POWER FOR GOOD

Steeple Renewables Project

Appendix 8.3: Water Framework Directive Assessment

Environmental Statement – Volume 2

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APPENDIX 8.3: WATER FRAMEWORK DIRECTIVE ASSESSMENT

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Steeple Solar Farm Limited

Steeple Renewables Project

Water Framework Directive Assessment

680819-R4(03)-WFD
April 2025

RSK GENERAL NOTES

Project No.: 680819-R4(03)-WFD

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Title: Water Framework Directive Assessment

Client: Steeple Solar Farm Limited

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Author	A Cadge	**Technical reviewer**	C Whittingham
Signature	[redacted]	Signature	[redacted]
Date:	08.01.2026	Date:	08.01.2026
Project manager	A Cadge	**Approved by**	C Whittingham
Signature	[redacted]	Signature	[redacted]
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CONTENTS

EXECUTIVE SUMMARY

ES.1 This Water Framework Directive (WFD) Assessment has been prepared to support the Development Consent Order (DCO) application for the installation and operation of a solar farm with the capacity of up to 450 MW of solar energy generation and a 150 MW Battery Energy Storage System (BESS) with associated infrastructure and equipment.

ES.2 The assessment has been undertaken in accordance with guidance issued by the Planning Inspectorate (PINS) and the EA, and in consultation with the EA, the Lead Local Flood Authority (LLFA), Trent Valley Internal Drainage Board (IDB) and Anglian Water (water supply authority).

ES.3 WFD waterbodies with hydrological connectivity to the Site have been identified as the Catchwater Drain (located on-site), the River Trent (located adjacent to the east) and Wheatley Beck (330m north). WFD classified groundwater bodies of relevance to the assessment were identified as the Lower Trent Erewash Secondary Combined Water Body and the Idle Torne Secondary Mudrocks Water Body. The Humber Estuary Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar Site, the Hatfield Moor and Thame Moor SACs and the Thorne and Hatfield Moors SPA were identified as protected areas with potential hydrological connectivity to the Site.

ES.4 The baseline characteristics of the identified WFD water bodies were established, together with the WFD objectives as described within the Humber River Basin District River Basin Management Plan (RBMP). The key challenges to the water environment were established, as defined within the RBMP, and an assessment was made of how the Proposed Development could result in both detriment and benefit to the achievement of WFD objectives. The assessment considered whether there was the potential for deterioration of WFD water bodies as a result of the Proposed Development during construction, operational and decommissioning phases, taking account of mitigation that has been committed to within the Scheme. Impacts on hydrologically connected protected areas were also considered.

ES.5 Overall, the assessment concluded that none of the activities associated with the Proposed Development have the potential to cause a deterioration in status of WFD surface water bodies or groundwater bodies or impact hydrologically connected protected areas. The Proposed Development was not considered to jeopardise the attainment of ‘good’ overall status of WFD water bodies.

ES.6 A positive effect on RBMP objectives was identified. The cessation of agricultural activities was considered to have an overall benefit to the status

of WFD water bodies, and a positive improvement in biodiversity was identified through the proposed grassland creation and watercourse avoidance buffers. Additionally, the Scheme was considered to help combat climate change by helping reduce reliance on fossil fuels.

1 INTRODUCTION

1.1 RSK Land and Development Engineering Ltd were commissioned by Steeple Solar Farm Limited (the Applicant) to provide a Water Framework Directive (WFD) Assessment to support the Development Consent Order (DCO) application for the installation and operation of a solar farm with the capacity of up to 450 MW of solar energy generation and a 150 MW Battery Energy Storage System (BESS) with associated infrastructure and equipment.

1.2 Full details of the DCO application, including proposed activities during the construction, operational and decommissioning stages can be found in Chapter 4 of the Environmental Statement [EN010163/APP/6.2.4]. An assessment of the effects of the Proposed Development on the water environment can be found in Chapter 8 of the Environmental Statement [EN010163/APP/6.2.8] and has been undertaken in consultation with the Environment Agency (EA), the Lead Local Flood Authority (LLFA), Trent Valley Internal Drainage Board (IDB) and Anglian Water (water supply authority). This WFD Assessment builds on the assessment of water impacts within the ES but focuses on the potential effects of the Proposed Development with specific reference to impacts on WFD water bodies in the context of the WFD. It considers how the Proposed Development could result in both detriment and benefit to the achievement of WFD objectives.

1.3 Following advice published by The Planning Inspectorate (PINS) and the EA, a staged approach has been taken to the assessment of effects. The assessment identifies the location of WFD waterbodies, describes their baseline characteristics and considers whether any proposed activities could result in a deterioration of status of the identified water bodies. Where receptors are identified that are potentially at risk from proposed activities, an assessment is undertaken of the potential for deterioration of WFD water bodies, taking account of mitigation that has been committed to within the Scheme.

1.4 The report aims to identify whether aspects of the Proposed Development could impact WFD status or the objectives of the Humber River Basin District River Basin Management Plan (RBMP).

1.5 This assessment has been undertaken further to consultation with the EA, with all consultation responses received included within the report.

1.6 The comments given in this report and opinions expressed are subject to RSK Group Service Constraints provided in **Appendix A**.

2 POLICY & GUIDANCE

2.1 Policy

2.1.1 The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 implemented the Water Framework Directive 2000/60/EC. The Regulations were retained in UK law after EU Exit via the EU Withdrawal Act 2018. They aim to achieve good qualitative and quantitative health for water bodies by reducing and removing pollution and by ensuring that there is enough water to support wildlife at the same time as human needs. The WFD requires a 6-yearly cycle of river basin management, with the next comprehensive update of classifications for all water bodies due in 2025.

2.1.2 For surface waters, WFD status is assessed with reference to both the ecological and chemical status of the water body. For groundwater, the overall status is dependent on the quantitative and chemical status.

2.1.3 The WFD introduced River Basin Districts and established a requirement for the preparation of River Basin Management Plans which set objectives within each River Basin District in order to achieve WFD targets within the prescribed timeframes.

2.2 Guidance

Nationally Significant Infrastructure Projects: Advice on the Water Framework Directive

2.2.1 The Planning Inspectorate (PINS) published "*Nationally Significant Infrastructure Projects: Advice on the Water Framework Directive*"[1] on 20th September 2024. This advice summarises the requirements of the WFD Regulations in relation to Nationally Significant Infrastructure Projects (NSIP) applications.

2.2.2 The advice lists the aims of the WFD Regulations as follows:

- "*to enhance the status and prevent further deterioration of surface water bodies, groundwater bodies and their ecosystem;*
- *to ensure progressive reduction of groundwater pollution;*

[1] https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-the-water-framework-directive

- *to reduce water pollution, especially by Priority Substances and Certain Other Pollutants under Annex II of the Environmental Quality Standards Directive 2008/105/EC;*
- *to support mitigating the effects of floods and droughts;*
- *to achieve at least good surface water status for all surface water bodies and good chemical status in groundwater bodies by 2015 (Article 4), or good ecological potential for artificial or heavily modified water bodies; and*
- *to support sustainable water use*."

2.2.3 Under the WFD Regulations, the EA is required to prepare a River Basin Management Plan (RBMP) for each river basin district (RBD). RBMPs describe:

- "*the current state of the water environment for each river basin district;*
- *the pressures affecting the water environment;*
- *the objectives for protecting and improving it; and*
- *the programme of measures needed to achieve the statutory environmental objectives of the WFD"*

2.2.4 When deciding NSIP applications, the Secretary of State will need to consider the potential effects of any Proposed Development on:

- *"the environmental objectives and measures within River Basin Management Plan and any supplementary plans; and*
- *the ability of the UK to comply with the WFD, including (if applicable) the derogation provisions of Article 4.7"*

2.2.5 The PINS advice includes advice on the information to be included within an WFD assessment and how that information should be presented. This guidance has been taken into account during the preparation of this WFD Assessment.

Overarching National Policy Statement (NPS) for Energy (NPS EN-1)

2.2.6 Paragraph 5.16.2 of NPS EN-1[2] states "*during the construction, operation, and decommissioning phases, development can lead to increased demand for water, involve discharges to water, and cause adverse ecological effects*

[2] https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1

resulting from physical modifications to the water environment. There may also be an increased risk of spills and leaks of pollutants to the water environment. These effects could lead to adverse impacts on health or on protected species and habitats and could result in surface waters, groundwaters or protected areas failing to meet environmental objectives established under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 and the Marine Strategy Regulations 2010".

2.2.7 Paragraph 5.16.12 states: "*The Secretary of State will need to give impacts on the water environment more weight where a project would have an adverse effect on the achievement of the environmental objectives established under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017*."

2.2.8 Paragraph 5.16.14 states: "*The Secretary of State should be satisfied that a proposal has regard to current River Basin Management Plans and meets the requirements of the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (including regulation 19)*."

2.2.9 This WFD Assessment takes account of the requirements of NPS EN-1 with respect to the WFD.

Water Framework Directive assessment: estuarine and coastal waters

2.2.10 The "*Water Framework Directive assessment: estuarine and coastal waters*"[3] guidance was published by the EA in December 2016 and describes how to assess the impact of a development on estuarine (transitional) and coastal waters. Although this focuses on estuarine and coastal waters, as noted above within the *Nationally Significant Infrastructure Projects: Advice on the Water Framework Directive,* the guidance sets out general principles and a staged approach to assessment that PINS considers can be used for other water bodies such as rivers, lakes and groundwater in England and Wales.

