URBAN EDGE ENVIRONMENTAL CONSULTING

NATURAL PROGRESSION

Willowbrook, Iwade, Sittingbourne, Kent

Shadow Habitats Regulations Assessment

September 2024

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Shadow Habitats Regulations Assessment

Client:	Bellway Homes (Kent)	
Report No.:	UE0660_Willowbrook_HRA_1_240904	
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Revision No.:	**Status/Comment:**	**Date:**
0	First issue to client	16 August 2024
1	Final	04 September 2024

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CIEEM REGISTERED PRACTICE 2023-2024

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Abbreviations

DEFRA	Department for Environment, Food and Rural Affairs
DLUHC	Department for Levelling Up, Housing & Communities
HRA	Habitats Regulations Assessment
LWS	Local Wildlife Site
NPPF	National Planning Policy Statement
ODPM	Office for the Deputy Prime Minister
RMA	Reserved Matters Application
PIRP	Pollution Incident Response Plan
SAC	Special Areas of Conservation
SAMMS	Strategic Access Management and Monitoring Strategy
SPA	Special Protection Area
SuDS	Sustainable Drainage Systems

0 Executive Summary

0.1 Introduction

0.1.1 Urban Edge Environmental Consulting was commissioned by Bellway Homes (Kent) to produce a shadow Habitats Regulations Assessment (HRA) in support of the Proposed Development at Willowbrook, Iwade, Sittingbourne, Kent. A hybrid planning application was submitted in 2019 and subsequently approved. Reserved Matters Applications (RMA) were submitted in July 2024. A section 73 application has also been submitted to alter the phasing of the Country Park.

0.1.2 HRA is a requirement of the Conservation of Habitats and Species Regulations 2017 (as amended; commonly referred to as 'the Habitats Regulations') and must be applied to any plan or project not directly connected with or necessary to the management of a European site, if it is likely to have a significant effect on a European site either alone or in combination with other plans or projects. An effect is "likely" in this context if the risk cannot be excluded on the basis of objective information.

0.1.3 The purpose of the report is to confirm whether or not the detailed design information included within the Reserved Matters Applications (RMA) and the altered phasing of the Country Park set out within the section 73 application, change the conclusions of the Appropriate Assessment undertaken in support of the original hybrid planning application by Swale Borough Council.

0.2 Scope of the Assessment

0.2.1 Acknowledging that the Application Site is not directly connected with or necessary to management of the sites for nature conservation, the HRA considers the following internationally designated sites for likely significant or adverse effects on integrity:

- The Swale SPA;
- The Swale Ramsar;
- The Medway Estuary and Marshes SPA; and
- The Medway Estuary and Marshes Ramsar.

0.2.2 Chapter 4 presents information about the sites, including their qualifying features and conservation objectives.

0.3 Summary of Findings and Conclusions

0.3.1 The detailed surface water drainage strategy submitted to discharge conditions 27 and 30 of the hybrid application includes conveyance swales and attenuation ponds and basins to discharge surface water to the surrounding drainage ditch network. These measures will ensure that silt and pollutants are effectively managed on-site to prevent any pollution risk to receiving waters.

Therefore the conclusions of no adverse effects to the integrity of any European site from changes in water quality remain unchanged.

0.3.2 A Construction Management Plan will be submitted to discharge condition 14 of the hybrid application. The Plan will include a series of mitigation measures set out in section 5.2.2 of this report, relating to pollution prevention, noise and air quality. Therefore the conclusions of no adverse effects to the integrity of any European site from construction impacts remain unchanged.

0.3.3 The proposed changes to the phasing of the Country Park set out in the section 73 application will also not alter the conclusions of no adverse effects to the integrity of any European site, in relation to recreational disturbance and, noise and disturbance. Contributions to the Thames, Medway & Swale Estuaries Strategic Access Management and Monitoring Strategy provide the primary mitigation for recreational disturbance effects. Each phase of the Country Park will be fully opened alongside each residential phase providing a further recreational resource for new residents.

0.3.4 The Proposed Development can therefore be considered compliant with Regulation 63 of the Habitats Regulations.

1 Introduction

1.1 Purpose of the Report

1.1.1.1 Urban Edge Environmental Consulting has been commissioned by Bellway Homes (Kent) to produce a shadow Habitats Regulations Assessment (HRA) in support of the Proposed Development at Willowbrook, Iwade, Sittingbourne, Kent (hereafter referred to as 'the Application Site').

1.1.1.2 A hybrid planning application (ref: 19/503974/HYBRID) was submitted in 2019 and approved in July 2022. The hybrid application consisted of an outline application for up to 466 dwellings and a community hall and a full application for access from Groveshurst Road and The Street, and for a Country Park. Subsequent Reserved Matters Applications (RMA) were submitted in July 2024. A section 73 application has also been submitted to alter the phasing of the Country Park.

1.1.1.3 The objective of this shadow HRA report is two-fold:

- To confirm that the detailed design information included as part of the RMAs does not alter the conclusions of the Appropriate Assessment undertaken in support of the hybrid planning application; and
- To subject the changes between the hybrid application and the section 73 application to HRA screening to identify whether these changes could result in likely significant effects to any internationally designated sites.

1.2 Habitats Regulations Assessment

1.2.1 HRA must be applied to any plan or project likely to have a significant effect on a 'European site' either alone or in combination with other plans or projects. HRA is a requirement of the Conservation of Habitats and Species Regulations 2017 (as amended; henceforth 'the Habitats Regulations'), the UK' transposition of European Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora ('the Habitats Directive'). Since the UK has left the EU the Habitats Directive no longer applies directly to the assessment of plans and projects in the UK. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 amend parts of the 2017 Regulations so that they continue to operate effectively[1].

1.2.2 European sites[2] provide ecological infrastructure for the protection of rare, endangered or vulnerable natural habitats and species of exceptional importance. European sites consist of Special Areas of Conservation (SAC) and Special Protection Areas (SPA) and together form part of new national site network in the UK to replace the EU Natura 2000 network. Additionally, the

[1] Defra (2021): *Changes to the Habitats Regulations Assessment 2017.* Accessed online [09/04/2021] at: https://www.gov.uk/government/publications/changes-to-the-habitats-regulations-2017/changes-to-the-habitats-regulations-2017

[2] Although the term is not used in the Habitats Directive, a statutory definition of 'European site' is given in regulation 8 of the Habitats Regulations 2017. This document therefore refers collectively to SAC/SPA as European sites.

National Planning and Policy Framework (NPPF; DLUHC, 2023) and Circular 06/05 (ODPM, 2005) require that Ramsar sites (UNESCO, 1971) are treated as if they are fully designated sites for the purposes of considering development proposals that may affect them.

1.3 Scope and Structure of this Document

1.3.1 The document is structured around the following sections:

- Chapter 2: Methodology
- Chapter 3: Project Description
- Chapter 4: National Site Network
- Chapter 5: Reserved Matters Application Detailed Mitigation
- Chapter 6: Section 73 Application Screening
- Chapter 7: Summary and Conclusions

2 Methodology

2.1 Good Practice Guidance

2.1.1 The latest guidance on HRA has been published by MHCLG (2021) and DEFRA (2021), with more detailed guidance issued by the European Commission (2018). The *Habitats Regulations Assessment Handbook* (Tyldesley & Chapman, 2013) was developed to provide a definitive source of detailed practical guidance consistent with case law, examples of recent good practice and government guidance. The Screening Assessment and Appropriate Assessment for the Proposed Development have been undertaken with reference to the *HRA Handbook* and other guidance documents.

2.1.2 The requirement for HRA stems from Regulations 63 and 64 of the Habitats Regulations, which are represented by four stages within the HRA process as listed in Table 2.1. This report focuses on Stage 1: HRA Screening and Stage 2: Appropriate Assessment & Integrity Test.

Table 2.1: Stages of HRA in Guidance from Tyldesley & Chapman (2013)

HRA Handbook Stage
Stage 1: Screening for Likely Significant Effects
Stage 2: Appropriate Assessment & Integrity Test
Stage 3: Alternative Solutions
Stage 4: Imperative Reasons of Overriding Public Interest and Compensatory Measures

2.2 Screening

2.2.1 Screening is the process which identifies whether a proposed development is likely to result in significant effects to European sites, either alone or in combination with other plans or projects. A significant effect is any effect that would undermine the conservation objectives for a European site. There must be a causal connection or link between the plan or project and the qualifying features of the site which could result in significant effects, but this may be direct or indirect (Tyldesley & Chapman, 2013).

