by damage to other salt marsh habitats. It is chiefly threatened by the advance of the alien invasive Cordgrass *Spartina anglica*. Erosion can be destructive but in many cases this is a natural process.

Specific conservation objectives have been set for the Boyne Coast & Estuary SAC (NPWS, 2012a). The objectives relate to habitat area, community extent, community structure and community distribution within the qualifying interest. There is no objective in relation to water quality.

Description of structure and functional relationships:

Estuaries are among the most productive habitats on earth as great quantities of sediment and nutrients are deposited from their feeding rivers. The abundance of invertebrate life living within these sediments provides resources for large flocks of wetland and wading birds, some of which use estuaries on a seasonal basis. Dynamic coastal habitats meanwhile are important in buffering inland areas from storms as well as potential future impacts from climate change (Little, 2000).

River Boyne and River Blackwater SAC and SPA (site codes: 2299 and 4232)

The river Boyne and river Blackwater drain most of county Meath. They are important salmonid rivers and are home to a range of aquatic and riparian species.

The reasons why these rivers are an SAC are set out in the site's 'qualifying interests' and these are given in table 3. Whether the SAC is likely to be significantly affected must be measured against the its conservation objectives. However, specific conservation objectives have not yet been set out for this SAC. Generic conservation objectives have been published by the NPWS and this is stated as "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" (NPWS, 2016a)

According to this generic document favourable conservation status of a habitat is achieved when:

- its natural range, and area 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;

While the favourable conservation status of a species is achieved 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 population on a long-term basis

Table 3 – Qualifying interests of the River Blackwater and River Boyne SAC

Aspect	Level of Protection
Alluvial forest (code: 91E0)	Habitats Directive Annex I priority
Alkaline fens (code: 7230)	Habitats Directive Annex I
Atlantic salmon <i>Salmo salar</i> (code: 1106)	Habitats Directive Annex II
River lamprey <i>Lampetra fluviatilis</i> (code: 1099)	
Otter <i>Lutra lutra</i> (code: 1355)	

The conservation status of these features of interest have not been assessed at the level of the SAC. Habitats and species designated under the Habitats Directive have been assessed as part of Ireland's commitments under Article 17 of that Directive. These assessments are at a national scale only. Table 4 gives the assessment of those features of relevance to the River Boyne and River Blackwater SAC (NPWS, 2013b & c). The conservation status of the Otter, River Lamprey and Atlantic Salmon have been assessed as near threatened, least concern and vulnerable respectively (Marnell et al., 2009; King et al., 2011).

Table 4 – Assessment of features of interest of the River Boyne and River Blackwater SAC

Alluvial forest (code: 91E0)	Bad
Alkaline fens (code: 7230)	Bad
Atlantic salmon <i>Salmo salar</i> (code: 1106)	Inadequate
River lamprey <i>Lampetra fluviatilis</i> (code: 1099)	Good
Otter <i>Lutra lutra</i> (code: 1355)	Good

- **Alkaline Fens:** Threats of 'high importance' are groundwater abstractions, land reclamation, diffuse groundwater pollution, land abandonment/under-grazing. These fen systems are often a complex mosaic of habitats, with tall sedge beds, reedbeds, wet grasslands, springs and open-water often co-occurring at a given fen site. Their integrity is reliant upon a stable, high water table; calcareous/low-nutrient water supply; and controlled mowing and/or grazing.
- **Alluvial Wet Woodland:** This is a native woodland type that occurs on heavy soils, periodically inundated by river water but which are otherwise well drained and aerated. The main pressures are identified as alien invasive species, undergrazing and overgrazing. Pollution from agricultural land may also be significant.
- **River lamprey:** This species spends its entire life cycle in freshwater and is considerably smaller than the larger, and more threatened Sea lamprey. As juveniles they are indistinguishable from Brook lamprey at the species level and are only differentiated by their size at adults. Since surveys are carried out on the juvenile life stage these two species are jointly assessed. Although threatened by pollution, along with all aquatic life, they are assessed as being of 'good' status.
- **Atlantic salmon:** This once abundant fish has suffered a dramatic decline in recent decades. On land they are threatened by pollution and barriers to migration while at sea mortality may occur through industrial fisheries, parasites from aquaculture operations and climate change. The Habitats Directive only protects the salmon in its freshwater habitat and for some SACs specific conservation objectives have been set for water quality. Salmon will only spawn in clean, sediment-free beds of gravel.
- **Otter:** This aquatic mammal lives its entire life in and close to wet places, including rivers, lakes and coastal areas. They will feed on a wide variety of prey items. Despite local threats from severe pollution incidents and illegal fishing, its population is considered stable and healthy, and so is assessed as being of 'good' status.

The boundary of the River Boyne and River Blackwater SPA lies within the boundary of the SAC but in this case it closely follows the main channel of the Boyne and its immediate riparian zones. It has a single 'feature of interest', the Kingfisher *Alcedo atthis* which is listed on Annex I of the Birds Directive. The conservation objective for this SPA is stated as "to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA" (NPWS, 2018b). Favourable conservation status is defined as for habitats and species for SACs.

Description of structure and functional relationships:

Rivers are dynamic ecosystems that are a function of numerous factors such as climate, geology and land use, all of which determine the water quality and quantity at any given time. Processes such as erosion and deposition ensure that even the course of the river can change over time. The function of these fully- or semi-aquatic

habitats depends upon maintaining water volume, free movement of key species, water chemistry to which the particular species are adapted as well as the structure of riparian habitats and, crucially, its floodplain (Giller & Malmqvist, 1998). Threats to river systems in Ireland include eutrophication, overgrazing, excessive fertilisation, afforestation and the introduction of alien invasive species (NPWS, 2008).