2.2.11 The EA guidance states that a WFD assessment must show if proposed activities will:

- Cause or contribute to deterioration of status; or
- Jeopardise the water body achieving good status.

2.2.12 An approach of up to three stages is described in the EA guidance:

[3] https://www.gov.uk/guidance/water-framework-directive-assessment-estuarine-and-coastal-waters

- screening – excludes any activities that do not need to go through the scoping or impact assessment stages
- scoping – identifies the receptors that are potentially at risk from your activity and need impact assessment
- impact assessment – considers the potential impacts of your activity, identifies ways to avoid or minimise impacts, and shows if your activity may cause deterioration or jeopardise the water body achieving good status

2.2.13 The guidance advises that all proposed activities should be considered, and all stages of the activity should be assessed (e.g. construction, operation, decommissioning).

2.2.14 This document contains advice on how assessment should be undertaken at each stage of the process. This has been taken into account in the preparation of this WFD Assessment.

3 CONSULTATION

3.1 Environment Agency

3.1.1 The EA has provided the following advice in relation to the WFD Assessment for the Proposed Development (full copies of correspondence are included in **Appendix B**):

EIA Scoping Response (6th August 2024)

3.1.2 The Scoping Response included the following comments:

"*We note that a WFD Assessment has been 'Scoped-In' during the construction phase. This should include an assessment of any potential impacts (such as, but not limited to, sediment pollution) to watercourses on-site and the potential to impact hydrologically linked watercourses, which may therefore also impact the biodiversity that relies on these watercourses*".

"*Any infrastructural developments on the river/floodplain environment of the River Trent should be designed and delivered to have a minimal impact on natural river dynamics (e.g. erosion, deposition, meander migration etc.) and should not place any significant limitations on future river restoration projects. Any potential construction, operational, and decommissioning phase impacts that the proposed scheme may have on the river must be subject to a WFD Assessment*".

3.1.3 These requirements are addressed within this WFD Assessment.

Section 42 Consultation Response on Preliminary Environmental Information Report (PEIR) (10th March 2024)

3.1.4 Following review of the submitted PEIR, the EA highlighted a number of additional points for consideration within Environmental Statement and the supporting WFD assessment. These are provided in full in **Appendix B** and have been taken into account in the preparation of this WFD assessment.

Draft WFD Assessment – Environment Agency Review (10th April 2025)

3.1.5 The EA undertook a review of a draft of this WFD Assessment and provided comments on a number of aspects including the data sources reviewed, the approach to screening of water bodies, the approach to watercourse crossings, and the assessment of impacts. Full comments are provided in **Appendix B**. These comments have been addressed in the final version of this report.

3.1.6 For ease of reference, the EA comments and corresponding amendments to this report are summarised in **Table 3.1** below:

Table 3.1 EA comments on draft WFD Assessment - Summary

EA Comment	How Addressed	Additional Comments
Errors identified in reporting of BGS borehole records	Table 5.3 amended.	Differences were largely due to the conversion factor used to convert feet to metres (1 foot was approximated to 0.30m, now corrected to 0.3048m). Duplicate entry corrected.
BGS regional hydrogeological map not reviewed	Northern East Midlands Sheet 11: Hydrogeological Map of the Northern East Midlands (1:100,000) (1981) reviewed. Section 5.5.3 updated.	N/A
Rationale not included for screening out of Witham Lias WFD groundwater body	Justification of screening out provided in Section 5.6.4.	This groundwater body is located approximately 1.1km to the east of the Order Limits and approximately 2.5km east of the closest proposed solar infrastructure. It is also beyond the River Trent. Due to the distance from the Order Limits and the intervening River Trent, this groundwater body has been screened out.
Open span bridges to be used where possible. Where not feasible, consideration to be given to three-sided culverts or arch culverts. If no other alternatives available, box culvert inverts to be 300mm below existing bed level.	No report amendments	The proposed crossings are over Ordinary Watercourses managed by the LLFA or IDB. Proposed crossings have been discussed with both parties and a general principle agreed that flows will be maintained at all crossing locations. Details of proposed structures will be approved by the IDB or LLFA via IDB / Ordinary

EA Comment	How Addressed	Additional Comments
		Watercourse consent post-DCO consent, as agreed with these parties.
Battery Safety Management Plan not referenced in relation to mitigation against contaminated fire water migrating into underlying aquifers	Reference to Fire Risk Management Plan (equivalent to Battery Safety Management Plan) added to Table 6.3	N/A
Selection of cable design should take anticipated decommissioning methodology into account.	Additional narrative provided in Table 6.3.	The Applicant maintains that the cable type cannot be confirmed at this stage, and that the decommissioning methods will be in line with best practice at the time but cannot be confirmed at this point in time. However, possible decommissioning methods will be taken into account when choosing cable types and design.
Informative – River Terrace Deposits described as Holme Pierrepont Sand and Gravel Member on BGS 1:50,000 scale online mapping	Amended in Section 5.4.1	N/A
Informative – Drinking Water Protected Area in east of Site applies to surface water bodies, not groundwater	Section 5.6 and 5.7 amended to clarify that this Protected Area relates to surface water	N/A
Informative – additional information regarding abstraction 430m south would be useful, although the EA do not consider that this abstraction is likely to be impacted by the Proposed Development.	No report amendments	The Applicant concurs with the view that this abstraction is unlikely to be impacted by the Proposed Development

EA Comment	How Addressed	Additional Comments
Informative – the EA agrees that in the regional context of the on-site WFD groundwater bodies and the absence of identified abstractions which may be impacted by any thermal plumes generated by the scheme, in this instance the impacts from heat generated by HV cables is likely to be negligible.	No report amendments	Agreement has been reached on the overall impact (negligible).

4 METHODOLOGY

4.1 The proposed methodology is based on the advice within the PINS guidance "*Nationally Significant Infrastructure Projects: Advice on the Water Framework Directive*" and the EA guidance "*Water Framework Directive assessment: estuarine and coastal waters*" as well as taking into account consultation responses received from the EA during the assessment period.

4.2 A staged approach is proposed as advocated within the EA and PINS guidance. The PINS guidance states that "*screening should identify the extent to which the proposed development is likely to affect water bodies. Where impacts are 'screened out' from further assessment, this should be clearly justified*."

4.3 In line with the PINs advice, the screening assessment will:

- Show relevant WFD water bodies on a map or plan;
- Describe the baseline characteristics of identified water bodies, including classification and sensitivity of that water body to change;
- Identify the zone or zones of influence based on specific activities and/or characteristics of the Proposed Development that could affect the identified water bodies; and
- Identify any specific activities and/or characteristics of the Proposed Development that have been screened out and why.

4.4 Following the screening stage, where any activities or characteristics have been identified that could affect the identified water bodies, an assessment will be made of the risk of deterioration of a WFD element. The assessment will take into account the location and nature of activities, whether they are temporary or permanent and the potential pathways between activities and receptors.

4.5 The following data sources have been considered in the preparation of this assessment:

- Humber River Basin District River Basin Management Plan[4]
- EA catchment data explorer website[5]
- Defra's MAGIC interactive mapping[6]

[4] https://www.gov.uk/guidance/humber-river-basin-district-river-management-plan-updated-2022

[5] https://environment.data.gov.uk/catchment-planning/

[6] https://magic.defra.gov.uk/

- British Geological Survey GeoIndex Onshore[7]
- British Geoloical Survey Hydrogeological Map of the Northern East Midlands 1:100,000 scale[8]
- Groundsure Insights historical mapping[9]

4.6 Mitigation measures committed to by the Applicant will be taken into account and the mechanisms for securing this mitigation will be stated. Construction, operational and decommissioning phases of the Proposed Development will be considered. The assessment will be undertaken based on professional judgement and experience of similar projects. A Site inspection was undertaken in July 2024.

4.7 Any enhancements or positive contributions to the RBMP objectives will be identified together with details of how their implementation would be secured.

4.8 The report will provide a clear conclusion as to the extent to which to Proposed Development is likely to affect water bodies and whether any impacts require further assessment.

[7] https://mapapps2.bgs.ac.uk/geoindex/home.html?_ga=2.15207478.1054941605.1660058459-1946525719.1660058459

[8] https://www2.bgs.ac.uk/groundwater/datainfo/hydromaps/hydro_maps_scanviewer.html

[9] GVR GeoSciences Ltd, Phase 1 Geoenvironmental Desk Study, December 2024

5 ENVIRONMENTAL SETTING AND IDENTIFICATION OF WATER BODIES

5.1 Site Location

5.1.1 The Site is located approximately 5km to the south of Gainsborough in the county of Nottinghamshire and comprises an area of agricultural land to the east and west of Sturton le Steeple and south of West Burton Power Station.

5.1.2 The Site is centred roughly at National Grid Reference 478706E, 383906N and postcode DN22 9HY. A Site location plan is included as **Appendix C**.

5.1.3 The Site covers an area of approximately 888.31ha with the majority of the Site comprising of multiple agricultural fields, with the field boundaries defined by hedgerow and individual trees. The Site also includes part of the existing West Burton Power Station site, covering the area around the existing 400kV substation. The nearest settlement to the Site is Sturton le Steeple. There is a network of roads located both within the Site and adjacent to the boundary. A railway bisects the western part of the Site. The River Trent lies adjacent to the eastern boundary of the Site.