2.2.2 Regulation 63 of the Habitats Regulations 2017 states that where a likely significant effect on a European site is identified, then an Appropriate Assessment of the implications of the plan or project must be made for that site in view of that site's conservation objectives.

2.2.3 Where adverse effects are anticipated changes must be made to the plan or project. The process is characterised by the precautionary principle, defined as (European Commission, 2000):

> *"If a preliminary scientific evaluation shows that there are reasonable grounds for concern that a particular activity might lead to damaging effects on the environment, or on human*

animal or plant health, which would be inconsistent with the protection normally afforded to these within the European Community, the Precautionary Principle is triggered.

Decision-makers then have to determine what action to take. They should take account of the potential consequences of taking no action, the uncertainties inherent in scientific evaluation, and they should consult interested parties on the possible ways managing the risk. Measures should be proportionate to the level of risk, and to desired level of scientific data.

Action is then undertaken to obtain further information enabling a more objective assessment of the risk. The measures taken to manage the risk should be maintained long as the scientific information remains inconclusive and the risk unacceptable."

2.2.4 The precautionary approach applies at both Screening and Appropriate Assessment stages and means that:

- At Screening stage, if a risk of a significant effect on a European site cannot be ruled out on the basis of objective information, the effect is "likely" and an Appropriate Assessment must be carried out. The words "likely" and "unlikely" are used in this HRA applying that approach (unless otherwise indicated).
- Following an Appropriate Assessment, if a competent authority cannot rule out all reasonable scientific doubt of an adverse effect on a site's integrity, the plan or project can only be authorised if the statutory derogation tests are satisfied.

2.2.5 Whilst the UK is no longer part of the EU, the UK Government's ongoing commitment to the precautionary principle is enacted in section 16(2) of the EU (Withdrawal) Act 2018 and section 17(5)(c) of the Environment Act 2021. The precautionary principle therefore continues to be applicable to the HRA process.

2.3 Appropriate Assessment

2.3.1 The purpose of the Appropriate Assessment stage is to further analyse likely significant effects identified during the screening stage, as well as those effects which were uncertain or not well understood and taken forward for assessment in accordance with the precautionary principle. The Appropriate Assessment evaluates the implications of the project, either alone or in combination with other plans or projects, in light of the conservation objectives of affected European sites.

2.3.2 The Appropriate Assessment stage includes a test of whether the project proposals will result in adverse effects on site integrity which can be defined as (ODPM, 2005):

"The integrity of a site is the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified."

2.4 Counteracting Measures

2.4.1 This section draws on Principle C.5 of the HRA Handbook (Tyldesley & Chapman, 2013) to identify different types of counteracting measure and describe how they should be considered within the HRA. There is a well-established policy and ethical approach to assessment which recognises a hierarchy of counteracting measures, which prefers avoidance of adverse effects in the first instance, then cancellation, then reduction, and finally compensatory measures where these can be adequately justified. This approach is embedded in guidance (e.g. CIEEM, 2018; MHCLG, 2021), professional standards (BS42020:2013) and the National Planning Policy Framework (para. 186; MHCLG, 2023).

2.4.2 A distinction must be drawn between measures intended to avoid, cancel or reduce adverse effects on European sites (collectively referred to as mitigation measures) and those which are intended to compensate for adverse effects (compensatory measures); the latter must only be considered following application of the Imperative Reasons of Overriding Public Interest test:

- Mitigation: Avoidance measures: intended to stop or prevent effects from occurring, or to eliminate the risk of them occurring. Successful avoidance measures mean there will be no adverse effect, and hence no requirement to assess effects in combination.
- Mitigation: Cancellation measures: intended to completely neutralise adverse effects. In this context a proposal will have a potential effect, but its potentially negative outcomes have been cancelled without residual effect, and there is no requirement to assess effects in combination.
- Mitigation: Reduction measures: intended to diminish an effect either by reducing the scale of the effect, or its likelihood of occurring, or both. Such measures can reduce the severity/likelihood of an effect to the point where it can no longer be regarded as a likely significant effect but may result in a risk of residual effects. Residual effects need to be considered for their potential to lead to cumulative or in combination effects.
- Compensatory measures: intended to offset the harm to the integrity of an internationally protected site that would occur as a result of a plan or project. They are considered only after having established that the harm to the site itself cannot be further reduced by mitigation or alternative solutions, and are the measures required to ensure that the overall coherence of the national site network is protected.

2.4.3 In the 2018 *People Over Wind* judgment[3], the CJEU ruled that measures intended to avoid or reduce the harmful effects of a plan or project on a European site (i.e. mitigation measures) cannot be taken into account by a competent authority when considering, at the HRA screening stage, whether the plan or project is likely to have a significant effect on a European site. Planning Practice Guidance on HRA note that features that are integral to the design or physical characteristics of the project / plan that is being assessed (as opposed to factors that have been introduced to avoid or reduce harm) may be considered at the screening stage. However, this will need to be determined on a case by case basis.

[3] Case C 323/17 Court of Justice of the European Union (2018): People Over Wind, Peter Sweetman v Coillte Teoranta.

2.4.4 Thus, where mitigation measures are incorporated into the plan or project, are effective, reliable, timely, guaranteed and of sufficient duration, they should be taken into account at the integrity test stage (Stage 2). A competent authority can impose additional mitigation measures over and above incorporated mitigation, if necessary, so as to ensure that a plan or project would not adversely affect the integrity of an internationally protected site, either alone or in combination with other plans and projects. Additional mitigation measures should also be considered at the integrity test stage.

2.5 In-combination Effects

2.5.1 Other plans and projects being prepared or implemented in the area may have the potential to cause negative effects on European sites. These effects may act in combination with the effects of the Proposed Development, possibly leading an insignificant effect to become significant. It is therefore important to consider which other plans and projects could generate similar effects as the Proposed Development, at the same internationally protected sites, and which may act in-combination.

3 Project Description

3.1 Planning Context

3.1.1 The Application Site forms part of allocation A17 in the Swale Local Plan. The allocation includes a number of sub-parcels as shown in Figure 3.1. The original hybrid application was granted planning permission for 466 dwellings and covered parcels N2, E1 and E2 in outline and the Country Park in detail. As part of the Proposed Development, Bellway will be delivering 455 dwelling units on plots E1 & E2 together with the Country Park. Eleven dwellings will be delivered in plot N2, approved under the same hybrid application, but via a separate RMA from another developer and therefore these are not considered as part of this HRA.

3.2 HRA Background

3.2.1 The original hybrid application was supported by an HRA Screening Report (The Ecology Partnership, 2019) relating to the entire A17 allocation. A series of likely significant effects were identified in relation to both the construction and operational phases of the Proposed Development. Therefore an Appropriate Assessment was undertaken by the competent authority, Swale Borough Council, and, in consultation with Natural England[4], concluded no adverse effects to the integrity of the SPAs. The conclusions of the Appropriate Assessment are set out within Swale Borough Council's Report to Planning Committee (27 May 2021) for application 19/503974/HYBRID:

> *Para 8.82 "In this regard, I have undertaken an appropriate assessment and considered the country park element of the application which means that although the SPA lies close to the application site, accessing the SPA for future residents would not be as convenient as accessing open space upon the development which is outside of the SPA. As such I took the view that the mitigation measures to be implemented within the SPA from collection of the standard SAMMS tariff will ensure that these impacts will not be significant or longterm. To confirm this I have re-consulted with Natural England. Natural England have confirmed that subject to the Council securing appropriate mitigation, via the SAMMS payment, an appropriate surface water management strategy and the implementation of a construction management plan in line with the preliminary construction management plan then this will prevent harmful effects on the protected sites. As set out, above, the applicant has agreed to pay the tariff. In addition, surface water and construction management details have been secured via condition. As such I therefore consider that, subject to mitigation, there will be no adverse effect on the integrity of the SPAs."*

[4] Natural England consultation response, 14 January 2021, reference 335642

3.3 Application Site

3.3.1 The Application Site lies to the east of the village of Iwade, which is north of the town of Sittingbourne in the Swale borough of Kent. The survey area comprises c.57.45ha of agricultural land, currently dominated by cereal crops with smaller areas of modified grassland, mixed scrub, bramble scrub, ponds, tall forbs, hedgerows, trees and tree lines, ditches, a stream and a road.