Relevant Conservation Objectives for the Boyne Coast and Estuary SPA and SAC are summarised as follows:

Mudflats (code 1140)

Permanent habitat area stable or increasing (estimated at 1,027 hectares); estuarine muds dominated by polychaetes and crustaceans community complex maintained in a natural condition.

Estuaries (code: 1130)

Permanent habitat area stable or increasing (estimated at 1,905 hectares); estuarine muds dominated by polychaetes and crustaceans community complex maintained in a natural condition

Atlantic/Mediterranean Salt Meadows (1330/1410)

Maintain habitat area and distribution including physical structure (sediment supply, creeks and pans, flooding regime). Maintain vegetation structure as measured by vegetation height, vegetation cover, typical species and sub-communities. Absences of the invasive *Spartina anglica*.

Fixed Coastal Dunes (2130)

Maintain habitat area and distribution including physical structure (functionality and sediment supply, percentage of bare ground, sward height). Maintain vegetation structure as measured by zonation, vegetation cover, typical species and sub-communities. Absences of the invasive *Hippophae rhamnoides*.

Birds (similar for all species)

Long term population trend stable or increasing; there should be no significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation

River Lamprey

Maintain river accessibility (no artificial barriers); healthy population structure; healthy density of juveniles; no decline in extent or distribution of spawning beds; >50% of sampling sites positive.

Atlantic Salmon

Maintain river accessibility (no artificial barriers); size of stock measures as 'conservation limit' consistently exceeded; maintain abundance of salmon fry; no significant decline in out-migrating smolt abundance; no decline in the number of spawning beds (redds); water quality at least Q4 at all sites.

Otter

No significant decline in distribution; no significant decline in terrestrial/estuarine/freshwater/lake habitat; no significant decline in couching sites or holts; no decline in available fish biomass;

Clogher Head SAC (site code: 1459)

According to the site summary report “Clogher Head is a promontory of Silurian quartzite, located approximately 10 km north-east of Drogheda in Co. Louth. The rocks are covered with a thin layer of soil that, in places, supports a coastal heath community. Areas of sea cliff, bedrock shore and dry grassland also occur within the site.” It is designated as an SAC for two qualifying interests: vegetated sea cliffs and dry heath.

- **Vegetated sea cliffs (1230)** These coastal habitats can be composed of hard or soft material which in turn influences the rate at which erosion occurs. Vegetation can be sparse but composed of a variety of specially adapted species.
- **Dry heath (4030):** This is a community of heather shrubs that occurs on well-drained, acidic, nutrient-poor mineral or peaty soils. Pressures on this habitat arise from high levels of sheep grazing, as well as afforestation, mining and quarrying. Unregulated burning is also identified as an important threat to the structure of this habitat.

The SAC is located 10km to the north-east of the development site and there are no pathways between the two areas for effects to occur. Site specific conservation objectives have been set for this SAC (NPWS, 2017).

River Nanny Estuary and Shore SPA (site code: 4158)

This small SPA in county Meath comprises the estuary of the river Nanny and the intertidal shoreline. It is roughly T-shaped and stretches along the shore for approximately 3km and inland for almost 2km. SPAs are designated for rare or important populations of birds¹. The features of interest for the SPA are detailed in table 4. The conservation objectives that have been set for each bird species relate to maintaining a population trend that is stable or increasing, and maintaining the current distribution in time and space (NPWS, 2012e). There is no pathway from the development site to this SPA.

Table 5 – Features of interest for the River Nanny Shore & Estuary SPA (EU code in square parenthesis)

Oystercatcher (<i>Haematopus ostralegus</i>) [A130]
Ringed Plover (<i>Charadrius hiaticula</i>) [A137]
Golden Plover (<i>Pluvialis apricaria</i>) [A140]
Knot (<i>Calidris canutus</i>) [A143]
Sanderling (<i>Calidris alba</i>) [A144]
Herring Gull (<i>Larus argentatus</i>) [A184]
Wetlands & Waterbirds [A999]

¹ Meaning listed on Annex I of the Birds Directive; >1% of the total international population; >20,000 birds in total, or >1% of the national total of a given species.

- **Sanderling.** This small bird breeds in the high Arctic and winters in Ireland along sandy beaches and sandbars. Its wintering distribution has increased by 21% in the previous 30 years.
- **Knot.** These small wading birds do not breed in Ireland but gather in coastal wetlands in winter. Their numbers have increased dramatically since the mid-1990s although the reasons for this are unclear.
- **Ringed Plover.** This bird is a common sight around the Irish coast where it is resident. They breed on stony beaches but also, more recently, on cut-away bog in the midlands.
- **Oystercatcher.** Predominantly coastal in habit Oystercatchers are resident birds whose numbers continue to expand in Ireland.
- **Herring Gull.** This large gull breeds predominantly around the Irish coast and only occasionally inland. Numbers at these colonies have fallen by 60% since 1969, a decline which is attributed to a number of sources including a reduction in available food at landfill, botulism and predation.
- **Golden Plover.** In winter these birds are recorded across the midlands and coastal regions. They breed only in suitable upland habitat in the north-west. Wintering abundance in Ireland has changed little in recent years although it is estimated that half of its breeding range has been lost in the last 40 years (Balmer et al., 2013).