5.1.4 Within the wider surrounding area, settlements include Knaith approximately 250m east on the opposite side of the River Trent, North Leverton with Habblesthorpe and Fenton located adjacent to the southern boundary, South Leverton approximately 1.1km south, Clarborough approximately 850m west, north Wheatley and South Wheatley approximately 1.3km and 1km north-west respectively, and Gainsborough located c. 5km to the north-east of the Site.

5.2 Topography

5.2.1 A site-specific topographic survey confirms that the Site generally slopes from west to east, towards the River Trent. Levels in the eastern part of the Site are relatively flat, sloping gently from Sturton le Steeple at around 10m AOD down to the eastern boundary at approximately 3m AOD. The western part of the Site has a more significant gradient, sloping from Sturton le Steeple up towards high ground along the western boundary at approximately 75m AOD. A vegetated earth bund (flood defence) runs along the eastern Site boundary with a crest level of approximately 7m AOD and a height 3-4m above adjacent land. The Site is crossed by various drainage ditches with bunds of up to 1m height shown along the banks of the Catchwater Drain in the east of the Site. The topographic survey is included in Figure 3.2 of the ES [EN010163/APP/6.4.3].

5.3 Surface Watercourses

5.3.1 This section identifies water bodies that are classified under the WFD within a 5km radius of the Site. This radius is larger than the anticipated zone of influence of Site activities (taken as 1km within the ES) and has been chosen as a precautionary approach to ensure all relevant water bodies are assessed and screened in or out for further assessment. Each WFD water body within a 5km radius of the Site has been assessed to determine whether it is hydrologically linked to the Proposed Development and therefore whether activities associated with the Proposed Development could impact that water body. Water bodies that are not hydrologically linked to the Site have been screened out and are not assessed further. Any water bodies that could feasibly be hydrologically linked to the Site have been taken forward for assessment, with baseline details provided in the following sections. These water bodies are shown in **Appendix D** and considered further below.

Catchwater Drain

5.3.2 The Catchwater Drain flows from south to north through the eastern part of the Site. Downstream of the Site, it flows immediately to the east of the West Burton Power Station before discharging via a pumping station into the River Trent approximately 1km northeast of the Site boundary. It falls within the Humber River Basin District. This watercourse is managed by the Trent Valley Internal Drainage Board (IDB). As this watercourse flows through the Site, it is possible it could be impacted by Site activities. It is noted particularly that the proposed substation and BESS are within the catchment of this watercourse, with drainage strategies for these areas proposing a discharge to the Catchwater Drain.

5.3.3 Baseline characteristics are given in **Table 5.1** below. In summary, it is a heavily modified watercourse that was classified as ‘moderate’ overall ecological status under the WFD in 2022. Chemical quality status did not require assessment.

5.3.4 Reasons for not achieving ‘good’ status are listed on the Catchment Data Explorer website as:

- physical modification;
- diffuse phosphate sources due to poor soil management and transport drainage; and

- awaiting recovery following measures to address polybrominated diphenyl ethers (PBDE) and mercury and its compounds.

5.3.5 Pressures affecting the watercourse are recorded as physical modification (e.g. for land drainage and flood protection) and rural and urban pollution (phosphate and chemicals).

5.3.6 Objectives under the WFD are given in **Table 5.2** below. An ecological target of 'moderate' was set for 2015 and a chemical target of 'good' was set for 2063, due to the natural recovery time of the watercourse following remedial measures for mercury and its compounds and polybrominated diphenyl ethers (PBDE).

5.3.7 The watercourse falls within a Nitrate Vulnerable Zone (NVZ).

5.3.8 A review of historical mapping dating back to 1885 shows no historical deviation of the course of the Catchwater Drain due to either natural or manmade processes. It is a 'heavily modified' watercourse, with the course and channel structure modified for drainage purposes and a pumped outfall controlling flows within the channel.

River Trent (Carlton-on-Trent to Laughton Drain)

5.3.9 The River Trent is an EA Main River that flows from south to north along the eastern Site boundary. It falls within the Humber River Basin District. The eastern part of the Site falls within the catchment of the River Trent, and watercourses flowing through the Site discharge into the Trent. It is therefore possible the River Trent could be impacted by Site activities.

5.3.10 Baseline characteristics are given in **Table 5.1** below. In summary, it is classified as an 'artificial' watercourse due to the works undertaken to allow navigation of the waterway. It was classified as 'moderate' overall ecological status under the WFD in 2022. Chemical quality status did not require assessment.

5.3.11 Reasons for not achieving 'good' status are listed on the Catchment Data Explorer website as:

- Transport drainage;
- Water industry sewage discharge (continuous);
- Poor soil management;
- Physical modification for navigation and agriculture / rural land management; and

- Perfluorooctane sulphonate (PFOS), Polybrominated diphenyl ethers (PBDE) and Mercury pollution.

5.3.12 Pressures affecting the watercourse are recorded as pollution from towns, cities and transport, pollution from wastewater, pollution from rural areas and physical modification.

5.3.13 Objectives under the WFD are given in **Table 5.2** below. An ecological target of 'good' was set for 2027 and a chemical target of 'good' was set for 2063, due to the natural recovery time of the watercourse following remedial measures for mercury and its compounds and polybrominated diphenyl ethers (PBDE).

5.3.14 The watercourse falls within a Nitrate Vulnerable Zone (NVZ) and a Drinking Water Protected Area.

5.3.15 A review of historical mapping dating back to 1885 shows no deviation of the course of the River Trent. Around 1973, the flood defence was moved away from the meander immediately to the west of Knaith creating a wetland area behind the flood defence. This was an engineered change rather than a natural hydromorphological process. The river appears to have been used for navigation, with raised embankments along both banks, since at least 1885 and is classed as an 'artificial' watercourse due to the works undertaken to maintain navigation routes.

Wheatley Beck

5.3.16 The Wheatley Beck flows from west to east through South Wheatley and lies approximately 330m north of the Site at its closest point.

5.3.17 The Wheatley Beck is an Ordinary Watercourse and falls within the Humber River Basin District. A small area in the northwest of the Site falls within the watershed catchment of the Wheatley Beck. It is therefore possible it could be impacted by Site activities.

5.3.18 Baseline characteristics are given in **Table 5.1** below. In summary, it was classified as 'moderate' overall ecological status under the WFD in 2022. Chemical quality status did not require assessment.

5.3.19 Reasons for not achieving 'good' status are listed on the Catchment Data Explorer website as:

- Poor nutrient management (agricultural land);
- Water industry sewage discharge (continuous);
- Poor livestock management; and

- Polybrominated diphenyl ethers (PBDE) and Mercury pollution.

5.3.20 Pressures affecting the watercourse are recorded as pollution from wastewater and pollution from rural areas.

5.3.21 Objectives under the WFD are given in **Table 5.2** below. An ecological target of 'good' was set for 2027 and a chemical target of 'good' was set for 2063, due to the natural recovery time of the watercourse following remedial measures for mercury and its compounds and polybrominated diphenyl ethers (PBDE).

5.3.22 The watercourse falls within a Nitrate Vulnerable Zone (NVZ).

5.3.23 A review of historical mapping dating back to 1885 shows no deviation of the course of the Wheatley Beck due to either natural or manmade processes.

Seymour Drain

5.3.24 The Seymour Drain flows from south to north, discharging into the River Trent approximately 1.4km southeast (upstream) of the Proposed Development. No part of the Proposed Development falls within the catchment of the Seymour Drain. In view of the location of the Proposed Development outside the catchment of the Seymour Drain and downstream of this watercourse, impacts on this watercourse have been screened out. No further assessment is proposed.

Marton Drain

5.3.25 The Marton Drain lies 2km southeast of the Site. Its catchment lies on the opposite side of the River Trent to the Site, with the watercourse discharging into the Trent upstream of the Proposed Development. Due to its separation from the Proposed Development by the River Trent and its location up-stream of the Proposed Development, impacts on this watercourse have been screened out. No further assessment is proposed.

Chesterfield Canal, Lower Section

5.3.26 This canal is located approximately 2.3km west of the western Site boundary. No part of the Proposed Development falls within its catchment. Therefore, impacts on this watercourse have been screened out. No further assessment is proposed.

Idle from Tiln to Ryton

5.3.27 This watercourse lies approximately 3.5km west of the Site and flows in a westerly direction away from the Site. No part of the Proposed Development falls within its catchment. Therefore, impacts on this watercourse have been screened out. No further assessment is proposed.

Tributary of River Till

5.3.28 This tributary is located approximately 4.1km east of the Proposed Development on the opposite side of the River Trent. Its catchment drains in an easterly direction away from the Site. Due to the spatial separation of this watercourse from the Proposed Development and its separation from the Proposed Development by the River Trent, impacts on this watercourse have been screened out. No further assessment is proposed.

Sewer Drain

5.3.29 This watercourse lies approximately 4.5km south of the Proposed Development. Its catchment lies on the opposite side of the River Trent, and it discharges into the Trent upstream of the Site. Due to the spatial separation of this watercourse from the Proposed Development, its location upstream of the Site and its separation from the Proposed Development by the River Trent, impacts on this watercourse have been screened out. No further assessment is proposed.