3.3.2 The survey area is bounded to the north by Coldharbour Marshes (part of the Swale Special Protection Area (SPA)), north-west by Sheppey Way, to the east and south by A249 Sheppey Crossing and to the west by the village of Iwade including Village Park Local Wildlife Site (LWS). The extent of the Application Site is outlined in red and blue on Figure 3.2.

3.3.3 The wider landscape is characterised by a patchwork of grazing marsh, arable land and pasture with a network of drainage ditches, residential and industrial development.

3.4 Proposed Development

3.4.1 An illustrative masterplan is provided at Appendix I. The core elements of the Proposed Development include:

- Residential development comprising up to 455 dwellings (466 dwellings minus 11 as per 3.1.1);
- Of these 30 affordable homes will be provided;
- Village Hall - proposed to have a gross external area of 220sqm;
- Country Park;
- Access from Grovehurst Road; and
- Land safeguarded for Grovehurst Road/A249 works.

Figure 3.1: Land Parcels forming part of Hybrid Application Land 19/503974/HYBRID

3.5 Country Park

3.5.1 Wrapping around the Application Site from the eastern side of Grovehurst Road in the south, to the eastern side of Sheppey Way to the north of Iwade, an area of approximately 40 hectares is proposed as open space, which will include a country park. This parcel of land will include the following:

- A planted buffer following the boundary of the Application Site where it meets the A249 to the east;
- An area of new public open space, forming an extension of Woodpecker Park and Iwade Nature Park to the west;
- Restoration of hedgerow field boundaries;
- Designated dog walking routes;
- Areas of grazing land adjacent to the SPA, protected by livestock / dog proof fencing;
- Closure of existing field gate access into the SPA upon the northern boundary;
- Proposed SUDs basins / enhancement of existing ponds;
- Area of land safeguarded for Grovehurst junction improvements;
- Hay / wildflower meadow planting;
- Picnic area and orchard planting;

- Enhancements for ground nesting birds;
- Reptile receptor areas; and
- Sports pitch.

3.6 Section 73 Application – Country Park Phasing

3.6.1 The section 73 application seeks to vary condition 7 of the hybrid application to the following:

> *"The approved Country Park shall be delivered in accordance with phasing plan (Dwg 4410 p104) and on the following basis:*
>
> - *Prior to the final occupation of area BW1, Phase 1 of the Country Park shall be substantially completed and open to the public;*
> - *Prior to the final occupation of area BW2 Phase 2 of the Country Park shall be substantially completed and open to the public;*
> - *Prior to the final occupation of area BW3, Phase 3 of the Country Park shall be substantially completed and open to the public;*
> - *Prior to the occupation of the 20th dwelling, in area BW4, Phase 4 of the Country Park shall be substantially completed and open to the public."*

3.6.2 It proposes that the Country Park is delivered in four phases, with each phase being delivered alongside the adjacent residential development. Figure 3.3 illustrates the propose phasing.

3.6.3 Once a phase of the Country Park is completed alongside the adjacent residential area, no further excavations or material spreading will be undertaken within that phase to facilitate construction of landscaping features within later phases or otherwise. Therefore, each Country Park phase will be fully operational as a recreational resource when the adjacent residential dwellings become occupied.

3.7 Discharge of Conditions from the Hybrid Application

3.7.1 Swale Borough Council's Appropriate Assessment (section 3.2.1) confirmed that subject to securing appropriate mitigation no adverse effects to the integrity of the Medway Estuary SPA / Ramsar and Swale SPA / Ramsar were expected. This mitigation included an appropriate surface water management strategy and a construction management plan. The detailed drainage strategy has been submitted as part of a Reserved Matters Application to discharge conditions 27 and 30. A Construction Management Plan will be submitted to discharge condition 14. These documents are discussed further in section 5 of this report.

Willowbrook, Iwade, Sittingbourne, Kent

Outline application boundary

Country park boundary

Figure 3.2: Application Site Location

0 225 450

Metres

N

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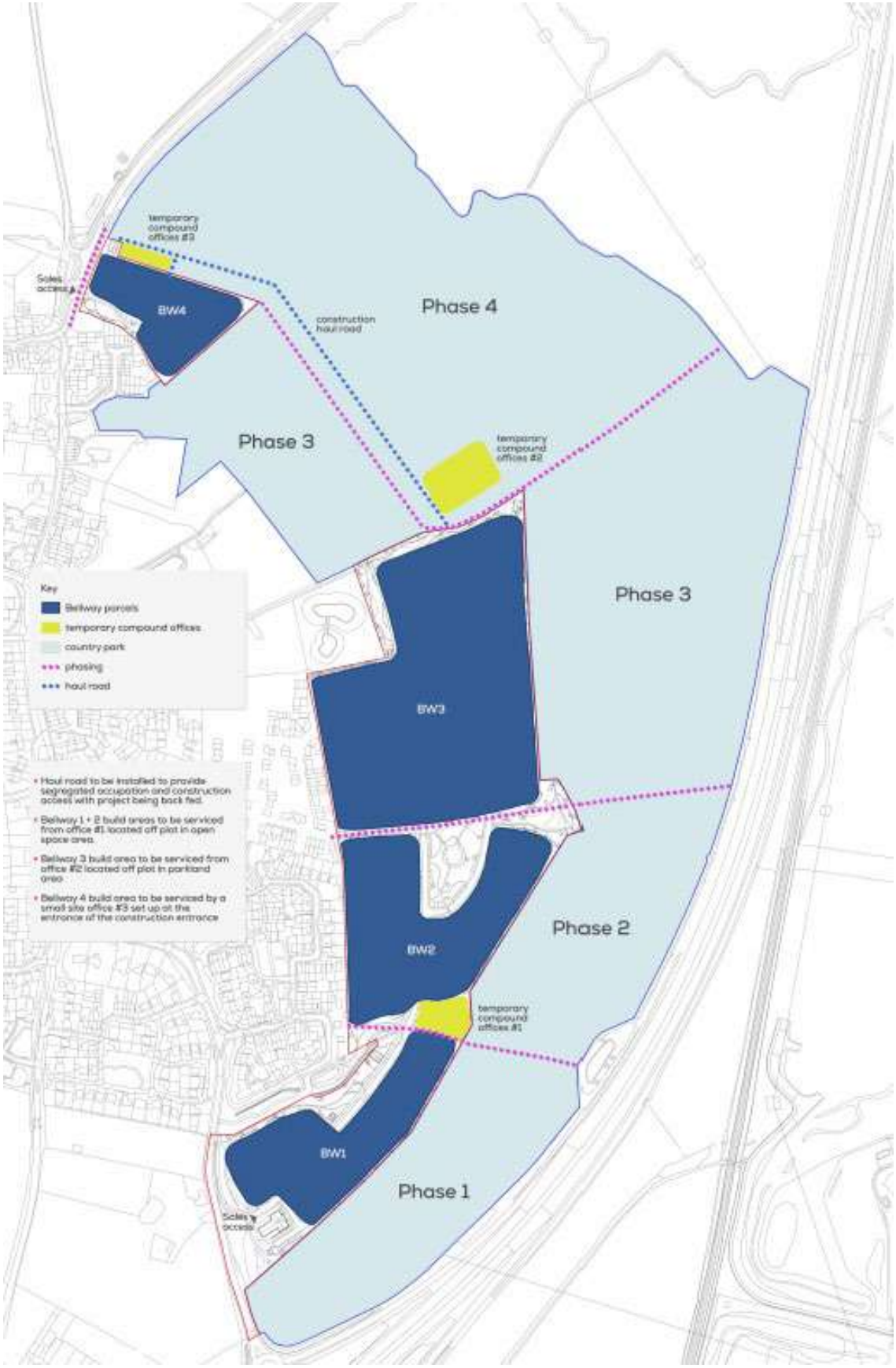

Figure 3.3: Proposed Phasing Plan (Source: GDM Architects)

4 National Site Network

4.1 Scope of the Assessment

4.1.1 All European sites forming part of the national site network within 5km of the development site have been considered within the scope of this assessment, together with internationally important Ramsar sites.

