

Cleator Moor Innovation Quarter

REPORT TO INFORM HABITATS REGULATIONS ASSESSMENT –
STAGE 1 ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS AND
STAGE 2 APPROPRIATE ASSESSMENT

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Prepared on Behalf of Tetra Tech Group Limited.

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EXECUTIVE SUMMARY

Contents	Summary
Site Location	The 'site' is located in Cleator Moor, Cumbria and is centred at Ordnance Survey National Grid Reference NY 01570 15529. The site is approximately 34.9 hectares in size and lies on the north side of Leconfield Street.
Proposals	The Cleator Moor Innovation Quarter (CMIQ) site has been used as an industrial estate since 1980. It is proposed for re-development into an Innovation Quarter for West Cumbria.
Existing Site Information	Previous ecological reports available for the site: • Tetra Tech (2021a) Cleator Moor Innovation Quarter: Ecological Appraisal. On behalf of Copeland Borough Council. Ref: 784-B029668 • Tetra Tech (2021b) Cleator Moor Innovation Quarter: Great Crested newt Report. On behalf of Copeland Borough Council. Ref: 784-B029668 • Tetra Tech (2021c). Cleator Moor Innovation Quarter: Bat Roost Assessment Report. • Tetra Tech (2021d). Cleator Moor Innovation Quarter: Breeding Bird Survey Report. • Tetra Tech (2021e). Cleator Moor Innovation Quarter: Invasive Non-Native Species Management Plan. • Tetra Tech (2021f). Cleator Moor Innovation Quarter: Invertebrate Report. • Tetra Tech (2021g). Cleator Moor Innovation Quarter: National Vegetation Classification Report. • Tetra Tech (2021h). Cleator Moor Innovation Quarter: Reptile Survey Report. • Tetra Tech (2021i). Cleator Moor Innovation Quarter: Biodiversity Net Gain (BNG) Assessment. • WYG (2020) – Leconfield Industrial Estate – Ecological Appraisal • White Young Green (2007) – Leconfield, Cleator Moor – Preliminary Ecological Appraisal
Scope of this Survey(s)	Report to Inform Habitats Regulations Assessment – Stage 1 Assessment of Likely Significant Effects and Stage 2 Appropriate Assessment. This document provides information which can be used by the Competent Authority to complete their HRA in relation to this project.
Results	Stage 1 identified the following potential threats / pathways of effect on qualifying features of River Ehen SAC: Construction Phase

	• Degradation of habitat via air pollution; • Pollution via surface water drainage; • Pollution via groundwater seepage; and • The spread of invasive species resulting in degradation of habitats. Operation Phase • Pollution via surface water drainage; • The spread of invasive species resulting in degradation of habitats; and • Water abstraction (particularly excessive abstraction) for public water supply at inappropriate times of the year. The following pathways of effect were taken forward to Stage 2: Appropriate Assessment: • Pollution via surface water drainage (Construction and Operation); • Pollution via groundwater seepage (Construction only); and • The spread of invasive species resulting in degradation of habitats. (Construction only). The Local Plan HRA has screened in LSE in combination in relation to reduced water quality.
Recommendations	Mitigation measures (detailed in Section 6.1.1) will be adopted to prevent pollution via surface water drainage during the construction and the operational phase. These are recommended in line with pollution prevention guidelines and will be included in a Construction Environmental Management Plan (CEMP). A statement from UU will be obtained at detailed drainage design stage to confirm quantum is deliverable. An Ecological Management Plan (EMP) (or similar) will be produced detailing Invasive Non-Native Species (INNS) removal / control prior to commencing any site works. It is considered that with the above mitigation measures applied, no effect on the integrity of any European site is anticipated as a result of deterioration of water quality due to polluted run-off, or adverse effects on habitats due to spread of invasive species from the development site. As such, it is considered that the ‘Competent Authority’ can permit the proposed development at outline stage and does not require Stage 3 or Stage 4 assessments to be undertaken.

GLOSSARY

AA	Appropriate Assessment (Stage 2 HRA)
ALSE	Assessment of Likely Significant Effects (Stage 1 HRA)
CEMP	Construction Environmental Management Plan
CIEEM	Chartered Institute of Ecology & Environmental Management
CMIQ	Cleator Moor Innovation Quarter
EMP	Ecological Management Plan
HRA	Habitats Regulations Assessment
JNCC	Joint Nature Conservation Committee
LSE	Likely Significant Effects
MCIEEM	Member of Chartered Institute of Ecology & Environmental Management
Natura 2000 site	A European site designated for its nature conservation value
NE	Natural England
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SPA	Special Protection Area
SUDs	large Sustainable Urban Drainage System
UU	United Utilities

1.0 INTRODUCTION

1.1 BACKGROUND

Tetra Tech (formerly WYG) was commissioned by Copeland Borough Council to prepare a report to inform a Habitats Regulations Assessment (HRA) for a proposed planning application at the site known as Cleator Moor Innovation Quarter (CMIQ).

This report to inform a HRA has been prepared by Tetra Tech Principal Ecologist Candice Howe MCIEEM and the conditions pertinent to it are provided in Appendix A

This document provides information which can be used by the Competent Authority to complete their HRA in relation to this project.

1.2 SITE LOCATION

The 'site' is located in Cleator Moor in west Cumbria and is centered at Ordnance Survey National Grid Reference NY 01570 15529 – see Figure 1 for Site Location Plan. The Main Leconfield Site (Site A) comprises the Industrial Estate (17.6ha in size) and lies on the north side of Leconfield Street. Additionally, two expansion areas are present; these comprise Expansion Site B (Site B) to the north-east and Expansion Site C (Site C) to the south-east of the main site.

Site A comprises 13 industrial / commercial buildings with associated hard standing, roads and amenity grassland. These are surrounded by pockets of habitats that include broadleaved and mixed woodland, plantation / screen planting, scattered trees, scrub, semi-improved neutral grassland, marshy grassland, swamp and tall ruderal vegetation.

Site B comprises agricultural fields predominantly used as open pasture and is divided from Site A by Nor Beck.

Site C comprises a mixture of woodland, allotments and grassland, all of which are located east from the C2C cycle path which divides Site C from Site A.

The surrounding land is a mixture of built-up areas and agricultural fields. Cleator Moor town centre is located approx. 300m south-east of the site.

Bowthorn Beck flows from the northwest of Site B and joins Nor Beck in a culverted section which is culverted south beneath Site A. Nor Beck flows from the northeast of Site B, running through Site B and along the northern boundary of Site A joining the culverted section to the northwest of Site B. The beck enters into the River Keekle which is a tributary of the River Ehen.

The River Ehen SAC is located 1.2 km south from the proposed development site as the crow flies. The CMIQ site is directly adjacent to Nor Beck which runs between Site A and Site B and bisects the southeast of Site B. The River Keekle joins River Ehen at Longlands Lake Country Park at OSGR NY 01183 12890. Although, the River Keekle is hydrologically connected with the River Ehen, the component of the River Ehen designated as SAC is located directly upstream from the confluence point. Therefore, there is no direct hydrological connectivity between the site and the section of the River Ehen designated as SAC.