Table 5.1: Watercourse Baseline Information (2022) – watercourses screened in

Water body name & ID	Water body type	Artificial or heavily modified?	Overall ecological status	Biological quality	General chemical and physico-chemical quality	Hydromor-phological quality	Specific pollutants with UK EQS	Overall chemical status	Priority hazardous substances	Priority substances
Catchwater Drain GB104028 058350	River	Heavily modified	Moderate	Good	Moderate	Supports Good	High	Does not require assessment	Does not require assessment	Does not require assessment
River Trent (Carlton-on-Trent to Laughton Drain) GB104028 058480	River	Artificial	Moderate	Bad	Moderate	Supports Good	High	Does not require assessment	Does not require assessment	Does not require assessment
Wheatley Beck GB104028 058360	River	N/A	Moderate	Moderate	Moderate	Supports Good	High	Does not require assessment	Does not require assessment	Does not require assessment

Table 5.2: Watercourse Objectives – watercourses screened in

Water body name & ID	Water body type	Artificial or heavily modified?	Overall ecological status objective	Biological quality	General chemical and physico-chemical quality	Hydromor-phological quality	Specific pollutants with UK EQS	Overall chemical status	Priority hazardous substances	Priority substances
Catchwater Drain GB104028 058350	River	Heavily modified	Moderate 2015	Good 2021	Good 2027	Supports Good 2015	High 2015	Good 2063	Good 2063	Good 2015
River Trent (Carlton-on-Trent to Laughton Drain) GB104028 058480	River	Artificial	Good 2027	Good 2027	Good 2027	Supports Good 2015	High 2015	Good 2063	Good 2063	Good 2015
Wheatley Beck GB104028 058360	River	N/A	Good 2027	Good 2027	Good 2027	Supports Good 2015	High 2015	Good 2063	Good 2063	Good 2015

5.4 Geology

5.4.1 Based on published geological records for the area (BGS online mapping), the eastern part of the Site between the Catchment Drain and the River Trent is underlain by Alluvium (clay, silt, sand and gravel) and Holme Pierrepont Sand and Gravel Member (sand and gravel). A small, isolated area of Till is located in the northeast of the Site. The western part of the Site has limited linear areas of Head deposits in the vicinity of Springs Lane and along Oswald Beck.

5.4.2 The bedrock geology for the whole Site is recorded as Mercia Mudstone Group (mudstone, siltstone and sandstone).

5.4.3 BGS borehole logs have been reviewed for geological information as described in **Table 5.3**.

Table 5.3: BGS Borehole Records

BGS Borehole Ref	Location in relation to Site	Geology Recorded	Groundwater Recorded
SK78SE12	Within Site boundary, on Gainsborough Road to the north of Sturton le Steeple	Keuper Marl to at least 10.06m bgl	Yes – rest level 4.9m bgl
SK78SE28	Within Site boundary, immediately west of Leverton Road to the west of Fenton	Keuper Marl to 148m bgl	No
SK78SE27	Within Site boundary, between Northfield Road and Fenton Lane in the east of the Site	River Terrace Deposits to 1.4m bgl, Keuper Marl to at least 3m bgl	No
SK78SE26	Within eastern Site boundary, along existing overhead cable route	River Terrace Deposits to 3.4m bgl, Keuper Marl to at least 5m bgl	No
SK88SW39	Within eastern Site boundary, along existing overhead cable route	Clay, sand and gravel to 8.8m bgl, Keuper Marl to at least 9.75m bgl	Yes – 1.2m bgl
SK88SW38	Within eastern Site boundary, along existing overhead cable route	Sand and gravel to 5.94m bgl, Marl	Yes – 1.98m bgl

BGS Borehole Ref	Location in relation to Site	Geology Recorded	Groundwater Recorded
		to at least 9.14m bgl	
SK88SW37	Within eastern Site boundary, along existing overhead cable route	Sand and Gravel to 5.49m bgl, Keuper Marl to at least 7.62m bgl	Yes – 1.07m bgl
SK88SW12	Within eastern Site boundary, along existing overhead cable route	Sand, silty sand and clay to 4.5m bgl, Calcareous Mudstone to at least 6m bgl	Yes – 1m bgl
SK88SW36	Within eastern Site boundary, along existing overhead cable route	Sand to 4.88m bgl, Marl to at least 6.71m bgl	Yes – 1.2m bgl
SK88SW4	Within Site boundary, in far east of Site 325m west of the River Trent	Alluvium to 7m bgl, River Terrace Deposits to 10m bgl, Keuper Marl to at least 11.5m bgl.	Yes - "H_2O shot to ground level as soon as broke through clay"
SK78NE35	250m north of the Site within West Burton Power Station	Sand and gravel to 7m bgl, Mercia Mudstone Group to a depth of 164m bgl and Sherwood Sandstone to 395m bgl	Yes – 80m bgl
SK78SE53	20m north of Site, on Gainsborough Road	Keuper Marl to at least 10.06m bgl	Yes – 4.9m bgl
SK78NE57	50m north of the Site on Wheatley Road	Keuper Marl to at least 6.4m bgl	Yes – "nearly full of water"
SK78SE13	70m north of the Site on Wheatley Road	Keuper Marl to at least 6.4m bgl	Yes – "nearly full of water"

BGS Borehole Ref	Location in relation to Site	Geology Recorded	Groundwater Recorded
SK78SE50	450m west of the Site	Keuper Marl to at least 100m bgl	Yes – 37.4m bgl
SK78SW44	800m west of the Site	Keuper Marl to 50.2m bgl	No
SK78SE42	95m south of the Site	Keuper Marl (no measurements given)	No
SK88SW42	70m east of the Site at Toll Bar Cottage	River Terrace sand and gravels to 15m bgl, Keuper Marl to at least 210m bgl	No

5.4.4 All boreholes within the Site have been included in **Table 5.3** with the exception of any marked as 'confidential' or any that aren't legible due to their age / scale of scanning. The table also includes any off-site records within 100m of the Site boundary, and selected boreholes within 1km of the Site – these are focussed to the west and south of the Site where there are limited records within the Site boundary.

5.4.5 The BGS borehole logs confirm the presence of Alluvium and Holme Pierrepont sands and gravels in the eastern part of the Site. No superficial deposits are recorded for the remainder of the Site, including for the boreholes closest to the proposed BESS and substation locations in the north of the Site. All boreholes record a bedrock of "Keuper Marl", now known as Mercia Mudstone.

5.5 Hydrogeology

5.5.1 Hydrogeological information was obtained from the online Magic Maps service. These maps indicate that the Alluvium and Holme Pierrepont Sand and Gravel Member are classified as a Secondary A superficial aquifer. The pockets of Till and Head deposits are classified as a Secondary (Undifferentiated) aquifer. The bedrock geology is classified as a Secondary B aquifer.

5.5.2 As shown in **Table 5.3**, groundwater levels within the BGS boreholes vary significantly. Groundwater is absent (or not recorded) in three of the on-site boreholes. Shallow groundwater (<5m bgl) generally correlates with the presence of Alluvium or Holme Pierrepont Sand and Gravel Member (sand and gravels), although shallow groundwater is also recorded within the Mercia Mudstone in some locations. Deeper groundwater (37m bgl and 80m bgl) is also recorded in the Mercia Mudstone at two locations.

5.5.3 The BGS borehole logs suggest isolated pockets of groundwater beneath the Site within bands of permeable deposits (superficial sands and gravels and / or permeable bands within the Mercia Mudstone) rather than a continuous shallow groundwater body. However, it is acknowledged that the BGS borehole logs do not provide sufficient Site coverage to draw firm conclusions. Where present, shallow groundwater is likely to flow locally towards the Ordinary Watercourses crossing the Site, and regionally in an easterly direction towards the River Trent. This is supported by the BGS Hydrogeological Map of the Northern East Midlands which indicates a general west to east direction of groundwater flow.

5.6 Groundwater Bodies

5.6.1 Groundwater bodies are classified as either ‘good’ or ‘poor’ under the WFD. They must achieve good quantitative status and good chemical status by the objective year. Groundwater bodies within and close to the Site that have been classified under the WFD have been identified via the Catchment Data Explorer website.

Lower Trent Erewash - Secondary Combined Water Body

5.6.2 This groundwater body relates to a number of different mudstone bedrock geologies. To the north of Newark on Trent and beneath the subject Site, it relates to the mudstones of the Mercia Mudstone Group. The vast majority of the Site lies above this groundwater body, with the exception of the western-most tip of the Site which overlies the Idle Torne Secondary Mudrocks Water Body (described below). The Lower Trent Erewash Secondary Combined Water Body is classified as within a Drinking Water Protected Area (relating to surface water). Due to its presence beneath the Site, this groundwater body has been screened in for further assessment. Baseline water quality classifications for this groundwater body were ‘good’ for both quantitative and chemical status under the 2019 WFD classifications, as shown in **Table 5.4**.

Idle Torne - Secondary Mudrocks Water Body

5.6.3 This groundwater body relates to the mudstones of the Mercia Mudstone Group. A very small area in the west of the Site lies above this water body, comprising the western-most edge of the parcels in the west of the Site that are not proposed for built development. The Secondary Mudrocks are classified as within a Drinking Water Protected Area (relating to surface water). Due to its presence beneath the Site (albeit a very small portion of the Site), this groundwater body has been screened in for further assessment. Baseline water quality classifications for this groundwater body were 'good' for both quantitative and chemical status under the 2019 WFD classifications, as shown in **Table 5.4**.

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5.6.4 This groundwater body is located approximately 1.1km to the east of the Order Limits and approximately 2.5km east of the closest proposed solar infrastructure. It lies on the opposite side of the River Trent from the Site. Due to the significant distance between the proposed site activities / infrastructure and the groundwater body, and the intervening River Trent which will act as a barrier to shallow groundwater flow, this groundwater body has been screened out of any further assessment.