4.1.2 **Special Areas of Conservation (SAC):** SACs are strictly protected sites originally designated under the EC Habitats Directive (92/43/EEC). Article 3 of the Habitats Directive requires the establishment of a European network of important high-quality conservation sites that will make a significant contribution to conserving the 189 habitat types and 788 species identified in Annexes I and II of the Directive (as amended). The listed habitat types and species are those considered to be most in need of conservation at a European level (excluding birds which are conserved by SPA and Ramsar – see below). Following the UK's exit from the EU, the EC no longer has a role in designating SACs in the UK. The Habitats Regulations 2019 establish a single stage designation process, where the appropriate authority is the decision maker. The selection and designation of SACs is based on the criteria set out in Annex III of the Habitats Directive so far as it applies to the UK.

4.1.3 **Special Protection Areas (SPA):** The EC Wild Birds Directive (2009/147/EC) provides for the protection, management and control of all species of naturally occurring wild birds in the European territory of Member States. The Birds Directive is transposed into national law via the 'Wildlife and Countryside Act 1981' and 'The Conservation of Habitats and Species Regulations 2017', now amended by 'The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019'. It provides for the protection, management and control of all species of naturally occurring wild birds in the European territory of Member States. In particular it requires Member States to identify areas to be given special protection for the rare or vulnerable species listed in Annex I (Article 4.1) and for regularly occurring migratory species (Article 4.2) and for the protection of wetlands, especially wetlands of international importance. These areas are known as Special Protection Areas. Following the UK's exit from the EU the EC no longer has a role in designating SPAs in the UK and they are instead designated under the Habitats Regulations 2019.

4.1.4 **Ramsar:** Ramsar sites are wetlands of international importance designated under the Ramsar Convention (UNESCO, 1971). In the UK, the first Ramsar sites were notified in 1976 and since then many more have been designated. The initial emphasis was on selecting sites of importance to waterbirds, and consequently many Ramsar sites are also Special Protection Areas.

4.1.5 The HRA considers the following protected sites for likely significant effects or adverse effects on integrity; see Figure 4.1 :

- Medway Estuary and Marshes SPA;
- Medway Estuary and Marshes Ramsar;

- The Swale SPA; and
- The Swale Ramsar.

4.1.6 These internationally protected sites have been designated to conserve a wide variety of habitats of European importance, along with species populations of high conservation significance. Table 4.1 sets out the qualifying features for the SPA designations. Ramsar sites do not have qualifying features, however the relevant Ramsar criteria applicable to each site is set out in Table 4.2.

4.2 Conservation Objectives for SAC and SPA

4.2.1 The Habitats Regulations require the appropriate authority to maintain or where appropriate restore qualifying habitats and species populations to favourable conservation status. Site conservation objectives are referred to in the Habitats Regulations. They are for use when there is a need to undertake an Appropriate Assessment under the relevant parts of the legislation. The conservation objectives are set for each feature (habitat or species) of an SAC / SPA. Where the objectives are met, the site can be said to demonstrate a high degree of integrity and the site itself makes a full contribution to achieving the aims of the Habitats Regulations. The conservation objectives defined by Natural England for the SACs and SPAs included within the scope of this HRA are given in Table 4.3. Natural England has published supplementary advice on conserving and restoring site features for each site (Natural England, 2023 & 2024).

4.3 Conservation Objectives for Ramsar Sites

4.3.1 Ramsar sites do not have agreed conservation objectives, but in most instances overlap with SPA site boundaries. However, it should be noted that Ramsar qualifying features can include a range of habitats and non-bird species common to SAC designations, as well as bird species and assemblages and their supporting habitats, which are common to SPAs.

4.3.2 Of the Ramsar sites scoped into the assessment, the qualifying Ramsar Convention criteria for the Medway Estuary and Marshes Ramsar site and The Swale Ramsar site overlap substantially with the equivalent SPA qualifying features. Therefore, no additional conservation objectives are defined to assess these features, and those relating to the equivalent SPA can be used in the assessment.

Land East of Iwade, Habitats Regulations Assessment

- Application Site Boundary
- Country Park Boundary
- 5km buffer
- Special Protection Areas (England) © Natural England
- Ramsar (England) © Natural England

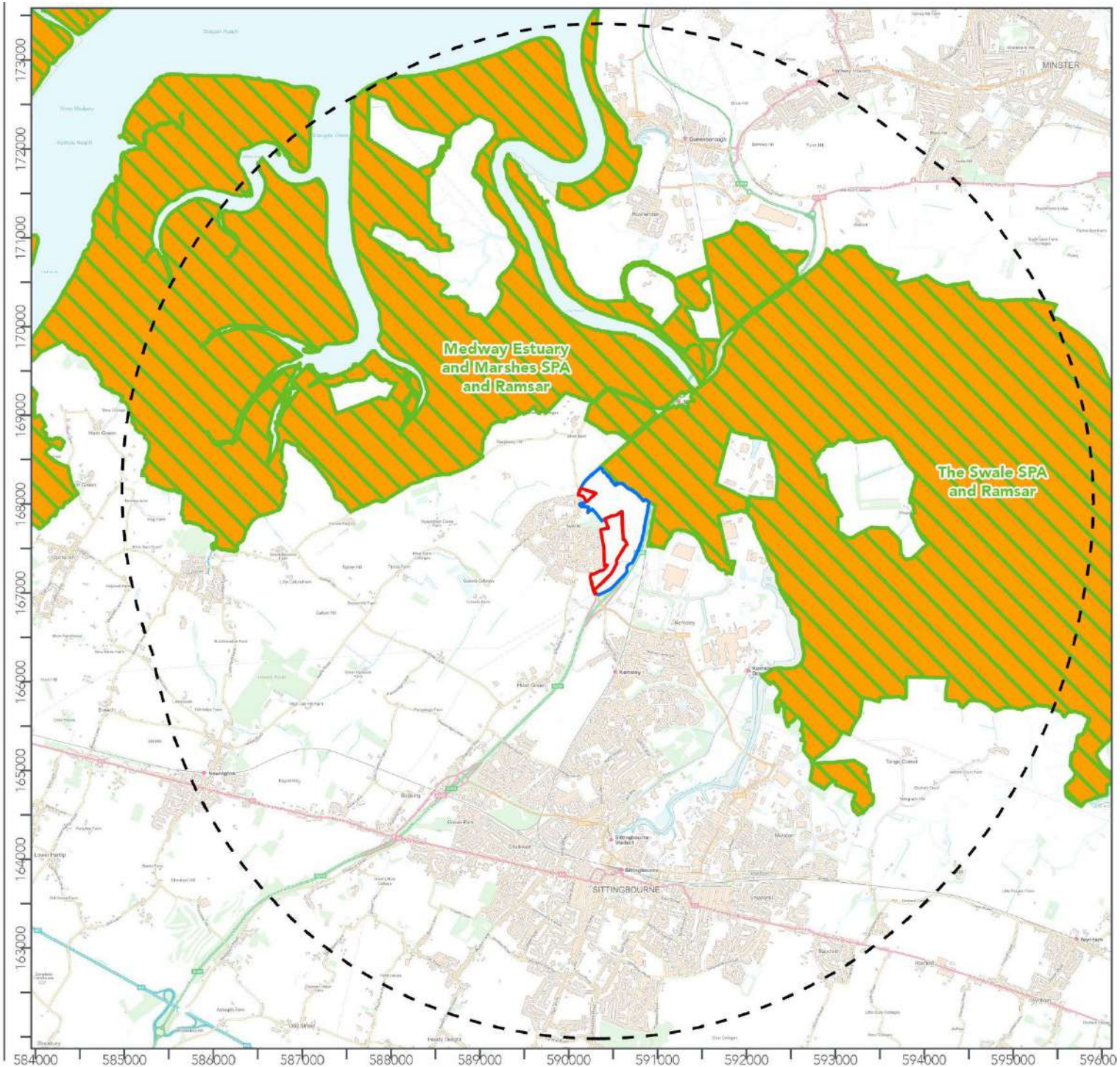

Figure 4.1: European Sites around the Application Site

0 1,000 2,000
Metres

N

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Scale (at A4): 1:63,000 **Created by:** EM
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Table 4.1: SPA Qualifying Features