1.3 DEVELOPMENT PROPOSALS

Outline planning permission is sought for light industrial-led, mixed-use development on the existing Leconfield Industrial Estate and adjacent land parcels to the north and east at Cleator Moor. Quantum, use, scale and access are sought for approval with all other matters reserved. The description of the proposed development is as follows:

“Provision of 44,350 sqm (GEA) floorspace for light industrial, general industrial and storage & distribution (Class E(g), B2, B8), Hotel (Class C1) and Student Accommodation (Sui Generis) with ancillary food/beverage (Class E(b)), education and community facility uses (Class F1(a & e)) with internal accesses, parking, service yards, attenuation basins, electricity substations and associated infrastructure, earthworks and landscaping.”

The masterplan showing the proposed site plan is shown in Appendix B (Drawing Reference: ZZ-DR-A-90004_SITE PLAN PROPOSED – LABELLED).

1.4 CONSULTATION AND FIELD SURVEYS

An Ecological Appraisal was completed by WYG in November 2019 (WYG, 2020) and updated in May 2021 (Tetra Tech, 2021a). The initial report considered only Site A. The update in 2021 included both Site B (with access restrictions) and Site C and comprised several Phase 2 surveys including great crested newt (Tetra Tech, 2021b), bats (Tetra Tech, 2021c), breeding birds (Tetra Tech, 2021d), invasive species (Tetra Tech, 2021e), invertebrates (Tetra Tech, 2021f), national vegetation classification (Tetra Tech, 2021g); and reptiles (Tetra Tech, 2021h) as well as a Biodiversity Net Gain Assessment (Tetra Tech, 2021i).

Natural England (NE) was consulted on the 29th of July 2021 in relation to the proposed application. Kate Berry (NE) confirmed on 3rd August 2021 that a HRA would be required in order to assess potential impacts of the proposal on the European sites.

1.5 REQUIREMENT FOR THE HABITATS REGULATIONS ASSESSMENT

The requirement for a HRA is established through Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora, hereby referred to as the 'Habitats Directive', in Articles 6(3) and 6(4). The Habitats Directive is transposed into national legislation by the Conservation of Habitats and Species Regulations 2017 (as amended by Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019). These are hereafter referred to as the 'Habitats Regulations'.

Under Regulation 63, any project which is likely to have a significant effect on a European site (either alone or in-combination with other projects) and is not directly connected with, or necessary for the management of the application site, must be subject to an HRA to determine the implications for the application site in view of its conservation objectives. This is determined during the Stage 1: Screening Assessment of a HRA (see below).

A Stage 2: Appropriate Assessment then needs to be carried out in respect of any plan or project which:

- either alone or in combination with other plans or projects would be likely to have a significant effect on a site designated within the European network; and
- is not directly connected with the management of the application site for nature conservation.

The term European site is defined fully in Regulation 8 of the Habitats Regulations and includes:

- Special Areas of Conservation (SACs);
- candidate SACs;
- Special Protection Areas (SPAs);
- potential SPAs;
- Ramsar sites (Wetlands of International Importance designated or proposed for their wetland features under the auspices of the Convention of Wetlands of International Importance);
- proposed Ramsar sites; and
- sites identified for Natura 2000 compensatory measures.

The final two categories are afforded the same level of protection as SACs and SPAs as a matter of Government policy, and the assessment provisions of the Habitats Regulations are applied to them.

2.0 METHODOLOGY

2.1 HABITATS REGULATIONS ASSESSMENT

The HRA process involves the following tasks split according to the guidance stages, the current report is concerned with Stage 1 – Screening and Stage 2 – Appropriate Assessment. Table 1 provides a summary of each stage of the HRA process.

Table 1: HRA Stages

Stage	Details
Stage 1 ALSE	This is often called an Assessment of Likely Significant Effects (ALSE) and is essentially a risk assessment, typically utilising existing data, records and specialist knowledge. The purpose of the test is to decide whether 'full' Appropriate Assessment is required. The essential question is: <i>"Is the project, either alone or in-combination with other relevant projects and plans, likely to result in a significant [adverse] effect upon European sites?"</i> If it can be demonstrated that significant effects are unlikely without any form of mitigation, no further assessment is required. If this cannot be demonstrated works progress to Stage 2.
Stage 2 Appropriate Assessment	If it cannot be satisfactorily demonstrated that significant effects are unlikely, a full "Appropriate Assessment (AA)" will be required. The essential question here is: <i>"Will the project, either alone or in-combination with other relevant projects and plans, actually result in an adverse effect upon the integrity of any European sites?"</i> If it is concluded that adverse effects will occur, mitigation measures will be required to either avoid the impact in the first place, or to reduce the ecological effect to such an extent that it is no longer significant.
Stage 3 Alternatives	Stage 3 involves the examination of alternative ways of achieving the objectives and avoiding adverse impacts on the integrity of the Natura 2000 sites
Stage 4 IROPI	Stage 4 is an assessment of compensatory measures, where, in the light of an assessment of Imperative Reasons of Overriding Public Interest, it is deemed that a plan or project should proceed.

2.2 DETERMINING THE ZONE OF INFLUENCE

The Zone of Influence (ZoI) for a project is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities. This is likely to extend

beyond the project site, for example where there are hydrological links or sites beyond the site boundary that are sensitive to airborne impacts.

Taking a precautionary approach, a 5 km ZoI was chosen for this application. This takes account of the hydrological pathways of effect (for example increased wastewater or run-off pollution).

Information relating to the only designated site screened into the assessment (including distance from the application site) is presented in Section 3.0 and locations are shown on Figure 2.

2.3 INFORMATION USED IN THIS ASSESSMENT

The potential pathways to Likely Significant Effects (LSE) were identified following a review of the following information that is referred to in the report:

- The Joint Nature Conservation Committee (JNCC) website (www.jncc.defra.gov.org.uk) for information on Natura 2000 designated sites;
- The MAGIC website (www.magic.gov.uk) for information on statutory designated sites within 5 km of the site;
- WYG (2020) Leconfield Industrial Estate: Ecological Appraisal. On behalf of Copeland Borough Council. Ref: A114312.
- David Archer Associates (2020) Habitats Regulations Assessment – Copeland Local Plan Preferred Options.
- Tetra Tech (2021) Cleator Moor Innovation Quarter: Ecological Appraisal. On behalf of Copeland Borough Council. Ref: 784-B029668

3.0 SCOPE OF ASSESSMENT

3.1 IDENTIFICATION OF NATURA 2000 SITES AND CHARACTERISATION

Projects can cause effects that lead to impacts on sites outside of the development footprint. These can be influenced by site variables such as prevailing wind conditions, surface and groundwater flow direction will all have an influence on the relative distance at which an impact can occur.

Additionally, the mobile nature of qualifying species must also be considered. This is because adverse effects on the qualifying species of a site, can occur even if they are not present within the application site. For instance, birds may forage in one area but roost at another, but both may not be within a site for which they are designated.