Table 5.4: Groundwater Baseline Information (2019) – groundwater screened in

Water body name & ID	Water body type	Overall water body	Quantitative status element	Chemical status element
Lower Trent Erewash - Secondary Combined Water Body GB40402G990300	Groundwater body	Good	Good	Good
Idle Torne - Secondary Mudrocks GB40402G992200	Groundwater body	Good	Good	Good

5.6.5 The WFD objectives for the Lower Trent Erewash - Secondary Combined Water Body and the Idle Torne Secondary Mudrocks Water Body are given in **Table 5.5**.

Table 5.5: Groundwater objectives – groundwater screened in

Water body name & ID	Water body type	Overall water body	Quantitative status element	Chemical status element
Lower Trent Erewash - Secondary Combined Water Body GB40402G990300	Groundwater body	Good 2021	Good 2015	Good 2021
Idle Torne - Secondary Mudrocks GB40402G992200	Groundwater body	Good 2015	Good 2015	Good 2015

5.7 Groundwater Designations

5.7.1 Defra's MAGIC maps confirm that the Site is not located within 1km of a groundwater Source Protection Zone or within 1km of a Drinking Water Safeguard Zone (surface water or groundwater). However, the eastern part of the Site (land lying east of the Catchwater Drain) falls within a Drinking Water

Protected Area relating to surface water. These are defined as locations where raw water is abstracted for human consumption providing, on average, more than 10 cubic metres per day, or serving more than 50 persons, or is intended for such future use. These protected areas are shown in **Appendix E.**

5.8 Abstractions

5.8.1 The EA has provided a list of live water abstraction licences within a 2km radius of the Site, all of which are from surface water (no groundwater abstractions recorded). None are within the Site. Within the surrounding area, a total of 26 current surface water abstractions are recorded, 19 of which are from the River Trent, one from Seymour Drain, 4 from Wheatley Beck and its tributaries and 2 from Marton Drain. Of these, 19 are for agricultural use (licenced to farms) and 6 are for uses related to power generation (licenced to West Burton B and EDF Energy). Abstractions of less than $20m^3$/day would not be licenced by the EA.

5.8.2 Bassetlaw District Council hold records of one private water supply within a 2km radius of the Site. This is at Caddow Wood Farm, Mill Lane, North Leverton, Nottinghamshire, DN22 0BA. This is approximately 430m south of the Site. The abstraction is from groundwater and is for potable use.

5.8.3 Abstractions reported by the EA and Bassetlaw District Council are mapped in **Appendix F**.

5.8.4 A 'well' is noted to be present on Ordnance Survey mapping in the west of the Site within the parcels that are not proposed for built development. Given its location within agricultural fields and away from any buildings, it is likely to be used for agricultural purposes (if still in operation).

5.9 Sensitive Habitats

5.9.1 The Chesterfield Canal approximately 2.3km west of the Site is classified as a Site of Special Scientific Interest (SSSI). As noted above, this feature is not considered to hydrologically linked to the Site.

5.9.2 The Clarborough Tunnel SSSI is located adjacent to the west of the Site. This feature is hydraulically up-gradient of the Site is not a water-dependent feature. It is therefore not considered hydrologically linked to the Site.

5.9.3 The Humber Estuary Special Area of Conservation (SAC) and Ramsar site lies approximately 26km to the north of the Site and the Humber Estuary Special Protection Area (SPA) lies 37km north. The Hatfield Moor SAC is

located 19.5km north of the Site and the Thame Moor SAC is located 28.5km north of the Site. The Thorne and Hatfield Moors SPA is located 20km north. These designations are hydrologically linked to the Site as the River Trent (and its tributaries) discharges into the Humber Estuary. Due to the distance between the Site and these areas, the significant volume of water in the Trent together with the tidal mixing that occurs with each incoming tide, impacts on these designations is considered highly unlikely. However, as a theoretical pathway exists these habitats have been screened in for further assessment.

5.9.4 No Groundwater Dependent Terrestrial Ecosystems have been identified within 1km of the Site, therefore impacts on these ecosystems have been screened out.

5.10 Water Bodies Screened In – Summary

5.10.1 The following WFD water bodies and associated sensitive habitats have been screened in for further assessment due to potential hydrological links between them and the Site:

- Catchwater Drain
- River Trent
- Wheatley Beck
- Humber Estuary SAC, SPA and Ramsar Site, the Hatfield Moor and Thame Moor SACs and the Thorne and Hatfield Moors SPA.
- Lower Trent Erewash - Secondary Combined Water Body
- Idle Torne - Secondary Mudrocks Water Body

6 ASSESSMENT OF EFFECTS OF PROPOSED ACTIVITIES

6.1 This section considers the activities and infrastructure associated with the Proposed Development and assesses their potential effects on the WFD water bodies identified within Section 5. The assessment considers the Humber RBMP objectives and considers whether the Proposed Development could be detrimental to those objectives and whether a deterioration of WFD status could occur as a result of the proposals. The potential for beneficial effects is also assessed.

6.1 Description of Development

6.1.1 The Proposed Development is for an electricity generating station with a capacity over 50 megawatts (MW), comprising the installation of a ground mounted solar photovoltaic (PV) electricity generation with an approximate capacity of 450 MW of energy generation and associated development comprising 150 MW of energy storage, grid connection infrastructure and all other infrastructure integral to the construction, operation and maintenance of the Scheme including access. Areas are proposed for biodiversity mitigation in the east of the Site close to the River Trent and in the west of the Site. The proposed scheme is shown in **Appendix E**, and further details are included in Chapter 4 of the ES[EN010163/APP/6.2.4].

6.1.2 The Proposed Development falls within the definition of a 'nationally significant infrastructure project' (NSIP) under Section 14(1)(a) and 15(2) of the Planning Act 2008 (the "Act") as the construction of a generating station in England with a capacity of more than 50MW, with a capacity in the region of 600MW.

6.1.3 The Development is likely to include the following infrastructure:

- Solar PV modules;
- PV module mounting infrastructure;
- Inverters;
- Transformers;
- Onsite underground cabling;
- Underground cabling to point of connection at existing substation at West Burton Power Station;
- Fencing and security measures;
- Access tracks and construction of new accesses onto the highway;

- Energy storage facility;
- A substation and control building; and
- Equipment facilitating the electrical connection to the existing substation at West Burton Power Station.

6.1.4 It is proposed that the lifetime of this scheme will be 40 years.

6.1.5 During the construction phase, one or more temporary construction compound(s) will be required as well as temporary roadways to facilitate access to all parts of the Site.

6.1.6 The construction phase of the Proposed Development is currently anticipated to last up to two years. The types of construction activities that may be required include (but are not limited to):

- Importing of construction materials;
- The establishment of the construction compounds – these will likely move over the course of the construction process as each section is built out;
- Creation of a new access points for the Site;
- Installing the security fencing around the Site;
- Importing the PV panels and the energy storage equipment;
- Erection of PV frames and modules;
- Digging of cable trench and laying cables for connection to the West Burton Power Station substation;
- Installing transformer cabins;
- Construction of onsite electrical infrastructure for the export of generated electricity; and
- New habitat creation.

6.1.7 The Proposed Development will be decommissioned at the end of its approved operational phase. All PV modules, mounting poles, energy storage equipment, inverters, transformers etc would be removed from the Site. These items would be recycled or disposed of in accordance with good practice and market conditions at the time. Decommissioning is expected to take approximately 12 months.

6.2 Key Challenges for the Water Environment

6.2.1 The Humber RBMP[10] has been reviewed to identify the key challenges affecting the water environment. Each of the challenges identified in the RBMP is considered below, with an initial assessment as to whether the Proposed Development could exacerbate these challenges and consequently result in impacts for local water bodies. Specific impacts for each water body are discussed in detail following this initial screening exercise.

[10] https://www.gov.uk/guidance/humber-river-basin-district-river-management-plan-updated-2022

Table 6.1: Key challenges for the water environment (Humber RBMP)

Key challenge	How impacts arise	Potential impacts from Proposed Development without Mitigation	Explanation	Challenge discussed further
Climate emergency	Climate change results in raised temperatures and reduced flows in watercourses, impacting habitats and species. Droughts place increased demand on water resources. Less water is available for dilution and dispersion of pollutants. Increased flooding can cause release of polluted runoff and storm overflows from combined sewerage systems.	Yes - beneficial	The Proposed Development will help combat climate change because it is a clean and renewable energy source that generates no greenhouse emissions and helps reduce reliance on fossil fuels which are major contributors to climate change.	Yes
Biodiversity crisis	Habitats and species face pressures due to loss or degradation of habitat, lack of quality water to sustain them, invasive non-native species, and loss of connectedness.	Yes - adverse	Without mitigation, construction and operation activities could adversely impact habitats and species.	Yes
Physical modifications	Diversion, culverting and straightening of watercourses can damage habitats and reduce resilience to flooding, erosion and drought.	Yes - adverse	During construction without careful design / mitigation, physical disturbance could result from laying of cables beneath watercourses and creation of crossings over watercourses. Siltation could also impact river morphology.	Yes