Site Name	Description	Qualifying Features
Medway Estuary and Marshes SPA	The Medway Estuary and Marshes is located in north Kent. The estuary forms a single tidal system with the Swale and joins the southern part of the Thames Estuary between the Isle of Grain and Sheerness. The site has a complex arrangement of tidal channels, which drain around large islands of salt marsh and peninsulas of grazing marsh. There are large areas of mudflat, which have high densities of invertebrates providing a good food source for wading birds. Grazing marsh can also be found landward of some sea walls in the area. Small shell beaches occur too, particularly in the outer parts of the estuary. The area is very flat and low lying, with large expanses of uninterrupted views.	▸ Avocet (*Recurvirostra avosetta*), Breeding ▸ Avocet (*Recurvirostra avosetta*), Non-breeding ▸ Breeding bird assemblage, Breeding ▸ Dark-bellied brent goose (*Branta bernicla bernicla*), Non-breeding ▸ Dunlin (*Calidris alpina alpina*), Non-breeding ▸ Grey plover (*Pluvialis squatarola*), Non-breeding ▸ Knot (*Calidris canutus*), Non-breeding ▸ Little tern (*Sternula albifrons*), Breeding ▸ Pintail (*Anas acuta*), Non-breeding ▸ Redshank (*Tringa totanus*), Non-breeding ▸ Ringed plover (*Charadrius hiaticula*), Non-breeding ▸ Shelduck (*Tadorna tadorna*), Non-breeding ▸ Waterbird assemblage, Non-breeding
The Swale SPA	The Swale is located in North Kent on the south east coast of England and separates the Kent mainland from the Isle of Sheppey. It adjoins the Medway Estuary to the west. The Swale comprises extensive intertidal mudflats that encompass the entire northern and southern shores of the estuary extending from Ferry Marshes in the west down to Whitstable on the southern shore and Leysdown-on-Sea on the northern shore.	▸ Breeding bird assemblage, Breeding ▸ Dark-bellied brent goose (*Branta bernicla bernicla*), Non-breeding ▸ Dunlin (*Calidris alpina alpina*), Non-breeding ▸ Waterbird assemblage, Non-breeding

Site Name	Description	Qualifying Features
	The SPA also contains the largest expanse of grazing marsh in Kent (although is much reduced from its previous extent), which provide important feeding and roosting grounds for many waterbirds. The large areas of intertidal mudflats are submerged at high tide, and exposed in the estuary at low tide, providing an important feeding habitat for birds. The estuary also provides extensive roosting sites for large populations of waterbirds and is of major importance during the winter for duck and wader species and for supporting wader populations moving to the south east coast of Britain during the spring and autumn migration periods.	

Table 4.2: Ramsar Qualifying Criteria

Site Name	Description	Qualifying Features
Medway Estuary and Marshes Ramsar	A complex of rain-fed, brackish, floodplain grazing mash with ditches, and intertidal saltmarsh and mudflat. These habitats together support internationally important numbers of wintering waterfowl. Rare wetland bird breed in important numbers. The saltmarsh and grazing marsh are of international importance for their diverse assemblages of wetland plants and invertebrates.	**Ramsar criterion 2** Internationally scare plants including: ▸ Sea barley ▸ Curved hard-grass ▸ Annual beard-glass ▸ Borrer's saltmarsh-grass ▸ Slender hare's ear ▸ Sea clover ▸ Saltmarsh goose-foot

Site Name	Description	Qualifying Features
		▸ Golden samphire ▸ Perennial glasswort ▸ One-flowered glasswort At least 12 British Red Data Book species of wetland invertebrate **Ramsar criterion 5** Assemblages of international importance **Ramsar criterion 6** Species with peak counts in spring / autumn: ▸ Grey plover (*Pluvialis squatarola*) ▸ Redshank (*Tringa tetanus*) Species with peak counts in winter: ▸ Dark-bellied brent goose (*Branta bernicla bernicla*) ▸ Shelduck (*Tadorna tadorna*) ▸ Pintail (*Anas acuta*) ▸ Ringed plover (*Charadrius hiaticula*) ▸ Red knot (*Calidris canutus islandica*) ▸ Dunlin (*Calidris alpina alpina*)
The Swale Ramsar	A complex of brackish and freshwater, floodplain grazing marsh with ditches, and intertidal saltmarsh and mudflat. These habitats together support internationally important numbers of wintering waterfowl. Rare wetland bird breed in important numbers. The saltmarsh and grazing marsh are of	**Ramsar criterion 2** Nationally scarce plants and at least seven British Red Data Book invertebrates. **Ramsar criterion 5** Assemblages of international importance **Ramsar criterion 6**

Site Name	Description	Qualifying Features
	international importance for their diverse assemblages of wetland plants and invertebrates.	Species with peak counts in spring / autumn: ▸ Redshank (*Tringa tetanus*) Species with peak counts in winter: ▸ Dark-bellied brent goose (*Branta bernicla bernicla*) ▸ Grey plover (*Pluvialis squatarola*)

Table 4.3: Conservation Objectives for SPA

Conservation objectives for Medway Estuary and Marshes SPA and The Swale SPA
Ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: • the extent and distribution of the habitats of the qualifying features; • the structure and function of the habitats of the qualifying features; • the supporting processes on which the habitats of the qualifying features rely; • the populations of each of the qualifying features; and • the distribution of qualifying features within the site.

5 Reserved Matters Application Detailed Mitigation

5.1 Detailed Surface Water Drainage Strategy

5.1.1 The Reserved Matters Application includes a detailed surface water drainage strategy[5] to discharge conditions 27 and 30 of the hybrid application. The strategy is replicated at Appendix I of this report. Surface water will be discharged to the surrounding drainage ditch network via conveyance swales and attenuation ponds and basins, ensuring that silt and pollutants are effectively managed on-site to prevent any pollution risk to receiving waters.

5.1.2 As set out in the drainage discharge of conditions report (Mayer Brown, July 2024), the SuDS Manual identifies the pollution hazard level associated with the land uses within the Proposed Development as 'Low'. Both swales and attenuation basins / ponds provide adequate pollution mitigation for runoff from low hazard land uses. A SuDS Management and Maintenance Plan is provided as part of the drainage strategy.

5.1.3 The attenuation ponds comprise the first element of each phase of development so that surface water runoff from any construction works is attenuated from the outset. Sedimats and oil booms will be provided at the outlet from the attenuation ponds to further capture any sediment.

5.1.4 On this basis, the conclusions of no adverse effects to the integrity of The Swale SPA / Ramsar and The Medway Estuary and Marshes SPA / Ramsar from changes in water quality remain unchanged from the Appropriate Assessment accompanying the hybrid application undertaken by Swale Borough Council.

5.2 Construction Management Plan

5.2.1 As part of the Appropriate Assessment for the hybrid application Natural England confirmed that subject to the Council securing appropriate mitigation, including the implementation of a construction management plan in line with the preliminary construction management plan then harmful effects on the protected sites would be prevented. Condition 14 of the hybrid application requires submission of a Construction Management Plan in line with the Preliminary Construction Management Plan (PFA, 2019) submitted in support of that application.

5.2.2 Condition 14 is yet to be discharged, however a Construction Management Plan will include the following measures to ensure any harmful effects are prevented:

[5] Proposed Surface and Foul Water Drainage Strategy Dwg BHSITTINGBOURNE.10/10 Rev P2, prepared by Mayer Brown

Pollution Prevention:

- Wheel washing facilities will be provided at every exit point from the site to minimise the risk of construction vehicles carrying mud onto the highway;
- Wheel washing will take place within designated hard surfaced areas with their own discrete drainage system, with a sump to prevent contaminated wash water from entering nearby watercourses;
- Refuelling of construction plant will also take place within designated areas with a sealed surface and drained via a system which includes an oil interceptor;
- Bulk fuel oils will be stored in properly bunded tanks, with smaller quantities of fuels, oils and chemicals stored in lockable, weatherproof cabins;
- If dewatering of excavations is necessary, all water will be filtered through settling tanks before being discharged into existing watercourses or any new drainage system;
- Spill kits will be provided in accessible locations and all members of the workforce will be briefed as to their usage through "toolbox talks" and induction briefings; and
- The main contractor should hold either ISO 14001 or EMAS certification which will ensure that the contractor takes appropriate measures to minimise the risk of pollution and, in any event will prepare a Pollution Incident Response Plan (PIRP) (Appendix 2 of the Preliminary Construction Plan).