Description of structure and functional relationships:

Estuaries are among the most productive habitats on earth as great quantities of sediment and nutrients are deposited from their feeding rivers. The abundance of invertebrate life living within these sediments provides resources for large flocks of wetland and wading birds, some of which use estuaries on a seasonal basis. Dynamic coastal habitats meanwhile are important in buffering inland areas from storms as well as potential future impacts from climate change (Little, 2000).

Pathway analysis/Zone of Influence

An analysis of the project and the Natura 2000 network shows that there are hydrological pathways from the development site to the Boyne Estuary. Therefore the Boyne Estuary SPA, the Boyne Coast and Estuary SAC and the River Boyne and River Blackwater SAC fall within the zone of influence of the development project. There are no pathways to any other Natura 2000 site and so impacts cannot occur to any other such area.

2.3 Literature Review

As can be seen from figures 1 and 2, the site is not located within or directly adjacent to any area designated for nature conservation. It is situated approximately 1km to the south of the boundary of SACs and SPA in the Boyne Estuary at their nearest points. The site is likely to be within the catchment of the Stagrennan Stream, a very short water course which discharges to the Boyne Estuary at the Marsh Road junction between the R150 and R151. This is well within the tidal range of the River Boyne.

The EU's Water Framework Directive (WFD) stipulates that all water bodies must attain 'good ecological status' by 2015 or, with exemptions, by 2027 at the latest. In 2009 the first River Basin Management Plan was published to address pollution issues and included a 'programme of measures' which was to be completed. A

second RBMP was published in 2018 and highlighted 190 'priority areas for action', a number of which are within the wider catchment of the River Boyne. Water quality in the estuary has most recently been assessed as 'intermediate' – a term which implies moderate pollution either from point or diffuse sources (from www.epa.ie). Overall the estuary has been assessed as 'moderate' in terms of its status under the Water Framework Directive for the 2010-15 reporting period.

The coastal and marine area, beyond the mouth of the river meanwhile is of 'good' status, i.e. unpolluted.

There are available data on the current status of the SPA and trends that may be affecting it. As can be seen from table 5, total bird numbers have been quite stable since the 2010/11 season however this may mask changes in individual species.

Table 5 – Data from the Irish Wetland Bird Survey (Lewis et al., 2016)

Year	2010/11	2011/12	2012/13	2013/14	2014/15	Mean
Count	8,928	230,45	15,159	8,179	8,206	12,703
Species occurring in significant numbers						
Light-bellied Brent goose, Shelduck, Teal, Oystercatcher, Golden Plover, Grey Plover, Lapwing, Knot, Sanderling, Dunlin, Black-tailed Godwit, Redshank						

2.4 Consultation

Due to the relatively low ecological sensitivity of the subject lands, third party observations were not sought. Consultation with prescribed bodies will take place as part of the statutory process.

2.5 Site Survey

A site visit was carried on October 11th 2018 and May 24th 2019 and the lands were surveyed in accordance with best practice standards (Smith et al., 2010). The subject site comprises a series of large fields which are in agricultural production and at the time of survey were **tiled land – BC3. Hedgerow – WL1** field boundaries are found along the route of the railway line as well as internal field boundaries and the boundary to the north-west. They are composed of Hawthorn *Crataegus monogyna*, Ash *Fraxinus excelsior* with Ivy *Hedera helix* and Brambles *Rubus fruticosus* agg. Within the hedgerows there are occasional very tall/veteran specimens of Ash. A taller **treeline – WL2** can be found along a relatively short stretch to the south-west. This is composed of tall Ash, Copper Beech *Fagus sylvatica*, Sycamore *Acer pseudoplatanus* and Lime *Tilia* sp. Following guidance from the Heritage Council (Foulkes et al., 2013) these features are of 'higher significance' due to their age and structure. There are no water courses on the site although ditches, which were dry at the time of survey, accompany hedgerows and are likely to lead to the Stagrennan Stream, which itself discharges to the Boyne Estuary.

There are no habitats which are examples of those listed in Annex II of the Habitats Directive. There are no plant species which are listed as alien invasive on Schedule 3 of SI No. 477 of 2011. Habitats are mostly of low ecological value while boundary hedgerows and treelines can be considered to be of high local value.

2.6 Trends affecting the SAC/SPA

There is no management plan for the designated areas along the Boyne and its estuary however some work has been done to determine the site-specific trends or threats to their conservation status.

The NPWS has produced a 'supporting' document for the SPA. This analyses the trends of the various bird species for which the estuary has been designated, as well as the pressures being experienced. Of the features of interest Black-tailed Godwit, Shelduck, Oystercatcher, Grey Plover, Golden Plover, Knot and Sanderling were assessed as being in 'favourable' status; Redshank was 'intermediate (unfavourable)'; while Turnstone and Lapwing were 'unfavourable' (NPWS, 2012).

There is no evidence that intermediate water quality is currently negatively affecting the conservation objectives of Natura 2000 areas in the Boyne Estuary. Water quality is not listed as a conservation objective for the SAC. Research from Lough Neagh in Northern Ireland suggests that improvements to water quality there resulted in dramatic declines in the populations of wintering ducks (Tomankova et al., 2013). It is not known whether similar effects will be seen in Irish estuaries as a result of improvements to water quality as a result of implementation of the Water Framework Directive.

3.0 Step 2 – Analysis of the Project

This application is for the construction and operation of a residential development along with all associated services and infrastructure, including a new link street.