The following designated sites located within 5 km of the proposed development site will be considered by this assessment. The distance and direction of this designated site from the proposed development site is provided in Table 2. Descriptions of the designated sites in Table 2 are provided in Section 3.2

Table 2: Summary of International Sites Screened into this Report

Natura 2000 and Ramsar Sites	Area (ha)	Distance and direction from site
River Ehen SAC	43663.05	1.2 km south (upstream from the confluence – see Figure 2)

3.2 RIVER EHEN SAC

3.2.1 Description

The River Ehen forms the outfall from Ennerdale Water and flows some 20 km before reaching the Irish Sea at Sellafield. For much of its upper length the River Ehen is oligotrophic (nutrient-poor) and flows over bryophyte-dominated shingle, pebbles and rock. Above Ennerdale Bridge the catchment is largely composed of acidic rocks of the Borrowdale Series and Skiddaw Slates. Downstream from Ennerdale Bridge the river is slightly enriched by streams flowing from Limestones and Millstone Grits of the Carboniferous Series.

Table 3 presents information regarding qualifying features of River Ehen SAC (Natural England, 2014a).

Table 3: River Ehen SAC Summary of Qualifying Features

Relevant Directive	Feature
Habitats Directive (92/43/EEC)	Freshwater pearl mussel <i>Margaritifera margaritifera</i>
Annex II Species that are a primary reason for selection.	Atlantic salmon <i>Salmo salar</i>

River Ehen (Ennerdale Water to Keekle Confluence) SSSI units underly River Ehen SAC. The total area of the River Ehen SSSI is 23.77ha and the underlying SSSI units are listed as: 100% Unfavourable-Declining (Natural England, 2021).

3.2.2 Conservation Objectives

The conservation objectives for River Ehen SAC are as follows (Natural England, 2018):

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- *The extent and distribution of the habitats of qualifying species*
- *The structure and function of the habitats of qualifying species*
- *The supporting processes on which the habitats of qualifying species rely*
- *The populations of qualifying species, and,*
- *The distribution of qualifying species within the site.*

3.2.3 Main Threats and Pressures

A list of relevant pressures and threats to the River Ehen SAC as presented within the Site Improvement Plan (SIP) are detailed below (Natural England, 2014b):

- **Water abstraction**
- Low breeding success/poor recruitment
- **Siltation**
- **Water pollution**
- Inappropriate weirs, dams and other structures
- Agricultural management practices
- **Invasive species**
- Forestry and woodland management
- Public access disturbance
- Transportation and service corridors

4.0 STAGE 1 – ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS

4.1 DETERMINING WHETHER THE DEVELOPMENT PROPOSALS ARE DIRECTLY CONNECTED WITH OR NECESSARY TO THE MANAGEMENT OF THE INTERNATIONALLY DESIGNATED SITE(S)

The development proposals are not connected with and are not necessary for the management of the internationally designated site listed above, although they do have the potential to affect it.

4.2 IDENTIFYING THE POTENTIAL EFFECTS ON INTERNATIONALLY DESIGNATED SITE(S)

This section considers the pathways of potential effect as a result of the proposed development and assesses whether or not these pathways could result in a significant effect on qualifying features of the European designated site listed in Section 3.0.

Section 4.2.1 identifies relevant threats that have been listed which have potential to result from the construction and operation of the application site.

4.2.1 Listed Threats / Pathways of Effect Potentially Likely to Arise

Potential threats / pathways of effect to qualifying features of River Ehen SAC:

Construction Phase

- **Degradation of supporting habitat via air pollution** – Potential sources of contamination due to nitrogen and acid deposition through increased traffic haul within 200m of the site. Exceedance of these critical values for air pollutants may modify the chemical status of its substrate, accelerating or damaging plant growth, altering its vegetation structure and composition (including food-plants) and reducing supporting habitat quality and population viability of this feature (reduced water quality will affect the ability of the qualifying features to survive and breed).
- **Pollution via surface water drainage** - Potential sources of contamination during construction could be chemical i.e. accidental spillages or leakages from storage on site, and vehicle refuelling/oil storage. Contaminants could enter Nor Beck (a tributary of the River Keekle and River Ehen) resulting in deterioration of water quality. The development could also result in an increase in suspended solids entering the Nor Beck resulting in downstream sedimentation and the deterioration of water quality. This would in turn affect the habitats which support qualifying features of the designated site.
- **Pollution via groundwater seepage** - Groundwater pollution works differently from surface water pollution, although they have many sources in common, such as fertilizers, pesticides, and animal wastes. Unlike surface water, groundwater does not typically flow toward a single outlet at the topographic bottom of the watershed. Furthermore groundwater pollution occurs on a different time scale than surface water pollution but would result in deterioration of water quality and affect the habitats which support qualifying features of the ; and
- The **spread of invasive species** downstream resulting in degradation of habitats.

Operation Phase

- **Pollution via surface water drainage** - uncontrolled surface water runoff resulting in deterioration of water quality; suspended solids from uncontrolled runoff, resulting in deterioration of water quality and degradation of benthic habitat;

- **Pollution via foul water drainage** – Potential sources of contamination through increased nutrient (e.g. phosphorous) and/or organic pollution affecting dissolved oxygen can reduce habitat quality for qualifying species.
- The **spread of invasive species** resulting in degradation of supporting habitats; and
- **Water abstraction** (particularly excessive abstraction) for public water supply at inappropriate times of the year.

The site is not considered likely to form functionally linked land for qualifying features of the River Ehen SAC as it does not support suitable habitat for freshwater pearl mussel or Atlantic salmon. Therefore, loss of or disturbance to functionally linked land associated with the above designated site as a result of the project is screened out of this assessment.

4.3 CONSTRUCTION PHASE EFFECTS

4.3.1 Degradation of Habitat via air pollution

The River Ehen designation is located approximately 20 m from the roadside of Trumpet Road and vehicles exiting the CMIQ site via Leconfield Street onto Trumpet Road. The transport assessment reviewing traffic data has confirmed that the proposed vehicle generation does not exceed the vehicle criteria for more than 1000 light-duty vehicles or 200 heavy duty vehicle within 200 m of the River Ehen SAC. A detailed air quality assessment of vehicular emission impacts to the River Ehen SAC is therefore not required. Impacts from this pathway are concluded to be screened out with no LSE via air pollution (Miller Goodall, 2021).

4.3.2 Pollution via Surface Water Drainage

The River Ehen SAC is located 1.2 km south from the proposed development site as the crow flies. The CMIQ site is directly adjacent to Nor Beck which runs from the northeast of Site B, flows through Site B and along the northern boundary of Site A in a western direction. Nor Beck then meets Bowthorn Beck and is culverted under Site A in a southern direction.