Air Quality:

- Vehicle water sprinklers will be used to keep the ground surface damp in day conditions and vehicles carrying loose granular materials will be sheeted to minimise dust arisings; and
- All vehicles and construction plant will be maintained to a "roadworthy" standard to minimise vehicle emissions.

Noise:

- All construction work will be carried out in accordance with the BS 5228 and the Control of Pollution Act 1974 which define a set of best practice working methods and mitigation measures. Examples of these measures are:
- Where possible, locating plant so that it is screened from receptors by on-site structures, such cabins.
- Using mobile screening to shield receptors from particularly noisey equipment/activities;
- Using modern quiet equipment and ensuring such equipment is properly maintained and operated by trained staff;

- Applying silencers/enclosures to particularly noisy equipment where possible;
- Ensuring that plant machinery is turned off when not in use;
- Provide local residents with an on-site contact in the event of disturbance from construction works is perceived;
- Inform local residents about the construction works, including the timing and duration of any particularly noise element;
- Try to avoid operating particularly noisy equipment at the beginning and end of the day; and
- Keep noisy deliveries, such as skips and concrete, to middle to the day where possible.

5.2.3 On the basis that these measures form part of the Construction Management Plan submitted to discharge condition 14, the conclusions of no adverse effects to the integrity of The Swale SPA / Ramsar and The Medway Estuary and Marshes SPA / Ramsar from construction impacts remain unchanged from the Appropriate Assessment accompanying the hybrid application undertaken by Swale Borough Council.

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6 Section 73 Application Screening

6.1 Introduction

6.1.1 This chapter provides a screening assessment of the proposed changes to the phasing of the Country Park set out in the section 73 application. Those changes are screened against those possible pathways of impact to The Swale SPA / Ramsar and The Medway Estuary and Marshes SPA / Ramsar.

6.2 Recreational Disturbance

6.2.1 Population growth associated with residential development brings with it the prospect of additional visitor pressure on European sites. There is particular concern over the capacity of existing open spaces adjacent to or within European sites to accommodate additional visitor pressure resulting from planned residential development, and development and promotion of tourism, without adverse effects on European site integrity, particularly those designated for an internationally important bird assemblage.

6.2.2 Impacts associated with disturbance from recreation differ between seasons, species, and individuals. Birds' responses to disturbance can be observed as behavioural or physiological with possible effects on feeding, breeding and taking flight. Murison *et al.* (2007) noted that birds often react to human disturbance as a form of predation risk. Such a response can include elevated heart rate, heightened defensive behaviour, including evasive measures, and the avoidance of high risk areas (Murison *et al.* (2007), Liley & Sutherland (2007)). High levels of human activity in important nature conservation areas might then change the behaviour of animals to such a degree that conservation priorities become compromised. This may result from reduced breeding success, increased energetic expenditure, predation, or exposure of nests, eggs or young to trampling and the elements (Liley & Sutherland, 2007).

6.2.3 Localised disturbance within a small area of a designated site is unlikely to result in a likely significant effect; birds are highly mobile and will therefore be able to relocate to alternative nearby feeding locations. However, more chronic disturbance affecting larger areas of a designated site over longer periods will have more significant effects, reducing the availability of feeding habitat, reducing food availability and possibly increasing competition for more limited resources. In these instances the ability of a designated site to support a given number of birds is therefore compromised (Liley *et al.*, 2014).

6.2.4 Increased recreational pressure can also impact supporting habitat on which qualifying wintering bird species rely through for example, trampling resulting in soil compaction and erosion, and contamination resulting from litter, nutrient enrichment through dog fouling or spread of invasive species.

Thames, Medway & Swale Estuaries – Strategic Access Management and Monitoring Strategy

6.2.5 The North Kent Environmental Planning Group undertook a bird disturbance study of the North Kent shore to examine the possible impact of human disturbance on the protected bird species present within the Thames Estuary and Marshes SPA and Ramsar site, the Medway Estuary and Marshes SPA and Ramsar Site, and the Swale SPA and Ramsar Site. Phase 1 of the project gathered evidence on bird on the causes and extent of bird disturbance within the three designated European Sites (see Liley & Fearnley 2011, Fearnley & Liley 2011 and Fearnley & Liley 2012). The Phase 1 Bird Disturbance Report (Liley *et al.*, 2012) draws on Phase 1 to identify a 6km zone of influence around the SPA / Ramsar sites within which new residential development could contribute to recreational disturbance effects. The authors go on to recommend and consider the suitability of a range of mitigation measures.

6.2.6 The recommendations of this report have informed the Thames, Medway & Swale Estuaries Strategic Access Management and Monitoring Strategy (SAMMS) which sets out a series of measures to deal with strategic recreational disturbance within the Thames Estuary and Marshes SPA / Ramsar Site, Medway Estuary and Marshes SPA / Ramsar Site, and The Swale SPA / Ramsar Site. The following elements form the basis of the strategy:

- North Kent Coast Dog Project;
- Wardening/Visitor Engagement;
- New Access Infrastructure;
- Parking: Strategic Review and Changes to Parking;
- Codes of Conduct;
- Interpretation/signage;
- Work with local club/group;
- Refuge;
- Enhancement of existing sites to create hub;
- Enhancement to existing GI away from SPA; and
- Enforcement.

6.2.7 New housing development within 6km of an SPA / Ramsar Site is required to make a financial contribution to the delivery of the SAMMS in line with policy CP7 of the adopted Local Plan. A contribution of £250.39 is set out within the section 106 agreement.

6.2.8 In relation to the enhancement of existing GI away from the SPA the SAMMS notes the following:

Para 5.76 "it is apparent that for North Kent there is a need for a more comprehensive mix of measures because alternative green infrastructure is unlikely to be as successful in drawing all types of visitors away in the absence of a wider suite of measures."

Hybrid Planning Application Appropriate Assessment Conclusions

6.2.9 Within Swale Council's Report to Planning Committee (27 May 2021) for application 19/503974/HYBRID the Planning Officer undertook and Appropriate Assessment of the Proposed Development and, in consultation with Natural England, concluded no adverse effects to the integrity of the SPAs (see section 3.2.1)

Section 73 Screening Assessment

6.2.10 Financial contribution to the SAMMS, as secured through the section 106 agreement, is considered to be the primary mitigation to ensure there will be no adverse effects to the integrity of the SPA / Ramsar Sites as a result of recreational disturbance. Provision of the Country Park will provide secondary mitigation providing an alternative and more accessible open space to the SPA for residents for recreational use, including dog-walking.

6.2.11 The proposed phasing of the Country Park would deliver each phase alongside the adjacent phase of residential development, such that new residents will have access to new open space once that residential phase becomes operational (Figure 3.3 and section 3.6.3). In this respect the proposed section 73 variation to phase construction of the Country Park would not alter the conclusions of the hybrid Appropriate Assessment or introduce any additional likely significant effects with respect to recreational disturbance.

6.3 Noise and Disturbance

6.3.1 Very loud (defined as greater than 70dB) and percussive noises have the potential to disturb birds, increasing time spent alert and in flight, and reducing the time available to feed (Cutts *et al.*, 2009; 2013). Peak levels of sound are most likely to occur from the impact of pneumatic drilling and concrete breaking during site preparation and piling during construction.

6.3.2 Noise disturbance to qualifying bird species within a European site could result in the functional loss of habitats which have a role in supporting the integrity of the designated site.

6.3.3 A noise assessment was undertaken in support of the hybrid application to consider the impact of construction nose on the land to the north of the Application Sites which is the designated SPA (Sharps Redmore, 2020). Noise levels were redirected across the site using computer modelling software. In the absence of a detailed construction method statement, the assessment considered a worst case scenario with earth moving plant operating within the whole development area, including the Country Park. When considering this worst case scenario the 70dB threshold is exceeded only along the borders of the SPA.