The project will include a construction and operation phase to provide for the buildings, car parking areas, access roads and other essential infrastructure.

The construction phase will involve the use of standard construction materials. This will involve the loss of the existing agricultural habitats although hedgerows and treelines are to be largely retained.

A new surface water drainage system is to be installed in accordance with the SUDS principles. This will be divided into three catchment areas, two of which will discharge to open ditches and one to an existing surface water sewer. Each catchment will include open attenuation detention basins which is a form of SUDS. No negative effect arising to the quantity or quality of surface run-off will occur.

Wastewater will be sent to the municipal treatment plant at Drogheda, which is operated by Irish Water under licence from the EPA (licence no.: D0041-01). The Annual Environmental Report for 2017 shows that the plant did not meet its requirements under the Urban Wastewater Treatment Directive in that year. This plant discharges into the Boyne Estuary however monitoring of the receiving environment indicates that the discharge "does not have an observable negative impact on the water quality". There is a treatment capacity of 101,600 population equivalent (P.E.) while the mean loading in 2016 was 52,612 P.E. This indicates that sufficient capacity exists to successfully treat the expected additional loading from this development.

Post-construction the site will be landscaped with a range of native and non-native species. These are appropriate to the locality and do not include any species considered to be invasive. The proposed site layout plan is shown in figure 3.

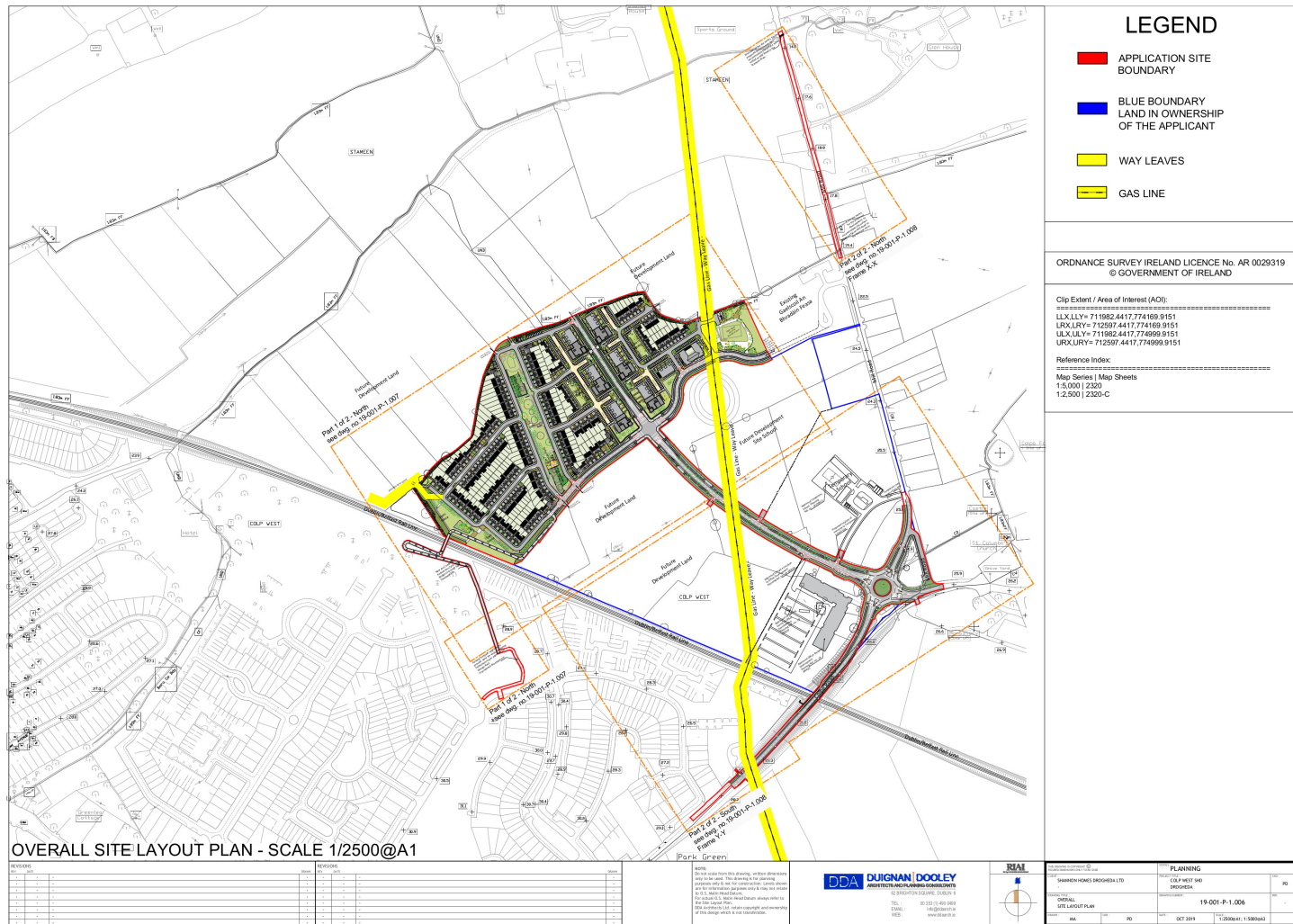


Figure 3 – Site Layout (in red line) within the wider masterplan area.

4.0 Step 3 – Analysis of Other Plans and Projects

Individual impacts from one-off developments or plans may not in themselves be significant. However, these may become significant when combined with similar, multiple impacts elsewhere. These are sometimes known as cumulative impacts but in AA terminology are referred to as ‘in combination’ effects.