The beck is culverted for approximately 630 m under Site A and the residential area to the south, entering the River Keekle (approximately 880 m from the southern boundary of Site A) which is a tributary of the River Ehen (see Figure 2). The River Keekle joins River Ehen at Longlands Lake Country Park at OSGR NY 01183 12890. Although, the River Keekle is hydrologically connected with the River Ehen, the component of the River Ehen designated as SAC is located directly upstream from the confluence point. Therefore, there is no direct hydrological connectivity between the site and the section of the River Ehen designated as SAC.

However, the qualifying features of River Ehen SAC include Atlantic salmon and freshwater pearl mussel. The migratory salmon use the entire length of River Ehen (not only the section designated as SAC) as they migrate out to sea before returning to spawn. Therefore, the River Ehen stretch located downstream from the confluence with the River Keekle is considered to potentially be functionally linked habitat for both qualifying features mentioned above. Therefore, any surface water runoff from ground disturbance and other activities during construction that enter Nor Beck have potential to enter the River Keekle and eventually the River Ehen. Such surface water run off has the potential to cause the diffuse discharge of excess sediment and chemicals (e.g. petrochemicals associated with accidental fuel spills) during the construction phase.

The risk of polluted run-off is considered to be highly localised, and any effects are likely to be diluted before entering River Ehen. This is difficult to predict accurately, and mitigation cannot be applied at Stage 1 of the assessment. Therefore, **it is considered that, in the absence of mitigation, Likely**

Significant Effects (LSE) upon the conservation status of the qualifying species of River Ehen SAC cannot be ruled out during Stage 1 HRA Screening.

Pollution due to accidental spillages and leakages during construction and pollution due to mobilisation of sediment during construction will be considered further at Stage 2 – AA.

4.3.3 Pollution via groundwater seepage

The hydrogeological desktop study identified that the solid geology beneath Site B is classified as a secondary aquifer A. The overlying drift is classified as secondary aquifer – undifferentiated and secondary aquifer A, with high groundwater vulnerability.

The solid geology beneath Site C is classified as a secondary aquifer A. The overlying drift is classified as secondary aquifer – undifferentiated. The groundwater vulnerability is categorised as secondary superficial aquifer – low vulnerability and secondary bedrock aquifer – low vulnerability. The CMIQ site does not lie within a Source Protection Zone (area closest to a drinking water source where the risk associated with the groundwater contamination is greatest).

The secondary A aquifers beneath Site B and C comprise permeable layers that can support local water supplies and may form an important source of base flow to rivers including the River Ehen SAC. Due to the distance of the site from the River Ehen SAC it is difficult to predict how localised pollution/contamination of ground water as a result of construction works might affect groundwater within the aquifers below site. It is equally difficult to determine whether or not such pollution/contamination might affect habitats which support qualifying features of the River Ehen SAC. **Therefore, in the absence of mitigation, LSEs upon the conservation status of the qualifying species of River Ehen SAC cannot be ruled out during the Stage 1 HRA Screening.**

Potential for pollution of River Ehen via ground water will be considered further at Stage 2 – AA.

4.3.4 The spread of invasive species resulting in degradation of habitats

The site is hydrologically linked to the River Ehen SAC via Nor Beck and River Keekle. Five species of Schedule 9 invasive plants were recorded on Site A (Japanese knotweed *Reynoutria japonica*, Himalayan balsam *Impatiens glandulifera*, Montbretia *Crocasmia x crocosmiiflora*, hollyberry cotoneaster *Cotoneaster bullatus* and *Cotoneaster horizontalis*). One Schedule 9 invasive plant species was recorded in Site C (Japanese knotweed) (Tetra Tech, 2021a). No invasive species were recorded within Site B, however full access to the site was not permitted.

In the absence of mitigation, it is possible that Nor Beck may act as a vector for the further spread of these species downstream into the River Ehen. The above non-native species are all terrestrial and therefore unlikely to directly affect habitats which support qualifying features of the SAC. However, colonisation along the River Ehen has the potential to weaken the structural integrity of bankside habitat which may in turn adversely affect habitats which support qualifying species both in terms of habitat degradation and changes in fluvial processes. Such changes have the potential to adversely affect the conservation status of qualifying features of the SAC. **Therefore, LSEs are anticipated in relation to the spread of invasive species as a result of the construction phase of this project. Spread of invasive species during construction will be considered further at Stage 2 – AA.**

4.4 ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS - OPERATION

4.4.1 Pollution via Surface Water Drainage

During operation, run-off contaminated with hydrocarbons from vehicles into the River Ehen (via Nor Beck and the River Keekle) has potential to have an adverse effect on water quality. This could in turn degrade the qualifying habitats which support qualifying features of the SAC and have an adverse impact on the conservation status of such features. Therefore, in the absence of mitigation it is considered that LSEs are anticipated as a result of this pathway of effect. Therefore, **pollution as a result of contaminated run-off during operation will be considered further at Stage 2 – AA.**

4.4.2 Pollution via foul water drainage

Proposed Foul Water in Site A is to discharge to the existing network of private foul sewers, these are thought to ultimately discharge into existing UU sewers within Leconfield Street. Proposed foul water from Site B will be discharged into the existing UU sewer network at two points (for southern and northern area) via new manholes at an unrestricted rate. Proposed foul water from Site C is to discharge into existing UU sewer network at an unrestricted rate.

The Conservation Objectives Supplementary Advice for River Ehen (Natural England, 2019) states:

Specific sources/potential sources of phosphorus to the river Ehen include wastewater treatment, septic tanks (both residential and commercial), agriculture and forestry. Westcountry Rivers Ltd. (2015) found that the main source of SRP¹ at a catchment scale was from sewage treatment works with agriculture being another major contributor. Within the current Margaritifera [freshwater pearl] population area, the sewerage pressure is from numerous on-site waste water treatment/septic tank pressures rather than from a concentrated sewerage treatment works

Salmon are particularly sensitive to reduced dissolved oxygen levels in the water column and within the gravel substrate of spawning redds (nests). Any activities which are likely to increase nutrient inputs to the river are to be discouraged.

As detailed in Section 5.1.2, provided a statement from United Utilities is obtained following the production of detailed drainage design, is considered there will be no LSE on qualifying features of the River Ehen SAC from pollution via foul water discharge.

4.4.3 The spread of invasive species resulting in degradation of habitats

The site is hydrologically linked to the SAC via Nor Beck and River Keekle. Invasive plant species were recorded in Site A and Site C in 2021 (Tetra Tech, 2021a). In the absence of mitigation, it is possible that Nor Beck may act as a vector for the further spread of these species downstream. This could in turn degrade the habitats which support the qualifying features of the SAC (as discussed above). However, as these will be controlled / eradicated at construction phase.

Therefore, LSEs are not anticipated as a result of this pathway of effect and this pathway is screened out of any further assessment.

¹ Soluble Reactive Phosphorus

4.4.4 Water Abstraction

No water will be abstracted from the River Ehen Catchment during the operational phase of this project. **Therefore, LSEs upon the qualifying features of the River Ehen SAC are not anticipated as a result of this pathway of effect. This pathway of effect is therefore screened out of any further assessment.**

4.5 ASSESSING THE SIGNIFICANCE OF ANY EFFECTS ON THE EUROPEAN DESIGNATED SITE(S)

A summary of the Stage 1: Screening Assessment of the project when considered alone is provided in Table 4. Where Stage 2 is required, all pathways are considered to have the potential to significantly affect the integrity of the European designated sites specified.