Key challenge	How impacts arise	Potential impacts from Proposed Development <u>without Mitigation</u>	Explanation	Challenge discussed further
Pollution from agriculture and rural areas	Management of land, livestock and use of fertilisers and pesticides can result in river and groundwater pollution.	Yes - beneficial	Intensive farming practices are not proposed as part of the Proposed Development. Cessation of agricultural activities could reduce inputs of agricultural chemicals and farming by-products to surface water and groundwater	Yes
Pollution from water industry waste water	Untreated sewage can be released to watercourses, particularly from storm overflows from combined sewerage systems	No	Development does not relate to the water industry	No
Invasive non-native species	Introduction of non-native species through spread of animals or plants can damage water environment	Yes - adverse	Without mitigation, construction activities could facilitate the spread of material e.g. attached to equipment or vehicles.	Yes
Pollution from towns, cities and transport	Pollution from urbanisation and transport in urban areas can damage water quality	No	Proposed Development not within urban environment	No

Key challenge	How impacts arise	Potential impacts from Proposed Development without Mitigation	Explanation	Challenge discussed further
Changes to water levels and flows	Over-abstraction of surface / groundwater can result in damage to rivers, springs, aquifers, lakes and wetlands	Yes - adverse	Construction and operational phases have an associated water demand, inappropriate abstraction could result in degradation of water supplies from surface water and groundwater	Yes
Chemicals in the water environment	Release of chemicals to the water environment could impact aquatic life, human health and surface / groundwater water supplies	Yes - adverse	Without mitigation, chemicals could be released to surface water or groundwater through leaks / spills of substances during construction and decommissioning works, within contaminated runoff or as a result of releases through accident or emergency during the operational phase.	Yes
Pollution from abandoned mines	Pollution from abandoned mines impacts surface water and groundwater quality and habitats	No	No activities relating to abandoned mines	No
Plastics pollution	Input of plastics and micro-plastics to water environment	No	No activities considered to contribute to release of plastics or micro-plastics	No

6.2.2 **Table 6.1** identifies that without mitigation the Proposed Development could result in adverse effects through exacerbation of the following key RBMP challenges:

- Biodiversity crisis;
- Physical modifications;
- Invasive non-native species;
- Changes to water levels and flows; and
- Chemicals in the water environment.

6.2.3 The Proposed Development is also considered to offer beneficial effects with respect to the following key RBMP challenges:

- Climate emergency; and
- Pollution from agriculture and rural areas.

6.2.4 The Development activities identified in **Table 6.1** as potentially impacting key RBMP challenges are assessed further below with specific reference to any anticipated impacts on the identified relevant WFD water bodies. Mitigation measures committed to as part of the Proposed Development are considered, and details are provided of how these mitigation measures will be secured.

6.2.5 Although not considered directly relevant to RBMP objectives, a Flood Risk Assessment [EN010163/APP/6.3.8] has been prepared to support the DCO application and confirms that there will be no increase in flood risk as a result of the Proposed Development. This document should be referred to for full details of flood risk to and from the development.

6.3 Activities Scoped Out

6.3.1 The following activities have been scoped out of further assessment, on the basis they are not considered to result in impacts to the 'key challenges for the water environment' as identified in the RBMPs and are unlikely to result in a deterioration of WFD status of surface or groundwater bodies.

Operational phase

6.3.2 Activities scoped out comprise:

- Fencing and security measures
- Access tracks

6.3.3 All other structures during the operational phase have been scoped in, so that further assessment can be made of any impact on natural river dynamics or water quality in line with consultation responses received from the EA.

6.3.4 It is noted that the use of fluid / oil filled cables is not proposed as part of the Proposed Development, therefore associated risks have not been assessed.

Construction and Decommissioning phases

6.3.5 All activities have been scoped in due to the associated potential use and transport of materials; excavation works; use and storage of fuels and oils associated construction equipment; and water usage during the proposed works. Habitat creation works have been scoped in due to their proximity to existing watercourses and their potential for enhancement / benefit to RBMP objectives.

6.4 Assessment of Activities Scoped In

6.4.1 Activities that have been scoped in for further assessment are considered further below. Activities with a potential adverse effect are considered in **Section 6.4.2**, and activities making a positive contribution to RBMP objectives are discussed in **Section 6.4.3**.

Mitigation Commitments

6.4.2 As part of the Project, the following mitigation measures have been committed to with respect to protection of the water environment:

- A Construction Environmental Management Plan (CEMP) will be prepared for the construction phase to ensure best practice is followed to minimise the risk of release of pollution or sediment (Outline CEMP [EN010163/APP/6.3.4] submitted with application, final CEMP to be secured post-planning). The CEMP will include:
  - a procedure for actions to be taken if unexpected contamination is identified on site;
  - a procedure in the case of a new pollution incident occurring;
  - best practice measures for the storage of oils, fuels and chemicals during the construction phase, including requirements for bunding and spill kits; and
  - measures for the prevention of release of silt laden sediment.
- construction compounds will be located at least 10m from existing watercourses;

- trenchless HDD methods to be used for laying cables beneath all IDB water bodies, and will be supported by a drilling fluid breakout plan (forming part of the CEMP);
- a Flood Management Plan will be prepared for the construction and decommissioning phases to ensure the works are scheduled to avoid periods of increased flood risk;
- any applicable consents or permits for works within or near watercourses will be applied for and adhered to;
- existing watercourse crossings will be re-used where possible;
- any new bridges or culverts will be designed to ensure flow capacity is maintained and access is retained to the watercourse for maintenance;
- a leak detection system and alarm will be fitted to the BESS cooling system;
- the drainage strategy for the BESS area will include provision for the automatic retention of any contaminated fire-fighting runoff in the event of a fire;
- a minimum 9m development-free easement has been allowed for either side of the IDB watercourses, and a minimum 5m easement either side of the LLFA Ordinary Watercourses, as stipulated by the IDB and LLFA;
- cable crossing depths will take account of potential deepening of watercourse channels over the lifetime of the Proposed Development;
- a temporary drainage strategy will be implemented during construction works to control runoff rates and sediment mobilisation;
- a Soil Management Plan / Fire Risk Management Plan / Operational Management Plan will be prepared detailing how potentially harmful materials will be controlled and how emergency releases will be managed;
- A targeted ground investigation will be undertaken (with remedial works where necessary) and any unexpected contamination identified during construction will be remediated where appropriate with advice from a suitably qualified geo-environmental consultant; and
- a Decommissioning Plan will be prepared prior to the decommissioning phase (outline Decommissioning Plan [EN010163/APP/6.3.4] submitted with application) to ensure best practice is followed to minimise the risk of release of pollution or sediment.

Risk of deterioration

6.4.3 Activities not scoped out associated with the construction, operational and decommissioning stages of the Proposed Development have been assessed to determine whether they could cause a risk of deterioration of status of the identified water bodies. The assessment takes into account the mitigation measures that have been incorporated into the Proposed Development for the protection of the water environment as outlined above.

6.4.4 The assessment considers potential pathways between activities and receptors. Where there is no pathway for an activity to impact a receptor, there will be no impact on that receptor. As described within Chapter 8 of the Environmental Statement, a 1km zone of influence has generally been applied for effects on the water environment within the Environmental Impact Assessment. A similar approach has been taken to the assessment of effects on WFD water bodies, although each activity has been assessed on an individual basis.

6.4.5 “Deterioration of status” refers to at least one of the quality elements falling by one class. This is even if the change does not result in a fall in classification of the water body as a whole. This applies unless the water body is already in the lowest status class, in which case any deterioration is deterioration in status under the WFD.

Table 6.2: Assessment of impact of activities on WFD surface water bodies and associated sensitive habitats

Key challenge	Activity	Deterioration of status			Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Catchwater Drain	Wheatley Beck	River Trent			
Biodiversity crisis	Works to watercourses during construction, which, in the absence of mitigation, may lead to: Temporary loss / damage of riparian habitat or small amounts of permanent habitat loss. Temporary impediment to fish and mammal passage. Potential mortality of notable invertebrates. Potential disturbance or mortality of fish. Potential disturbance or mortality of riparian mammals.	No	No	No	No direct impact to Wheatley Beck or River Trent as outside zone of influence. There will be no physical impact to habitats within these water bodies. Works to the Catchwater Drain are limited to the installation of a headwall for the discharge of surface water runoff. Measures to minimise the impact of these works will be detailed within a CEMP, and will include methods such as avoiding times at which species are particularly sensitive (such as fish spawning/migration), protected species licencing, silt and pollution control measures (discussed further below), pre-commencement surveys, or ecological watching briefs.	Specified within DCO CEMP / Decommissioning Plan	No

Key challenge	Activity	Deterioration of status			Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Catchwater Drain	Wheatley Beck	River Trent			
Biodiversity crisis	Presence of construction/ decommissioning machinery and operational infrastructure that may introduce changes such as: Potential spillages, leakages and pollutants affecting protected sites of nature conservation. Potential changes to hydrology affecting protected sites of nature conservation	No	No	No	The Humber Estuary SAC and Ramsar Site lies 26.5km to the north of the Site and the Humber Estuary SPA lies 37km north. Hatfield Moor SAC and Thorne Moor SAC are also designated for their bog habitats and are 19.5km and 28.5km to the north of the Site respectively. Although hydrologically linked to the drains within the Site, any input of pollutant or sediment during the construction/decommissioning phase will be controlled via measures within the CEMP/Decommissioning Plan. Similarly, leak detection systems and appropriate management plans will be in place during the operational phase to control any accidental releases of pollutants. The magnitude of impact on water	CEMP / Decommissioning Plan	No

Key challenge	Activity	Deterioration of status			Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Catchwater Drain	Wheatley Beck	River Trent			
					quality within the Site is considered to be low. Given the low magnitude of impact and the significant distance between the Site and the protected sites, with associated dilution and dispersion of any pollutants / sediments, no detectable impact is anticipated on the SAC/SPA/Ramsar sites. Any changes to hydrology are likely to be imperceptible at the designated sites due to the distances and volume of flows within the intervening watercourses. A full assessment of the effects to designated sites of nature conservation is provided in the ES and the Information to Inform Habitats Regulations Assessment (IIHRA).		