In terms of the conservation objectives of the SACs and SPAs identified in section 2.2, maintaining the extent and condition of important habitats and species populations is vital.

This part of County Meath is currently a combination of transport links, agricultural land, and built development. Increasing urbanisation is a characteristic of this region as demand for housing and other built development increases. This development can be seen in conjunction with the development of lands directly to the north and south of a permitted access road. These lands are to be developed for residential homes, educational uses and other essential development.

This application can be viewed in the context of wider development of this area, as provided for under the Southern Environs of Drogheda Local Area Plan 2009-2015. This plan was subjected to AA by the Local Authority and which found that its implementation would not result in significant negative effect to Natura 2000 areas. This includes a new distributor road, a school (already constructed) and additional residential areas to the north and south.

Figure 4 shows nearby developments which have been approved or which are currently in the planning system.

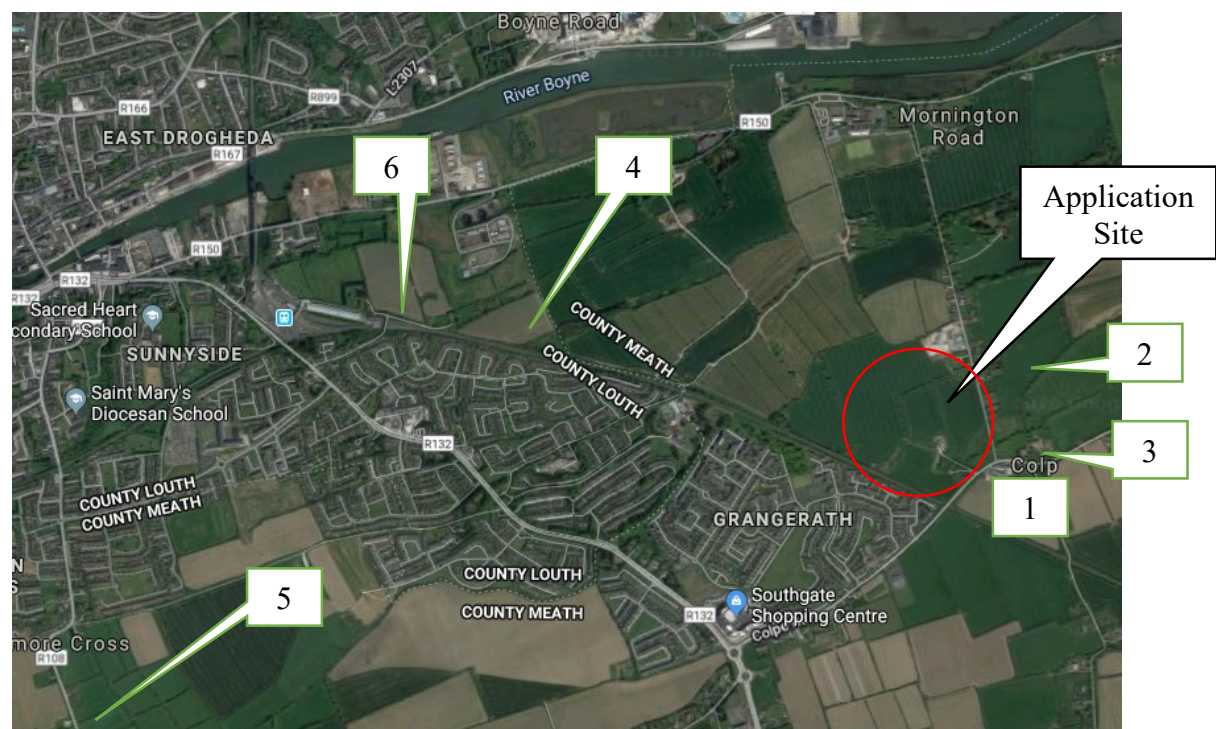


Figure 4 – Indicative Location of Nearby Developments

1. Meath County Council Reg. Ref.: LB/180620 – Commercial Development

A ten year permission for a commercial development at Colpe Road, Colpe West, Drogheda, Co. Meath was granted on the 4/9/2018. The site is located north of Colpe Road and to the west of Mill Road and is bordered to the south west by the Dublin-Belfast railway.

The development consisted of the demolition of the existing habitable house and construction of 1 no. 4 storey office building consisting of 2 no. blocks with a shared corner entrance/reception area and a screened plant area, solar panels and equipment at roof level, providing a total GFA of 11,205 sq.m. The road infrastructure permitted includes a link street approximately 720m in length, including 3 no. roundabout junctions, and 230m long connection of the link street to the east to facilitate a connection to the existing school on Mill Road (Gaelscoil an Bhradáin Feasa). The area of the permitted road infrastructure has been included within the current SHD application, and the alternate road design now proposed will supersede that which is permitted and partially implemented.

2. Meath County Council Reg. Ref.: SA130927 & ABP Reference: PL17.243331. – New Primary School

Planning permission was granted with modifications on the 18/08/2014 by An Bord Pleanála following a third party appeal for the following;

'Removal of all existing temporary school buildings, construction of a new two storey primary school comprising of 16 classrooms, 4 resource rooms, 1 general purpose hall, 1 base classroom special needs unit and ancillary accommodation, all associated external works including provision of vehicular entrance from the Mill Road and provision for future access from the proposed new Mill Road/Marsh Road link road the west, internal bus set-down and all footpaths, staff car parking, cycle parking, 2 no. ball courts, 1 junior play area, 1 soft play area, proprietary wastewater system, storm drainage system, landscaping and boundary treatments'.