Table 4: Summary of Stage 1: Screening

Pathway	River Ehen SAC
	Stage 2: Appropriate Assessment Required
Construction Phase	
Degradation of habitat via air pollution	No
Pollution via surface water drainage	Yes
Pollution via groundwater seepage	Yes
The spread of invasive species resulting in degradation of habitats	Yes
Operational Phase	
Pollution via surface water drainage	Yes
Pollution via foul water drainage	No
The spread of invasive species resulting in degradation of habitats	No
Water abstraction	No

5.0 CONSIDERATION OF IN-COMBINATION EFFECTS

In-combination effects can be defined as the additional changes caused by a proposed development in conjunction with other similar live developments, or as a combined set of developments.

The potential for LSEs in combination with other plans and projects is considered with reference to the potential pathways where likely significant effects are possible.

Construction Phase

- **Pollution via surface water drainage**
- **Pollution via groundwater seepage**
- **Spread of invasive species**

Operational Phase

- **Pollution via surface water drainage**
- **Spread of invasive species**

Where there is no pathway for effects, no assessment of in-combination effects is necessary.

In-combination assessment is restricted to plans and projects which are 'live' at the same time as this assessment being undertaken and include:

- Incomplete or non-implemented projects already commissioned;
- Plans/projects with consent but not started;
- Plans/projects subject to application for consent;
- Projects under appeal;
- Ongoing plans/projects subject to regular review;
- Draft plans by LPAs.

5.1.1 Planning Applications

A search of the online <https://www.copeland.gov.uk/planning/application-search> database identified the following planning applications, submitted within the last 5 years and within 5 km of the site. To target the most relevant applications, the data received was then filtered to show any relevant developments relating to industrial and commercial developments which were either Approved, Pending or Other (see Table 5).

As a precaution, 'Approved' applications were included in the list considered, as whilst some may have already been built – and they therefore form part of the existing baseline conditions – others may have made a 'material start' on site, but not been completed.

No projects were considered to have an LSE in-combination.

Table 5: In-combination applications within 5 km of the proposed site location.

Planning Application Number	Address	Description	Status	Distance from site (Km)	Potential for in-combination effects?
4/21/2235/0F1	Crossfield Garage, Leconfield Street, Cleator Moor, CA25 5QA	Change of use from Sandwich shop to form single unit Petrol filling station with food to go outlet, and associated signage, and external alterations.	Approved	0.17 southwest	Nor Beck is culverted beneath Crossfield Garage with the nearest open channel. Unlikely to be LSE in combination.
4/21/2393/0F1	St John the Evangelist, Leconfields Street, Cleator Moor, Whitehaven, CA25 5BT	The applicant proposes to convert the above existing property to a retail space for the sale of art and crafts produced by local artists.	Pending	0.24 south	Unlikely to be LSE in combination.
4/21/2299/0F1	5 The Commercial, High Street, Cleator Moor, CA25 5AH	Conversion from a public house into a shop and 6 flats.	Pending	0.60 southeast	Unlikely to be LSE in combination.
4/21/2145/0F1	74 High Street, Cleator Moor, CA25 5BL	Change of use from domestic to an art gallery.	Approved	0.48 southeast	Unlikely to be LSE in combination.
4/21/2128/0F1	Dentholme, Cragg Road, Cleator Moor, CA25 5PR	First floor extension to the existing hotel building and single storey outbuilding to create a guest spa.	Approved	0.96 southeast	Unlikely to be LSE in combination.
4/20/2444/0F1	Dentholme, Cragg Road, Cleator Moor, CA25 5PR	Change of use from vacant residential care home to hotel.	Approved	0.96 southeast	Unlikely to be LSE in combination.
4/21/2427/0B1	Former Jewson Site, Coach Road, Whitehaven, CA28 7TB	Change of use from storage building to crossfit gym	Pending	4.51 northwest	Unlikely to be LSE in combination.
4/21/2365/0F1	6-8 Duke Street, Whitehaven, CA28 7ER	Alterations/refurbishment and change of use of vacant former whittles furniture store	Pending	4.98 northwest	Unlikely to be LSE in combination.

Planning Application Number	Address	Description	Status	Distance from site (Km)	Potential for in-combination effects?
		to from a community digital hub and café including the creation of a roof terrace.			
4/21/2231/0F1	Morris Leslie Plant Hire, Unit 28, Meadow road, Whitehaven, CA28 9HY	Change of Use of contractor's plant hire depot to builder's merchants (sui generis) with associated operational development of demolitions and alterations.	Approved	4.10 northwest	Unlikely to be LSE in combination.
4/21/2233/0F1	Sneakeat Industrial Estate, Whitehaven, CA28 8PF	Erection of three business/industrial buildings to provide 12 self-contained units (use classes B2, B8 and classes) car parking, access and associated works.	Approved	2.61 northwest	No HRA submitted as part of documentation. Drainage Strategy proposed managing the surface water runoff by means of an attenuated discharge before releasing into the existing surface water drainage network. Unlikely to be LSE in combination.
4/20/2283/0B1	Ivy Mill, Main Street, Hensingham, CA28 8TP	Planning permission 4/18/2313/0FI is for the construction of a new SPAR convenience store, petrol filling station and car parking together with the conversion of the former SPAR store into town. retail units and garage (further to planning permission 4/16/2167/0F1).	Approved	3.01 northwest	Unlikely to be LSE in combination as over 1.6 km from River Keekle.

5.1.2 Local Development Plan

A Habitats Regulations Assessment of the local plan for Copeland Borough Council has been completed (David Archer Associates, 2020). The HRA for the Copeland Local Plan recognises that policies relating to development and/or deliverable/developable Strategic Housing Land Availability Assessment (SHLAA) sites have the potential to increase urbanisation and water quality pressures upon the River Ehen SAC. Therefore, when the application site is considered in combination with the local plan, LSE is anticipated in relation to the River Ehen SAC.

The River Ehen SAC lies within Copeland and is designated for habitats and species that are vulnerable to changes in water quality. Deliverable/Developable SHLAA sites have been identified that could lead to LSE on the River Ehen SAC, through reduced water quality. All sites are considered unlikely to lead to LSE alone but could in combination with other developments.

River Ehen SAC lies partly within other local authority boundaries and hence is vulnerable to reduced water quality as a result of increased development outside of Copeland.

River Ehen SAC was screened into Stage 2 AA for water quality and mitigation is proposed as follows;

The risk identified is the proximity of the sites to the watercourses that feed into the SAC or to the SAC itself, and thus the deliverability of these allocations will require project-specific HRA in order to demonstrate avoidance of water pollution.