Key challenge	Activity	Deterioration of status			Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Catchwater Drain	Wheatley Beck	River Trent			
Physical modifications	Laying of cables beneath watercourses during construction phase	No	No	No	No direct physical impact to Wheatley Beck or River Trent as outside zone of influence. Any cables laid beneath the Catchwater Drain will be via HDD. Cabels will be laid to the depth specified by the IDB to ensure no future impact on watercourse maintenance / function. There will be no physical impact on IDB waterbodies as a result of this activity.	IDB consent will be secured for cable crossing works, this will include conditions for methods of work	No
Physical modifications	Creation of river crossings for access (construction phase) and the retention of the physical crossing structures during the operational phase	No	No	No	No direct physical impact to Wheatley Beck or River Trent as outside zone of influence. No new or upgraded crossings are proposed over the Catchwater Drain. One crossing is proposed via an existing bridge, no associated works are required to the bridge or the river channel / bed.	N/A	No

Key challenge	Activity	Deterioration of status			Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Catchwater Drain	Wheatley Beck	River Trent			
Physical modifications	Infrastructure development (above ground aspects)	No	No	No	The nearest proposed infrastructure to the River Trent and the Wheatley Beck is approximately 950m and 650m from the watercourses respectively. The proposed structures will not impact on natural fluvial processes (taking account of the potential for lateral geomorphological changes over the lifetime of the Proposed Development) and are not considered to restrict future river restoration projects. Historical mapping indicates no deviation of any of the assessed water bodies from their course over the last 130 years. The River Trent and the Catchwater Drain are both engineered / modified channels further reducing the potential for natural processes with significant	N/A	No

Key challenge	Activity	Deterioration of status			Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Catchwater Drain	Wheatley Beck	River Trent			
					lateral spread from the watercourses' current position. A 9m development-free easement has been allowed either side of the Catchwater Drain. This watercourse is heavily modified and flows within a steep-sided linear channel through the Site. The potential for lateral geomorphological changes over the 40 year lifetime of the Proposed Development is low therefore the 9m easement is considered appropriate to avoid impacts on natural fluvial processes.		
Physical modifications	Disturbance of soils during construction / decommissioning resulting in release of silt to watercourses	No	No	No	Without mitigation, all three watercourses could be impacted due to migration of silt from construction works via on-site watercourses to downstream WFD watercourses.	Specified within DCO and via CEMP / Decommissioning Plan	No

Key challenge	Activity	Deterioration of status			Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Catchwater Drain	Wheatley Beck	River Trent			
					Mitigation measures to minimise silt input will be committed to via the Construction Environmental Management Plan (CEMP) and Decommissioning Plan. A temporary drainage strategy will be implemented during construction works to control runoff rates and sediment mobilisation. There will be no impact on the hydromorphology of IDB watercourses as a result of this activity.		
Invasive non-native species	Movement of equipment and vehicles around the Site during construction and decommissioning could result in spread of non-native species, particularly during works	No	No	No	Terrestrial invasive non-native species were not identified on Site, or on the banks of any watercourse during the 2024 surveys. The aquatic invasive non-native plant, Canadian waterweed *Elodea canadensis*, was identified within	CEMP / Decommissioning Plan and LEMP	No

Key challenge	Activity	Deterioration of status			Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Catchwater Drain	Wheatley Beck	River Trent			
	close to watercourses (e.g. crossing creation)				Mother Drain, which has connectivity to the River Trent. In addition, Nuttall's waterweed *Elodea nuttallii*, New Zealand pigmyweed *Crassula helmsii*, and species such as Chinese mitten crab *Eriocheir sinensis* have been reported within the locality of the Site by the Nottinghamshire Biological and Geological Records Centre (NBGRC). Measures to prevent the spread of invasive non-native species during construction and decommissioning will be specified in the CEMP and Decommissioning Plan respectively. Throughout operation, monitoring of invasive plant species will be undertaken as specified in the Landscape Ecological Management Plan (LEMP), and corrective actions		

Key challenge	Activity	Deterioration of status			Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Catchwater Drain	Wheatley Beck	River Trent			
					taken if invasive plants are found to spread		
Changes to water levels and flows	Abstraction of surface water during construction and operational phases	No	No	No	Abstraction from Wheatley Beck and from groundwater not viable or proposed. Domestic water supply for welfare uses (construction and operation) will be via an Anglian Water connection. Non-domestic requirements during construction and operation (e.g. wheel washing, dust suppression, process water for cooling, fire water supply and panel cleaning) will be wholly or primarily met via an Anglian Water connection. Exceptionally where additional water is required this will be sourced from off-site via mobile bowser, or through abstraction of water from the Catchwater Drain or River Trent below the daily volume	Water Act 2003 limits abstraction without licence	No

Key challenge	Activity	Deterioration of status			Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Catchwater Drain	Wheatley Beck	River Trent			
					for which an abstraction licence is required. As such, abstraction from WFD watercourses will be either null or negligible in terms of volumes extracted.		
Chemicals in the water environment	Storage and use of fuels, oils and chemicals during construction and decommissioning works	No	No	No	Without mitigation, all three watercourses could be impacted due to migration of pollutants from construction works via on-site watercourses to downstream WFD watercourses. Appropriate best practices measures will be stipulated within the CEMP / Decommissioning Plan to ensure construction compounds are located away from watercourses and spills / leaks are minimised with a plan in place for dealing with accidental releases. The residual risk associated with release of pollutants during	Via CEMP / Decommissioning Plan	No

Key challenge	Activity	Deterioration of status			Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Catchwater Drain	Wheatley Beck	River Trent			
					construction and decommissioning is considered to be low.		
Chemicals in the water environment	HDD operations during construction works (drilling fluid breakout)	No	No	No	Without mitigation, all three watercourses could be impacted due to migration of pollutants from construction works via on-site watercourses to downstream WFD watercourses. A drilling fluid breakout plan will form part of the CEMP and will specify measures to minimise any risk of release of fluids. The residual risk is considered to be low.	Via CEMP	
Chemicals in the water environment	Release of contaminated fire water in the event of fire during operation	No	No	No	Without mitigation, all three watercourses could be impacted due to migration of pollutants in the event of a fire via on-site watercourses to downstream WFD watercourses.	Specified within DCO	No

Key challenge	Activity	Deterioration of status			Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Catchwater Drain	Wheatley Beck	River Trent			
					The drainage strategy for the BESS area will include provision for the automatic retention of any contaminated fire-fighting runoff in the event of a fire. Attenuation features will be suitably sized to contain a worse-case event (fire water combined with rainfall runoff). The Outline Fire Risk Management Plan and Outline Operational Management Plan will also contain measures for controlling the risk of release of contaminants to the water environment.		
Chemicals in the water environment	Accidental release of chemicals or release of contaminated surface water runoff during operational phase	No	No	No	Without mitigation, all three watercourses could be impacted due to migration of pollutants via on-site watercourses to downstream WFD watercourses. The risk is relatively low due to the nature of the proposed use.	Specified within DCO	No

Key challenge	Activity	Deterioration of status			Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Catchwater Drain	Wheatley Beck	River Trent			
					To mitigate the risk, a leak detection system and alarm will be fitted to the cooling system. A Soil Management Plan / Fire Risk Management Plan / Outline Operational Management Plan will be prepared detailing how potentially harmful materials will be controlled and how emergency releases will be managed. An outfall is proposed to the Catchwater Drain. However, the drainage system will include appropriate stages of treatment to ensure discharged runoff does not impact the quality of the receiving watercourse.		

Table 6.3: Assessment of impact of activities on WFD groundwater bodies

Key challenge	Activity	Deterioration of status		Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Lower Trent Erewash Secondary Combined Water Body	Idle Torne - Secondary Mudrocks Water Body			
Changes to water levels and flows	Abstraction of groundwater during construction / decommissioning and operational phases	No	No	No groundwater abstractions are proposed during the construction / decommissioning or operational phases. Localised dewatering may be required during construction and decommissioning. However, any dewatering (if required) would be temporary in nature and would result in the abstraction of only small quantities of groundwater. Particularly in the context of the apparent perched, isolated nature of shallow groundwater, impacts on shallow groundwater flows and levels are considered to be negligible. Subsurface structures to be installed as part of the Proposed Development are not considered to	N/A	No

Key challenge	Activity	Deterioration of status		Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Lower Trent Erewash Secondary Combined Water Body	Idle Torne - Secondary Mudrocks Water Body			
				obstruct subsurface flows or reduce the quantity of groundwater within underlying aquifers.		
Chemicals in the water environment	Storage and use of fuels, oils and chemicals during construction and decommissioning works	No	No	Without mitigation, underlying groundwater quality could be impacted due to downward migration of pollutants from construction works into the underlying WFD groundwater bodies. Appropriate best practices measures will be stipulated within the CEMP / Decommissioning Plan to ensure construction compounds are located away from watercourses and spills / leaks are minimised with a plan in place for dealing with accidental releases.	Via CEMP / Decommissioning Plan	No