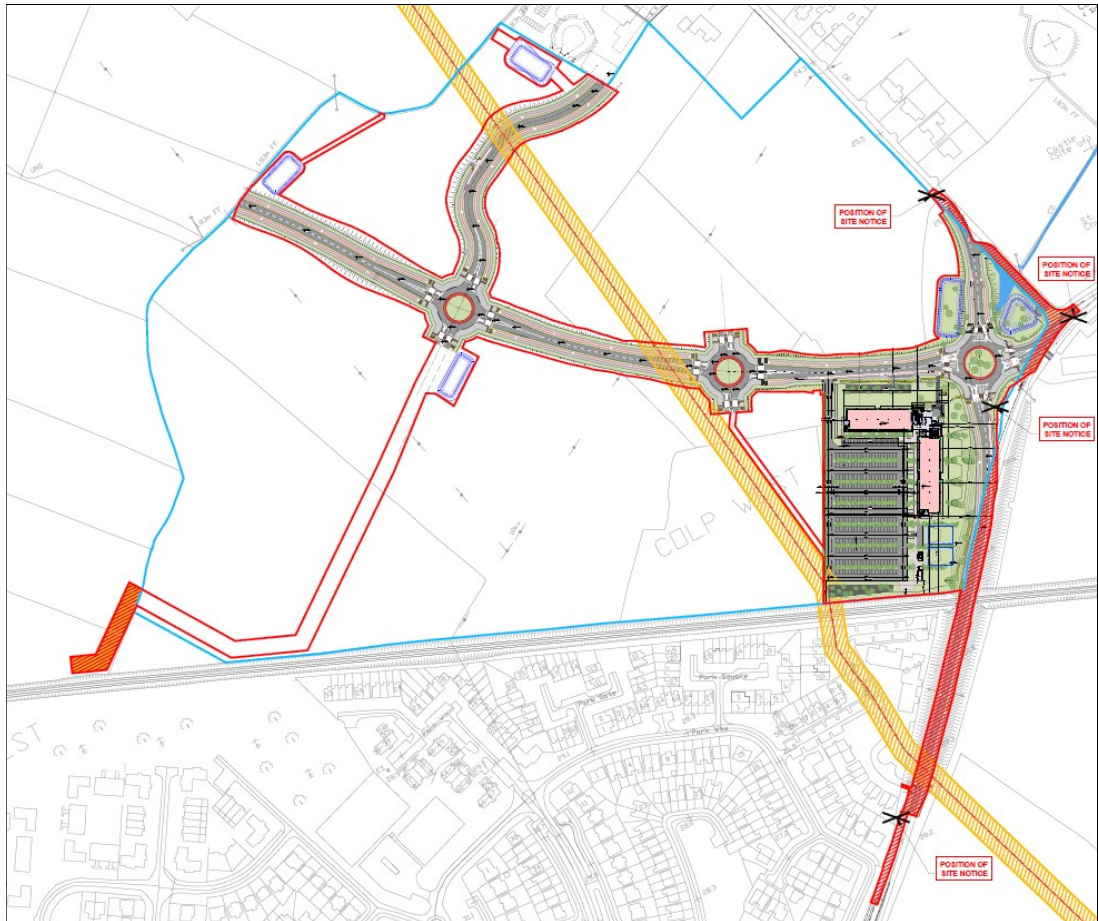


Figure 5: Reg Ref: LB/180620 - Permitted commercial development and associated road infrastructure

It is noted that the development as permitted allows for future access from the proposed new Mill Road/Marsh Road link road to the west, which the proposed development now seeks to realise. It is also noted that Condition No.3 of ABP Reference: PL17.243331 states;

'3. (a) The route of the potential future access road within the site, shown on drawing C-005 revision PL1, submitted to the planning authority on the 2nd day of December 2013, shall be kept free from development and shall be reserved for this road.

(b) When the Mill Road/Marsh Road Link Road has been constructed, vehicular access to such Road shall be provided to the south-western boundary of the site by such future access road, together with revised set down area, to details to be agreed with the planning authority at that time. When the school is connected to the Link Road, the existing vehicular access to Mill Road shall be permanently closed.

Reason: In the interests of orderly development and to ensure that access from the proposed Mill Road/Marsh Road Link Road can be effected in the future, in accordance with the provisions of the Local Area Plan'

3. Meath County Council Reg. Ref.: LB190739 – Temporary Secondary School

On the 31st of July 2019, a decision to grant permission was issued by the Planning Authority for the following development on a site to the southeast of the main SHD site. The development was described as follows:

“The provision of a temporary post primary school by way of construction of 3no. prefabricated buildings (c 190 Sq. Mtrs 239 Sq. Mtrs & 469 Sq.Mtrs) on a defined site area (c. 0.643Ha) to be enclosed within a 2mtrs high welded mesh fencing and access gates with associated site works including provision of new site entrance onto new road as granted planning permission under Planning Ref LB 180620, short term temporary entrance onto Mill Road, car parking, drop off area and hard surface play area, wastewater treatment system and associated percolation area. Temporary permission for a period no longer than 5 years is being sought.”

This temporary secondary school provides for a new access onto the link road as permitted under Planning Ref. LB 180620, which is partially implemented at present. As set out in further detail herein, the area of the permitted roadway is included in the current SHD application, and the revised road proposal will supersede the partially implemented permitted roadway.