A statement of pre-app advice has been received from United Utilities (UU) which will be incorporated into the detailed design of the drainage plans, indicating that the proposed drainage is deliverable provided certain measures are included in the detailed drainage plan. The current plans are to connect to the existing drainage network.

Once final discharge quantum has been calculated a statement from UU will be obtained to confirm the above, in order to be able to conclude that the development plan will not lead to LSE on the River Ehen SAC through reduced water quality, both alone and in combination with other plans and projects.

5.1.3 In Combination Summary

- Planning applications within 5 km have been screened out and are not considered to have an LSE in combination.
- The Local Plan HRA has screened in LSE in combination in relation to reduced water quality.

6.0 STAGE 2: APPROPRIATE ASSESSMENT

Table 6 summarises which sites and impact pathways are taken forward to Stage 2: Appropriate Assessment both alone and in-combination.

Table 6: Summary of pathways taken forward to Stage 2 both alone and in-combination

Pathway of effect	River Ehen SAC	
	Project considered alone Stage 2: Appropriate Assessment required	Project considered in-combination with other plans and projects Stage 2: Appropriate Assessment required
Water pollution via surface water drainage (construction and operational phase)	Yes	Yes
Pollution via groundwater seepage (construction only)	Yes	No
Spread of INNS (construction only)	Yes	No
Water abstraction	No	No

As LSE in-combination with other plans has been screened in, therefore Stage 2 will consider the effects upon integrity of River Ehen SAC as a result of this project alone and in-combination as per the above table.

The Stage 1 HRA considers potential for effects of the site alone and in-combination with other relevant plans and projects without mitigation. However, at the HRA Stage 2 Appropriate Assessment (AA) stage any mitigation adopted can be considered in the assessment to avoid or prevent LSEs / effects on the integrity of Natura 2000 / Ramsar sites. The following assessment considers only pathways of effects which could result in causing LSE upon the qualifying features of the River Ehen SAC, as in Table 6 above.

6.1 ASSESSMENT OF IMPACTS: ALONE

The following sections discuss the pathways to LSE taken forward to Stage 2: Appropriate Assessment that could result in adverse effects on the integrity of the European sites identified during Stage 1: Screening.

6.1.1 Pollution via surface water drainage (Construction phase)

Due to the hydrological connectivity of River Ehen SAC to the proposed development site, there is a risk of adversely affecting habitats which support qualifying features of the SAC via polluted surface water run-off.

Water quantity and flow regime can impact freshwater pearl mussels as they bury into the substrate, however as the point at which the River Keekle meets the River Ehen is downstream of the SAC, any change in flow regime as a result of surface water runoff will not alter the flow regime in the section of River Ehen designated as a SAC. However, it is important to mitigate for potential impacts on water quality and the following measures are to be included within the Construction and Environmental Management Plan (CEMP) and will be implemented on site:

- Installation of straw bales at the tow of the bankside habitat adjacent to and downstream (approximately 10m) of the works area associated with this project in order to intercept sediment run-off into the Nor Beck watercourse.
- Installation of silt traps within the channel during installation of headwall.
- All material generated by the vegetation clearance; manhole and headwall construction will be disposed of off-site by the Contractor.
- Debris will not be dropped directly onto the carriageway. The Contractor will provide all necessary pavement protection measures for the duration of the works.
- Any such roads or accesses used by vehicles engaged in the works or any new roads which are part of the works and which are used by traffic will be kept clean and clear of all dirt, mud or other materials dropped by said vehicles at all times. The Contractor will provide, maintain and keep available at all times, equipment as may be necessary to keep such ways clean.
- Design and implementation of an emergency incident strategy.
- Spill kits will be made available at all times (including the risk of spillage from any petrol powered machinery that may be used).
- Signage in contractors' compounds relating to sensitivity of the designated site for nature conservation. The exact location of the compound is yet to be agreed but will be located in close proximity to the works area (and therefore will not result in any direct or indirect effect upon the designated site).
- A waste management strategy will be designed and implemented to prevent the deposition of waste/litter within the water course and/or the designated site.

These measures have been recommended based on a review of the following Pollution Prevention Guidelines (PPG) and Guidance for Pollution Prevention (GPP) which although superseded, are considered to provide useful advice (available from Netregs, undated):

- PPG 1: Understanding your environmental responsibilities – good environmental practices
- PPG 6: Working at construction and demolition sites
- PPG 7: Safe storage – The safe operation of refuelling facilities
- GPP 5: Works and maintenance in or near water
- GPP 21: Pollution incident response planning
- GPP 22: Dealing with spills

It is considered that with these mitigation measures applied, no effect on the integrity of the River Ehen SAC is predicted as a result of pollution due to run-off during construction

6.1.2 Pollution via surface water drainage (Operational phase)

The drainage proposals for surface water are summarised by site below:

Site A: Surface water from the north of Site A is proposed to discharge into the existing culverted Nor Beck at a restricted discharge rate of 55.0 l/s. A manhole will need to be constructed onto the culvert. The eastern area of Site A is to discharge into the open Nor Beck at a restricted rate of 127.4 l/s and a headwall is to be installed and orientated to flow with the watercourse to direct water flow, support and protect the road and the banks from erosive flow and improve drainage efficiency. Surface Water Attenuation areas have been located prior to the final correction in line with good practice. Surface water from proposed car parking is to be treated near the surface through direct infiltration into tanked permeable paved parking bays. Surface water run-off from the service yard will be treated by a petrol interceptor.

Site B: It is proposed that surface water be drained from the northern area of Site B into the existing Nor Beck at a restricted rate of 100.0 l/s and a headwall be installed and orientated with the flow.

Proposed surface water drainage from the southern area of Site B will be discharged into Nor Beck at a restricted flow of 29.6 l/s and a headwall will be installed and orientated with the flow. Surface water from proposed car parking is to be treated near the surface through direct infiltration into tanked permeable paved parking bays. A large Sustainable Urban Drainage System (SuDS) area will be incorporated into the southwest of Site B.

Site C: Surface water from Site C is proposed to discharge into Nor Beck at restricted greenfield discharge rate of 22.4 l/s (based on developable greenfield boundary) and a headwall is to be installed and orientated to flow with the watercourse. Surface Water Attenuation areas have been located prior to the final correction in line with good practice and attenuation is provided in the form of a tank which requires an approximate volume of 520 m². Surface water from proposed car parking is to be treated near the surface through direct infiltration into tanked permeable paved parking bays. Surface water runoff from the service yard will be treated by a petrol interceptor.

A SuDS Management Plan will be provided for each of the sites, which will detail the SuDS elements proposed, maintenance responsibilities and requirements.

As detailed in Section 5.1.2, a statement from United Utilities should be obtained to following the production of detailed drainage design, in order to be able to conclude that the quantum is deliverable and no effect on the integrity of the River Ehen SAC is predicted as a result of this pathway of effect.

6.1.3 Pollution via groundwater seepage (Construction phase)

The Hydrogeological desktop study highlighted that Sites B and C are located on Secondary A aquifers and permeable strata capable of supporting waters at local scale (rather than strategic) and form an important source of base flow into rivers including the River Ehen SAC.