Key challenge	Activity	Deterioration of status		Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Lower Trent Erewash Secondary Combined Water Body	Idle Torne - Secondary Mudrocks Water Body			
Chemicals in the water environment	HDD operations during construction works (drilling fluid breakout)	No	No	Without mitigation, underlying groundwater quality could be impacted due to release of drilling fluid and migration through shallow soils into the underlying WFD water bodies. A drilling fluid breakout plan will form part of the CEMP and will specify measures to minimise any risk of release of fluids.	Via CEMP	No
Chemicals in the water environment	Release of contaminated fire water in the event of fire during operation	No	No	Without mitigation, contaminated fire water could infiltrate into the underlying WFD groundwater bodies. The drainage strategy for the BESS area includes provision for the automatic retention of any contaminated fire-fighting runoff in the event of a fire. The drainage	Specified within DCO	No

Key challenge	Activity	Deterioration of status		Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Lower Trent Erewash Secondary Combined Water Body	Idle Torne - Secondary Mudrocks Water Body			
				system will be sealed and the storage basin lined to prevent infiltration. No infiltration SuDS methods are proposed. The Outline Fire Risk Management Plan and Outline Operational Management Plan will also contain measures for controlling the risk of release of contaminants to the water environment.		
Chemicals in the water environment	Accidental release of chemicals during operational phase	No	No	The nature of the Proposed Development is generally low risk with respect to ground / groundwater pollution. However, without mitigation, there is the minor potential for accidental releases of pollutants to impact the underlying WFD groundwater bodies.	Specified within DCO	

Key challenge	Activity	Deterioration of status		Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Lower Trent Erewash Secondary Combined Water Body	Idle Torne - Secondary Mudrocks Water Body			
				To mitigation this, a leak detection system and alarm will be fitted to the cooling system. A Soil Management Plan / Fire Risk Management Plan / Outline Operational Management Plan will be prepared detailing how potentially harmful materials will be controlled and how emergency releases will be managed.		
Chemicals in the water environment	Installation of below ground structures e.g underground cables, solar panel supports	No	No	There is the potential for excavations to encounter historical ground contamination and enable the mobilisation of those contaminants. To mitigate this, a targeted ground investigation will be undertaken prior to works commencing, and any appropriate remedial works undertaken prior to construction. Any unexpected	Specified within DCO	No

Key challenge	Activity	Deterioration of status		Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Lower Trent Erewash Secondary Combined Water Body	Idle Torne - Secondary Mudrocks Water Body			
				contamination encountered during ground works will be assessed and remediated where appropriate under the advice of a suitably qualified geoenvironmental consultant.		
Chemicals in the water environment	Retention of cables in-situ following decommissioning	No	No	The EA has noted that the deterioration of any cables / cable ducting left in-situ could result in release of pollutants to groundwater bodies. At present, the type of cabling to be used in unknown and the treatment of cables post-decommissioning has not been decided. However, a Decommissioning Plan will be prepared at the decommissioning stage and will detail how cables will either be cut and sealed adequately or removed from the ground, where	Decommissioning Plan	No

Key challenge	Activity	Deterioration of status		Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Lower Trent Erewash Secondary Combined Water Body	Idle Torne - Secondary Mudrocks Water Body			
				a risk of release of pollutants is identified. Possible decommissioning methods will be taken into account when choosing cabling types and design.		
Chemicals in the water environment	Presence of underground cables during operational phase	No	No	The EA has highlighted the potential for generation of heat by underground cables, and the potential for local groundwater quality degradation through generation of a heat plume. The thermal characteristics of the cables to be installed are not known at this stage. However, it is anticipated that any impacts to the temperature of shallow groundwater would be of low magnitude, and that any effects would be localised to the cables. No groundwater-dependent	N/A	No

Key challenge	Activity	Deterioration of status		Discussion taking into account mitigation committed to by applicant	How mitigation secured	Further assessment required?
		Lower Trent Erewash Secondary Combined Water Body	Idle Torne - Secondary Mudrocks Water Body			
				habitats or abstractions have been identified that could be impacted by increased groundwater temperatures. The impact on WFD objectives and the status of WFD water bodies is considered to be negligible.		

6.4.6 Overall, the assessment within **Table 6.2** shows that taking into account the proposed mitigation, no aspects of the Proposed Development have the potential to cause a deterioration in status of WFD surface water bodies or groundwater bodies or prevent RBMP objectives being met.

6.4.7 No further assessment is considered necessary in relation to the effects on WFD water bodies.

Positive Contributions to RBMP Objectives

6.4.8 In addition to ensuring no deterioration of status of water bodies, the Proposed Development will have a positive effect on the 'key challenges for the water environment' as identified within the RBMPs. The cessation of agricultural activities would have an overall benefit to the status of WFD water bodies, and a positive improvement in biodiversity will be achieved through the proposed creation of grasslands in place of cultivated land, which is anticipated to result in an enhancement for aquatic invertebrates, macrophytes and phytobenthos through reduction of nutrient inputs and pesticides. The riparian zones of all watercourses will be avoided and managed to promote biodiversity where possible. Additionally, the scheme as a whole will help combat climate change by helping reduce reliance on fossil fuels which are major contributors to climate change. These enhancements are intrinsic within the scheme and therefore do not require an external mechanism to secure their implementation.

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 In line with PINS and EA guidance, this assessment has identified WFD water bodies that could be hydrologically linked to the Site. For each relevant water body, baseline characteristics have been identified together with WFD targets, and pressures facing those water bodies have been recorded.

7.2 Activities associated with all stages of the Proposed Development have been considered, with any activities considered to have the potential to impact 'key challenges of the water environment' taken forward for more detailed assessment. This included both activities with a potential adverse effect and those that may be beneficial to RBMP objectives.

7.3 Activities were assessed to determine whether they could result in a deterioration of status i.e. at least one of the quality elements falling by one class. This assessment took into account the zone of influence of activities, pathways between activities and receptors, mitigation that has been committed to by the applicant and the characteristics of the watercourses under consideration.

7.4 Overall, the assessment concluded that none of the activities associated with the Proposed Development have the potential to cause a deterioration in status of WFD surface water bodies or groundwater bodies. The Proposed Development is not considered to jeopardise the attainment of 'good' overall status of WFD water bodies. No further assessment is required in relation to the WFD.

7.5 Notably, the Proposed Development will have a positive effect on the 'key challenges for the water environment' as identified within the RBMPs. The cessation of agricultural activities will have an overall benefit to the status of WFD water bodies, and a positive improvement in biodiversity will be achieved through the proposed grassland creation and watercourse avoidance buffers. Additionally, the scheme will help combat climate change by helping reduce reliance on fossil fuels.

7.6 As the Project is not considered to cause the deterioration of the status of a body of water, a derogation under Article 4.7 is not required.

APPENDIX A
RSK GROUP SERVICE CONSTRAINTS

1. This report and the drainage design carried out in connection with the report (together the "Services") were compiled and carried out by RSK LDE Ltd (RSK) for RES (the "client") in accordance with the terms of a contract between RSK and the "client" dated May 2024. The Services were performed by RSK with the skill and care ordinarily exercised by a reasonable civil engineer at the time the Services were performed. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the client.

2. Other than that expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services.

3. Unless otherwise agreed in writing, the Services were performed by RSK exclusively for the purposes of the client. RSK is not aware of any interest of or reliance by any party other than the client in or on the Services. Unless expressly provided in writing, RSK does not authorise, consent or condone any party other than the client relying upon the Services. Should this report or any part of this report, or otherwise details of the Services or any part of the Services be made known to any such party, and such party relies thereon that party does so wholly at its own and sole risk and RSK disclaims any liability to such parties. Any such party would be well advised to seek independent advice from a competent environmental consultant and/or lawyer.

4. It is RSK's understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the report is used, or the proposed use of the site change, this report may no longer be valid and any further use of or reliance upon the report in those circumstances by the client without RSK's review and advice shall be at the client's sole and own risk. Should RSK be requested to review the report after the date of this report, RSK shall be entitled to additional payment at the then existing rates or such other terms as agreed between RSK and the client.

5. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the report in the future shall be at the client's own and sole risk. Should RSK be requested to review the report in the future, RSK shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between RSK and the client.

6. The observations and conclusions described in this report are based solely upon the Services, which were provided pursuant to the agreement between the client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out or required by the contract between the client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, RSK did not seek to evaluate the presence on or off the site of asbestos, electromagnetic fields, lead paint, heavy metals, radon gas or other radioactive or hazardous materials.

7. The Services are based upon RSK's observations of existing physical conditions at the site gained from a walk-over survey of the site together with RSK's interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The Services are also based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely. The Services clearly are limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the walk-over survey. Further RSK was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services. RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK and including the doing of any independent investigation of the information provided to RSK save as otherwise provided in the terms of the contract between the client and RSK.

8. The phase II or intrusive environmental site investigation aspects of the Services is a limited sampling of the site at pre-determined borehole and soil vapour locations based on the operational configuration of the site. The conclusions given in this report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and RSK] [based on an understanding of the available operational and historical information,] and it should not be inferred that other chemical species are not present.

9. Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan, but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (boreholes, trial pits etc) annotated on site plans are

not drawn to scale but are centred over the appropriate location. Such features should not be used for setting out and should be considered indicative only.

APPENDIX B
ENVIRONMENT AGENCY CORRESPONDENCE

APPENDIX C
SITE LOCATION PLAN

APPENDIX D
RELEVANT WFD WATER BODIES

APPENDIX E
PROTECTED AREAS

APPENDIX F
ABSTRACTIONS

APPENDIX G
PROPOSED LAYOUT