4. Louth County Council Reg. Ref.: 17387 – Residential Development

On the 7th of August 2017, a final grant of permission was issued by Louth County Council on lands at Marsh Road , Newtown , Lagavooren, Drogheda, for a residential development comprising of the following:

“Permission for development to consist of the construction of a total of 133 no. two storey residential dwellings in a mix of detached, semi-detached and terraced form. Vehicular access is from the Marsh Road (R150). The development also provides for all associated site development works including alterations to ground levels, internal roads, car-parking, footpaths, open space, public lighting, landscaping and boundary treatments. The application site was previously granted planning permission under ref. no. 06/52 for 260 no. residential units.”

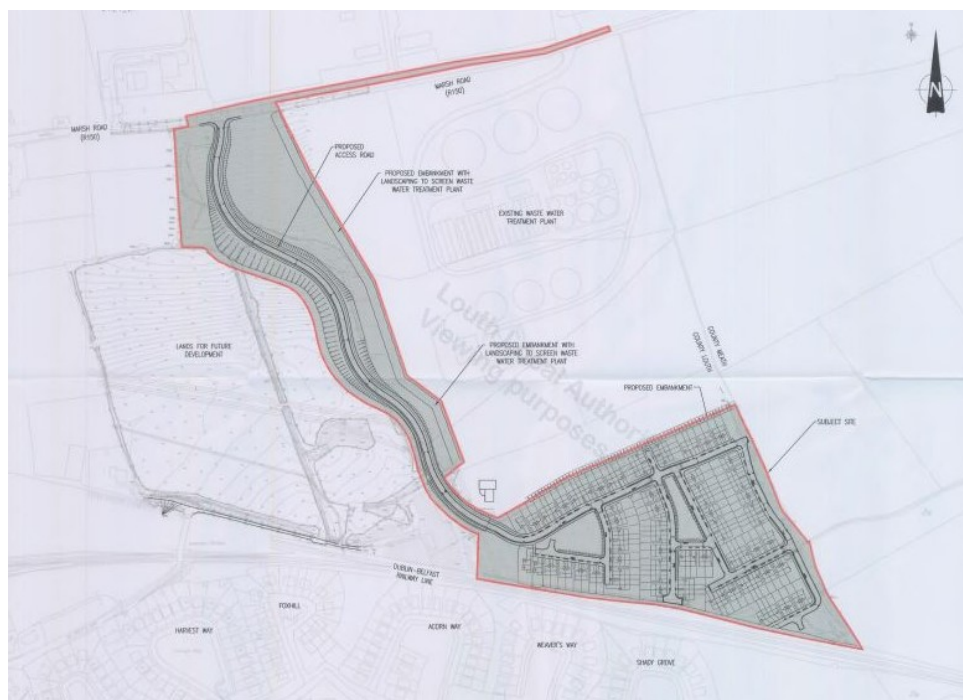


Figure 6: Extract from site layout plan of Reg. Ref.: 17387

5. An Bord Pleanála Reg. Ref.: ABP-3037899-19- Approved SHD at Bryanstown

On the 10th of June 2019, permission was granted for a Strategic Housing Development at Bryanstown, within the southern environs of Drogheda. The approved development comprises 250 no. dwelling units (94 no. houses, 156 no. duplex/apartments), creche and associated site works.

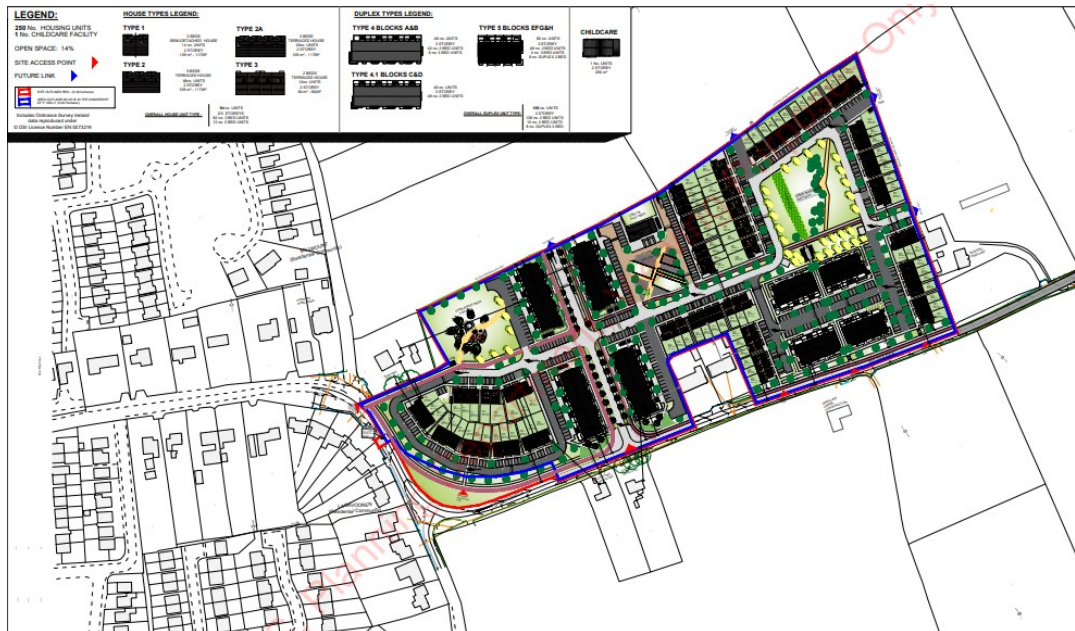


Figure 7 - An Bord Pleanála Reg. Ref.: 305110 – Current SHD Application at Marsh Road

An application for a Strategic Housing Development on a site at Newtown, Marsh Road & McGraths Lane Railway Terrace, Drogheda (to the northwest of the subject site, adjacent to the railway station) is currently under consideration by An Bord Pleanála. The development comprises *inter alia* 450. no residential units (81 no. houses and 369 no. apartments), creche and associated site works.