Section 73 Screening Assessment

6.3.4 The phasing of the Country Park will not alter the assumptions made in the noise assessment. There are no construction works to be undertaken along the north-eastern boundary of the proposed Country Park closest to the SPA (see Appendix II) and the closest significant works, the construction of attenuation features, will be of limited duration.

6.3.5 As set out in the hybrid application, all construction works will be carried out in accordance with the BS 5228 and the Control of Pollution Act 1974 which define a set of best practice working method and mitigation measures (see section 5.2.3).

6.3.6 It is therefore concluded that the phasing of the Country Park will not alter the conclusions of the hybrid Appropriate Assessment or introduce any additional likely significant effects with respect to noise and disturbance.

7 Summary and Conclusions

7.1 Introduction

7.1.1 This document sets out a shadow HRA for the Proposed Development at Willowbrook, Iwade, Sittingbourne, Kent (the Application Site). The purpose of the report is to confirm whether or not the detailed design information included within the RMA and the altered phasing of the Country Park set out within the section 73 application, alter the conclusions of the Appropriate Assessment undertaken in support of the original hybrid planning application by Swale Borough Council.

7.2 Summary of Findings

7.2.1 The detailed surface water drainage strategy submitted to discharge conditions 27 and 30 of the hybrid application includes conveyance swales and attenuation ponds and basins to discharge surface water to the surrounding drainage ditch network. These measures will ensure that silt and pollutants are effectively managed on-site to prevent any pollution risk to receiving waters. Therefore the conclusions of no adverse effects to the integrity of any European site from changes to water quality remain unchanged.

7.2.2 A Construction Management Plan will be submitted to discharge condition 14 of the hybrid application. The Plan will include a series of mitigation measures set out in section 5.2.2, relating to pollution prevention, noise and air quality. Therefore the conclusions of no adverse effects to the integrity of any European site from construction impacts remain unchanged.

7.2.3 The proposed changes to the phasing of the Country Park set out in the section 73 application will also not alter the conclusions of no adverse effects to the integrity of any European site in relation to recreational disturbance and, noise and disturbance. Contributions to the Thames, Medway & Swale Estuaries Strategic Access Management and Monitoring Strategy provide the primary mitigation for recreational disturbance effects. Each phase of the Country Park will be fully opened alongside each residential phase providing a further recreational resource for new residents.

7.2.4 The Proposed Development can therefore be considered compliant with Regulation 63 of the Habitats Regulations.

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Appendix I: Drainage Strategy

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Proposed Ditch Outfall B IL: 2.05m AOD

Hydrobrake Flow Control B Peak discharge 8.30l/s
Proposd CL= 5.42
IL= 4.22

Catchment A
- Catchment Area = 1.38ha
- Hardstanding Area = 0.74ha
- Designed for the 1in100yr +40% CCA Storm Event
- Discharge Rate (QBAR) = 5.00l/s

ATTENUATION POND B
- Top of Bank (min) = 5.50m AOD
- Damp Bench (1m wide) = 4.30m AOD
- Base level of Pond = 3.6m AOD
- Minimum Permanent water level = 0.70
- Peak water level (designed for the 1in100yr + 40% CCA Storm Event) = 1.7m AOD
- 1in4 Side Slopes
- Plan Area = 1540m^2
- Storage Volume = 1375m^3
- Provision of at least 300mm Freeboard

FOR CONTINUATION SEE DRAWING BHSITTINGBOURNE.10/11

Catchment B
- Catchment Area = 2.30ha
- Hardstanding Area = 1.11ha
- Designed for the 1in100yr +40% CCA Storm Event
- Discharge Rate (QBAR) = 8.30l/s

ATTENUATION POND C
- Top of Bank (min) = 7.20m AOD
- Damp Bench (1m width) = 6.05m AOD
- Base level of Pond = 5.35m AOD
- Minimum Permanent water level = 0.7m
- Peak water level (Designed for the 1in100yr + 40% CCA Storm Event) = 1.7m AOD
- 1in4 Side Slopes
- Plan Area = 3260m^2
- Storage Volume = 3035m^3
- Provision of at least 300mm Freeboard

Catchment C
- Catchment Area = 4.34ha
- Hardstanding Area = 2.45ha
- Designed for the 1in100yr +40% CCA Storm Event
- Discharge Rate (QBAR) = 15.60l/s

Hydrobrake Flow Control C
Peak discharge 15.60l/s
Proposd CL= 7.14
IL= 5.84

Proposed Ditch Outfall C IL: 5.00m AOD

Catchment D&E
- Catchment Area = 4.25ha
- Hardstanding Area = 1.98ha
- Designed for the 1in100yr +40% CCA Storm Event
- Discharge Rate (QBAR) = 16.00l/s

ATTENUATION POND D&E
- Top of Bank (min) = 6.10m AOD
- Damp Bench (1m width) = 4.90m AOD
- Base level of Pond = 4.2m AOD
- Minimum Permanent water level = 0.7m
- Peak water level (Designed for the 1in100yr + 40% CCA Storm Event) = 1.7m AOD
- 1in4 Side Slopes
- Plan Area = 2700m^2
- Storage Volume = 2535m^3
- Provision of at least 300mm Freeboard

Hydrobrake Flow Control D&E
Peak discharge 16.00l/s
Proposd CL= 6.30
IL= 4.87

Proposed Ditch Outfall IL: 4.35m AOD

Proposed Ditch Outfall IL: 4.18m AOD

Catchment F
- Catchment Area = 3.66ha
- Hardstanding Area = 1.50ha
- Designed for the 1in100yr +40% CCA Storm Event
- Discharge Rate (QBAR) = 12.50l/s

Hydrobrake Flow Control F
Peak discharge 12.50l/s
Proposd CL= 6.45
IL= 5.12

ATTENUATION POND F
- Top of Bank (min) = 6.50m AOD
- Damp Bench (1m wide) Level = 5.20m AOD
- Base level of Pond = 4.5m AOD
- Minimum Permanent water level = 0.7m
- Peak water level (designed for the 1in100yr+40% CCA Storm Event) = 1.7mAOD
- 1in4 Side Slopes
- Plan Area = 1910m^2
- Storage Volume = 1865m^3
- Provision of at least 300mm Freeboard

1:1000 0 20 40 60 80 100 m
1:1 0 10 20 30 40 50 60 70 80 90 100 mm

KEY

- PORPOSED SURFACE WATER SEWER AND MANHOLE
- PROPOSED FOUL WATER SEWER AND MANHOLE
- PROPOSED FOUL PUMPING STATION
- PROPOSED HYDROBRAKE FLOW CONTROL CHAMBER
- EXISTING SOUTHERN WATER MANHOLE
- SITE BOUNDARY
- PROPOSED CATCHMENT A
- PROPOSED CATCHMENT B
- PROPOSED CATCHMENT C
- PROPOSED CATCHMENT D & E
- PROPOSED CATCHMENT F
- PROPOSED ATTENUATION POND
- PROPOSED HEADWALL OUTFALL
- PROPOSED SWALE
- PROPOSED POND

NOTES:

1. This drawing is indicative.
2. The attenuation features shown on this drawing are based on hardstanding surfaces in the development parcels and and will need to be reviewed if the layout is amended. A 10% allowance for urban creep has been allowed for dwellings.
3. The QBAR run-off rates and climate change allowances have been obtained from the from the Flood Risk Assessment undertaken by PFA Consulting in July 2019, which accompanied the Outline Planning Application.
4. Habitable dwellings should be located 15m from the wet well of the foul pump station.
5. The route to and from each catchment to the respective proposed basins, and from these basins to their outfalls, have been shown indicatively and may be subject to change.
6. This drawing should be read in conjunction with all other relevant engineering drawings.
7. The connection points and associated routes to the Southern Water Foul Drainage Network are shown indicatively and will be determined at the detailed design stage.