The CEMP control measures listed above will be adopted to protect discharges to water, groundwater or sewer:

- All discharges to groundwater will be following settlement to reduce sediment content and appropriate water treatment prior to discharge under consent.

Providing the measures proposed above are applied, it is considered that there will be no risk of adverse effects on the integrity of River Ehen SAC as a result of polluted ground water reaching the watercourse.

6.1.4 Spread of INNS (Construction phase)

In the absence of mitigation, it is possible that the Nor Beck may act as a vector for the spread of invasive plant species downstream into River Ehen SAC, particularly during site development. This could in turn degrade the supporting habitats which support the qualifying species of the Natura 2000 site.

It is a legal offence to spread INNS or otherwise cause these species to grow in the wild. New Japanese knotweed plants can develop from small fragments of rhizomes and wall cotoneaster spreads via seed. Rhizomes and seeds can extend within soils several metres from visible stands of plant growth, up to 7m in the case of Japanese knotweed.

An Ecological Mitigation Plan (EMP) (or similar) must be produced detailing that the INNS will be removed in accordance with Environment Agency's 'Knotweed Code of Practice'² or as otherwise directed by the suitably qualified, specialist contractor.

The preferred method for INNS control during construction on this project will be detailed in a Method Statement (with Works Schedule) and be carried out by a suitable qualified, specialist contractor, in line with manufacturer instructions.

During the operational phase of the development there is the potential for invasive species to become established on site and / or to spread to habitats off-site via the Nor Beck.

The EMP for the site will detail INNS eradication and as such INNS on site will have been treated using herbicide or by other means prior to operation.

Providing the measures proposed above are applied, it is considered that there will be no risk of adverse effects on the integrity of the River Ehen SAC from the spread of invasive species.

It is considered that with the above mitigation measures applied, no effect on the integrity of the River Ehen SAC is anticipated as a result of spread of invasive plant species.

² Primarily: Environment Agency (2013) 'Managing Japanese Knotweed on Development Sites: The Knotweed Code of Practice', 3rd Edition

7.0 CONCLUSION

Table 7: Summary of Stage 2 – Appropriate Assessment

Pathway of effect	LSE Alone	LSE in Combination	Mitigation Required	HRA Stage 3 / 4 needed
Construction				
Pollution via surface water runoff	Yes	Yes	Yes - Measures proposed and detailed within CEMP and EMP. Statement required from UU to confirm no effect.	No
Water Pollution via groundwater	Yes	No	Yes - Measures proposed and detailed within CEMP	No
Spread of Invasive Species	Yes	No	Yes - Invasive species to be eradicated prior to construction as per EMP	No
Operation				
Pollution via surface water runoff	Yes	Yes	Statement from UU required.	No
Spread of Invasive Species	Yes	No	EMP for the site to include treatment for invasive species and management to be adhered to at all times.	No

With mitigation, a LSE both alone and in combination, could be ruled out for all pathways of effect.

As such, the 'Competent Authority', in consultation with Natural England is considered unlikely to require any further assessment under the Habitats Regulations, and the proposed development should be able to proceed without any adverse effects on the integrity of the River Ehen SAC.

The Stage 2: Appropriate Assessment found that with the application of mitigation for all pathways to LSE during construction and operation alone and in-combination, there would be no impact on the integrity of any European site.

As such, it is considered that the 'Competent Authority' can permit the proposed development and does not require Stage 3 or Stage 4 assessments to be undertaken

8.0 REFERENCES

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- WYG (2020) Leconfield Industrial Estate: Ecological Appraisal. On behalf of Copeland Borough Council. Ref: A114312.

FIGURES

Figure 1 – Site Location Plan

Figure 2 – Natura 2000 designated sites within 5 km



Site Location Plan
CLEATOR MOOR INNOVATION QUARTER

Copeland Borough Council

Legend

Site boundary



Notes:

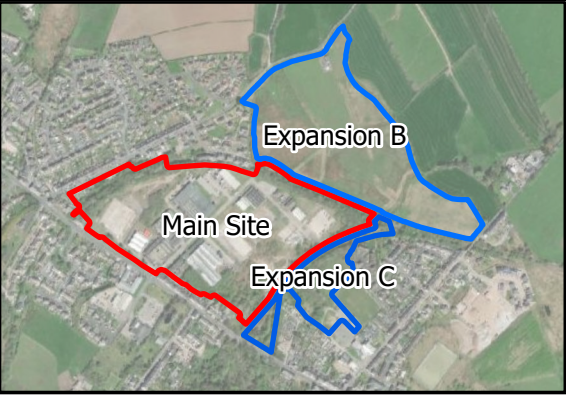
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Office: Southampton

Figure No. 1
Revision No. A

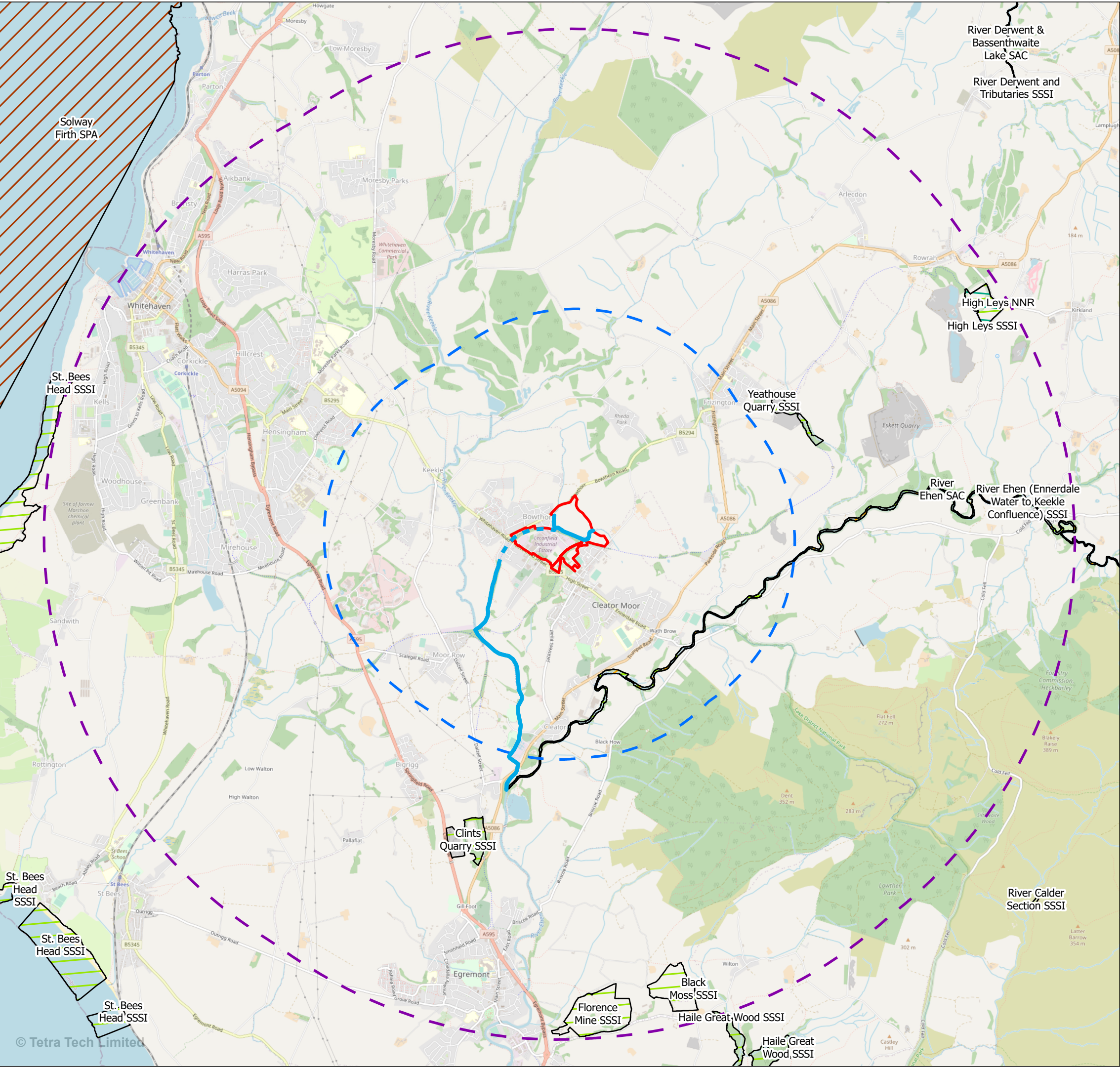
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21 October 2021
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Designated Sites Plan