Figure 8: Extract from PCOT Architects site layout plan submitted as part of Reg. Ref.: 305110

The cumulative effects of this type of urban growth can arise from replacing permeable ground with hard surfaces. This can result in increased risk of flooding and deterioration of water quality, primarily from the run-off of particulate matter and hydrocarbon residues (Mason, 1996). To combat this effect new developments integrate sustainable drainage systems (SUDS) to maintain natural, or 'green field' rates of surface water run-off while also improving water quality in rivers. This development is fully compliant with these principles.

The second RBMP sets out to attain 'good ecological status' of selected water bodies by 2021. Improvements to tributaries of the Rivers Boyne and Blackwater which are within the 'areas for action' will have knock on positive effects to all waters downstream, including the estuary.

The increasing expansion of Drogheda will also place pressure on wastewater infrastructure, which currently discharges to the Boyne Estuary. However, sufficient capacity exists at the municipal wastewater treatment plant to accommodate the predicted additional loading arising from this expansion. This is shown in the AER for the plant which states that capacity is not likely to be exceeded within the next three years.

There are no plans or projects which could act in combination with the subject proposal to result in significant effects to Natura 2000 areas.

5.0 Step 4: Determination of Significance

5.1 Impact prediction

Under Article 6 of the Habitats Directive a 'significant effect' must be measured against the conservation objectives for the SAC or SPA in question. Unlike Environmental Impact Assessment for instance, there are no degrees of significance and where an effect is determined to be significant a stage 2 AA must be undertaken, where mitigation or avoidance measures can be considered.

In order for an impact to occur there must be a pathway between the development (the source) and the SAC or SPA (the receptor). Where a pathway does not exist then an impact cannot occur.

The subject site is not located within, or directly adjacent to any SAC or SPA. However, pathways for impacts do exist via surface water and treated wastewater to SACs and SPAs in the Boyne Estuary.

The development cannot result in direct impacts to habitats within any designated area, either through habitat removal or disturbance, due to the significant separation distances involved.

Site specific conservation objectives have been set for all of the aforementioned SACs or SPAs with the exception of the River Boyne and River Blackwater SAC and none of these objectives relates to water quality. There is no evidence that unsatisfactory water quality is negatively affecting habitat or bird populations. Pollution is in any case undesirable and this development will not infringe upon efforts to enhance water quality under the Water Framework Directive.

Following on from steps 1 – 3 of this process a number of specific impacts are considered:

5.1.1 Habitat loss

This development will not result in the loss of any habitat within or adjacent to any SAC or SPA.

5.1.2 Habitat disturbance

No habitats will be directly disturbed within or directly connecting to Natura 2000 areas.

Indirect disturbance is unlikely to occur through amenity pressures on coastal areas.

5.1.3 Pollution during construction

There are no water courses on the lands although surface drainage pathways are likely to lead ultimately to the Stagrennan Stream and thereon to the Boyne Estuary. Although temporary, it is considered that the loss of construction pollutants to the estuary could result in impacts to invertebrate communities within estuary and mudflat habitats. Significant effects to the Boyne Coast and Estuary SAC therefore cannot be ruled out.

5.1.4 Pollution during normal operation

The use of accepted SUDS techniques as required under the GDSDS in the design of the project will ensure that negative effects to water quality do not arise from surface water run-off when the project is established. These measures are standard features for all development projects and are not introduced here to avoid or reduce an effect to a Natura 2000 area. Therefore the use of SUDS is not considered to be mitigation in an AA context.

The Drogheda wastewater treatment plant is not in compliance with prescribed treatment standards and however ample capacity exists to accept the likely additional loading from this development. No significant effects to Natura areas are likely to arise from these sources.

5.1.5 Abstraction

There is no evidence that abstraction from the River Boyne is resulting in ecological pressures. This aspect of the project is not considered to be significant.

6.0 Conclusions of Stage 1 Screening

Hydrological pathways exist to the Boyne Coast and Estuary SAC and the Boyne Estuary SPA; significant effects have been ruled out to the Boyne Estuary SPA and the River Boyne and River Blackwater SAC and SPA. No significant effects will occur to these Natura 2000 sites either alone or in combination with other plans and projects. No significant effects will occur to the Clogher Head SAC or the River Nanny and Shore SPA and there are no pathways from the development site to these areas.

Significant effects cannot be ruled out to the Boyne Coast and Estuary SAC

The conservation objective set for mudflats and estuary in this SAC are similar and are described as "Permanent habitat area stable or increasing; estuarine muds dominated by polychaetes and crustaceans community complex maintained in a natural condition.". Given the potential effects to water quality during construction (particularly sediment and other construction pollution) significant effects to these qualifying interests cannot be ruled out.

It is therefore concluded that a Stage 2 AA will be required. To assist in this decision, a separate Natura Impact Statement (NIS) has been submitted to An Bord Pleanála.

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