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NOT FOR CONSTRUCTION

rev.	amendment	checked	date
P3	Updated Scale and Addition of Scale Bar	PP	23/07/2024
P2	Updated following fixed layout. (FA)	SL	07/06/2024
P1	Initial Issue. (FA)	SL	24/05/2024

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client
BELLWAY HOMES

project
WILLOWBROOK, SITTINGBOURNE, KENT

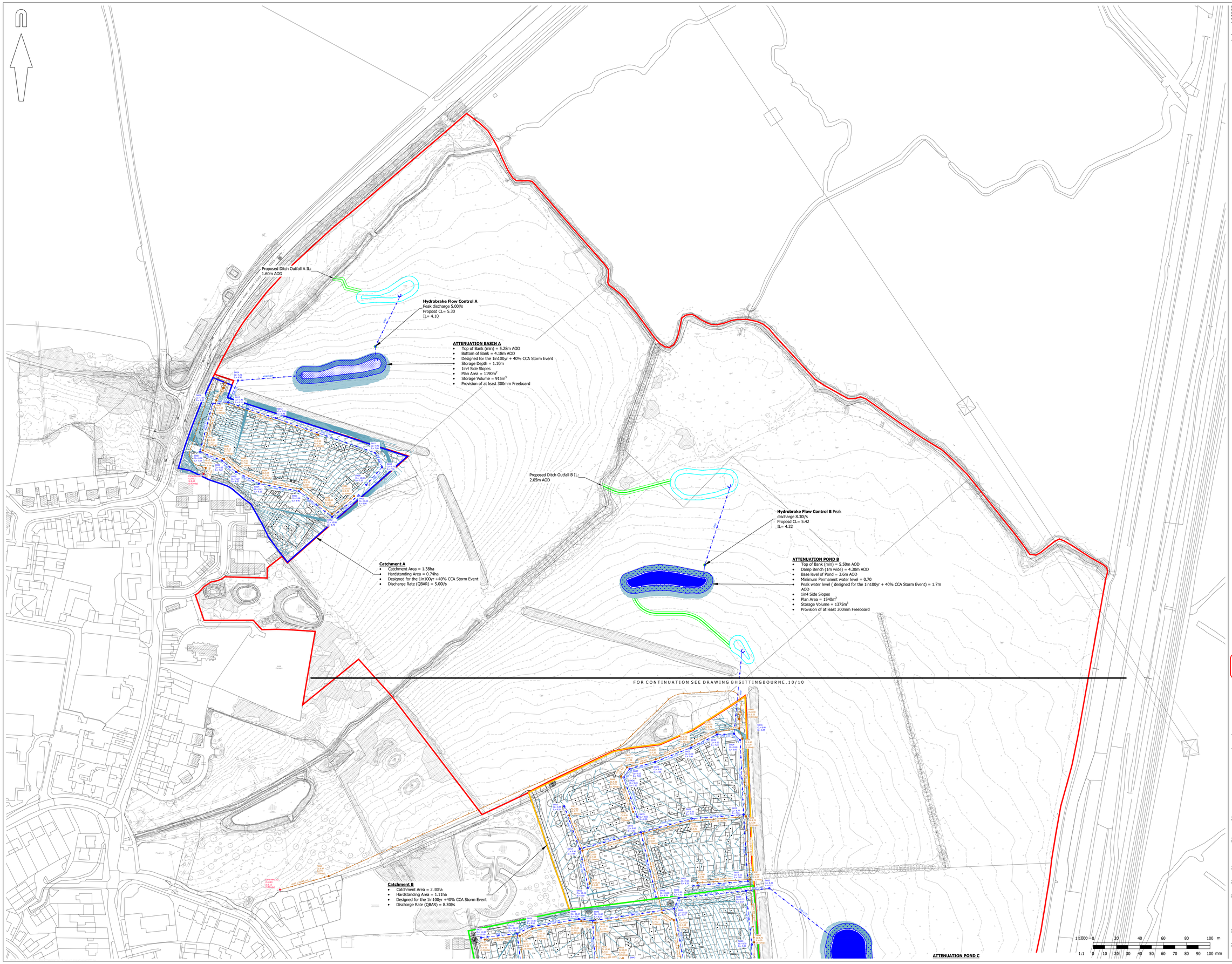
scale	drawn by	checked by
1:1000	FA	SL

date	cad file
JULY 2024	MASTER

title
PROPOSED SURFACE AND FOUL WATER DRAINAGE STRATEGY
SHEET 1 OF 2

Mayer Brown Limited jobcode	suitability	revision
SL/BHSITTINGBOURNE.10	-	P3

drawing number
BHSITTINGBOURNE.10/10



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KEY

- PORPOSED SURFACE WATER SEWER AND MANHOLE
- PROPOSED FOUL WATER SEWER AND MANHOLE
- PROPOSED FOUL PUMPING STATION
- PROPOSED HYDROBRAKE FLOW CONTROL CHAMBER
- EXISTING SOUTHERN WATER MANHOLE
- SITE BOUNDARY
- PROPOSED CATCHMENT A
- PROPOSED CATCHMENT B
- PROPOSED CATCHMENT C
- PROPOSED ATTENUATION BASIN
- PROPOSED ATTENUATION POND
- PROPOSED HEADWALL OUTFALL
- PROPOSED SWALE
- PROPOSED POND

NOTES:

1. This drawing is indicative.
2. The attenuation features shown on this drawing are based on hardstanding surfaces in the development parcels and and will need to be reviewed if the layout is amended. A 10% allowance for urban creep has been allowed for dwellings.
3. The QBAR run-off rates and climate change allowances have been obtained from the from the Flood Risk Assessment undertaken by PFA Consulting in July 2019, which accompanied the Outline Planning Application.
4. Habitable dwellings should be located 15m from the wet well of the foul pump station.
5. The route to and from each catchment to the respective proposed basins, and from these basins to their outfalls, have been shown indicatively and may be subject to change.
6. This drawing should be read in conjunction with all other relevant engineering drawings.
7. The connection points and associated routes to the Southern Water Foul Drainage Network are shown indicatively and will be determined at the detailed design stage.

FOR PLANNING PURPOSES ONLY
NOT FOR CONSTRUCTION

rev.	amendment	checked	date
P1	Initial Issue. (FA)	PP	23/07/2024

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client
BELLWAY HOMES

project
WILLOWBROOK, SITTINGBOURNE, KENT

scale	drawn by	checked by
1:1000	FA	PP

date	cad file
JULY 2024	MASTER.DWG

title
PROPOSED SURFACE AND FOUL WATER DRAINAGE STRATEGY
SHEET 2 OF 2

Mayer Brown Limited jobcode	suitability	revision
SL/BHSITTINGBOURNE.10	-	P1

drawing number
BHSITTINGBOURNE.10/11

Appendix II: Country Park Illustrative Masterplan

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N

1:2000

0 50 100 150

Metres

LEGEND

- PARCEL BOUNDARY
- SURFACE TYPE 2- SELF-BINDING AGGREGATE, BUFF
- SURFACE TYPE 3 - MOWN GRASS PATH
- EARTHFORM MOUNDS
- TIMBER BENCH
- BINS
- NATURAL PLAY
- PROPOSED ORCHARD TREES
- PROPOSED TREE PLANTING
- AMENITY GRASS
- SPECIES-RICH GRASSLAND
- WILDFLOWER MIX 1: MEADOW
- WILDFLOWER MIX 2: WETLAND
- NATIVE MIX REFER TO LANDSCAPE REPORT FOR TYPICAL SPECIES
- WOODLAND MIX REFER TO LANDSCAPE REPORT FOR TYPICAL SPECIES
- AQUATIC/ MARGINAL PLANTING
- GRAZING LAND
- EXISTING VEGETATION TO BE RETAINED
- EXISTING WATERCOURSE TO BE RETAINED
- PROPOSED POND
- LIVESTOCK/DOG PROOF FENCE
- TREE PROTECTION FENCE
- GAS MAIN EASEMENT
- EXISTING PYLON

Rev	Date	By	Notes

Client
BELLWAY HOMES (KENT)

Project
WILLOWBROOK, KENT

Title
GENERAL ARRANGEMENTS COUNTRY PARK, SITE WIDE

Status
FOR PLANNING

Drawing No.		Scale
3294-02-MA-900		1:2000@A1
Drawn	Date	Checked
RJ	JUN 2024	AW

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