CLEATOR MOOR INNOVATION QUARTER

Copeland Borough Council

- Site boundary
- 2km Site buffer
- 5km Site buffer
- Special Protection Areas (SPA)
- Special Areas of Conservation (SAC)
- Sites of Special Scientific Interest (SSSI)
- National Nature Reserves (NNR)
- Waterway link to River Ehen

Notes:

Drawn by: MS
Checked by: LB
Office: Southampton

Figure No. 2
Revision No. A

0 500 1,000 1,500 2,000 Meters 16 December 2021
Scale 1:40,000 @A3
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APPENDIX A – REPORT CONDITIONS

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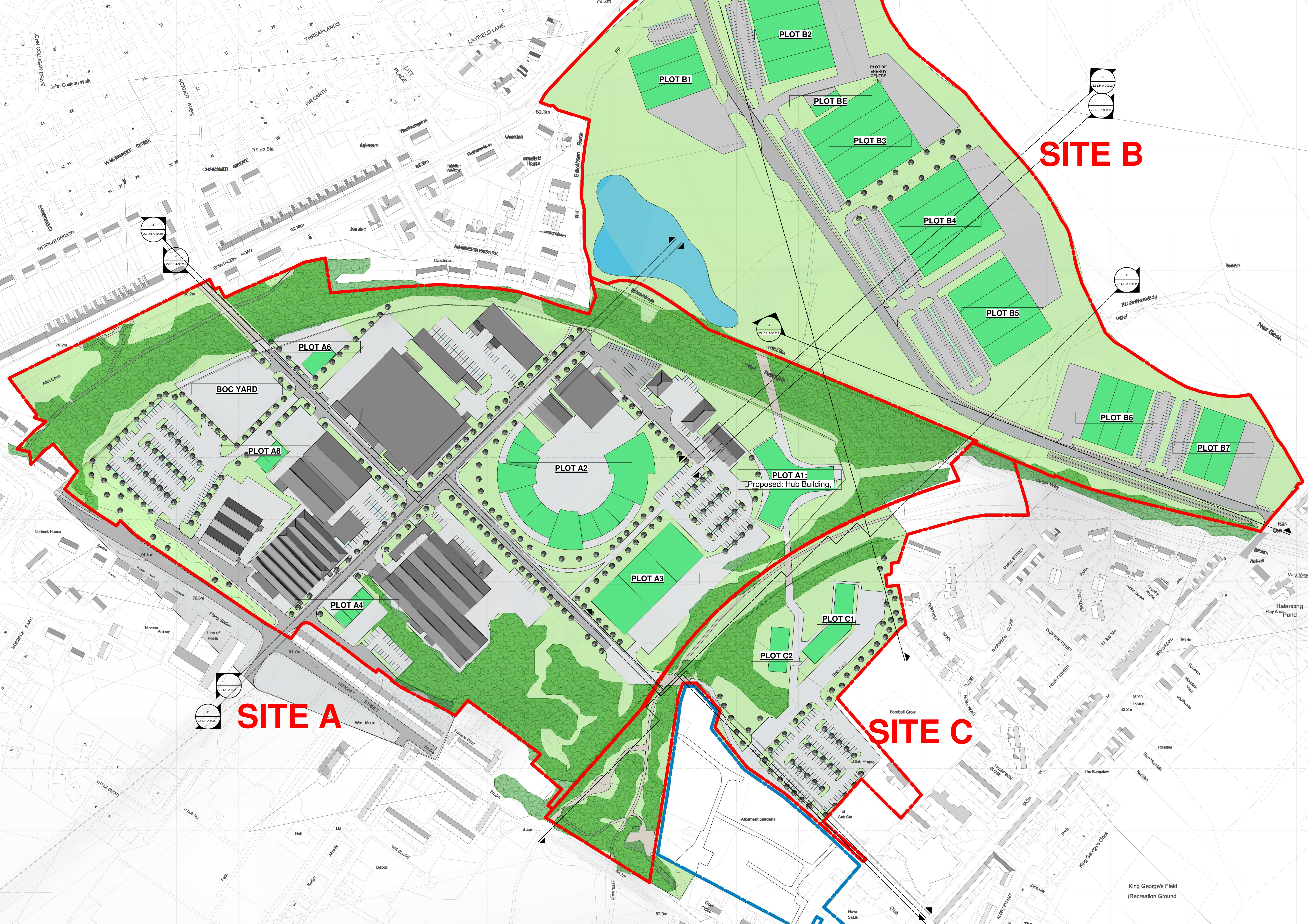
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The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections’. Environmental conditions can vary, and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete, or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The “shelf life” of the Report will be determined by a number of factors including; its original purpose, the Client’s instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Tetra Tech accept no liability for issues with performance arising from such factors.

APPENDIX B – PROPOSED SITE PLAN (DRAWING REF: ZZ-DR-A-90004_SITE PLAN PROPOSED – LABELLED



SITE B

SITE A

SITE C

PLOT B1

PLOT B2

PLOT BE

PLOT B3

PLOT B4

PLOT B5

PLOT B6

PLOT B7

PLOT A6

BOC YARD

PLOT A8

PLOT A2

PLOT A1:
Proposed: Hub Building.

PLOT A3

PLOT A4

PLOT C1

PLOT C2

King George's Field
(Recreation Ground)