

# Habitats Regulations Assessment

Atlantic Wharf

August 2021

# Habitats Regulations Assessment

Atlantic Wharf

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## Non-technical Summary

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Phlorum Ltd was commissioned by Turner and Townsend to undertake a Habitats Regulations Assessment (HRA) which was carried out on the land near Atlantic Wharf, Cardiff, in order to determine if there will likely be an impact on the Severn Estuary RAMSAR, Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protection Area (SPA), and European Marine Site (EMS) which forms part of a National Site Network.

Current proposals are for a large urban area to undergo a contemporary transformation which will include a new arena and residential, transport and retail areas.

This HRA document comprises of 'Stage 1 – Screening' but not 'Stage 2 – Appropriate Assessment', which recommends potential mitigation measures.




The main findings of this report are as follows:

- 🌿 The closest statutory designated site is the Cardiff Bay Wetlands and Hamadryad Park Local Nature Reserve (LNR). Following this is the Severn Estuary is designated as: RAMSAR, Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protection Area (SPA), and European Marine Site (EMS);
- 🌿 The Severn Estuary's supports rich wildlife and diversity is recognised internationally and protected by international law. Its saltmarshes and mudflats are used by an average 74,000 birds each winter and its water supports invertebrates, more than 100 fish species and serves as an essential fish migration route;
- 🌿 Qualifying habitats included: Estuary (Annex I), Subtidal sandbanks (Annex I), Intertidal Mud and Sand (Annex I), Atlantic salt meadow / salt marshes (Annex I), Reefs (Annex I), Hard substrate habitats (Rocky shores) and Freshwater grazing marsh / Neutral grassland;
- 🌿 Qualifying fish species included: River lamprey (Annex II), Sea lamprey (Annex II), Twaite shad (Annex II), Salmon, Sea trout, Allis shad, Eel and Assemblage of fish species (>100 species);
- 🌿 Qualifying Bird Species include: Bewick's Swan (Annex I) and 'Internationally Important populations of regularly occurring migratory birds' European white-fronted goose, Dunlin, Redshank, Shelduck and Gadwall;
- 🌿 The main potential impacts on the Severn Estuary are construction activities and increased human activity at the site;
- 🌿 It is understood that mitigations include but not limited to a CEMP, surface water run-off scheme and licence requirement for foul discharge;
- 🌿 Recommendations include CEMP inclusions and management and maintenance of roads and pipes; and

-  The impacts and mitigations from the proposed development have been considered and it is concluded that the proposal is likely to have no significant effect on the Severn Estuary.

# 1. Introduction

## Background

- 1.1 Phlorum Limited was commissioned by Turner & Townsend to undertake a Habitat Regulations Assessment (HRA), to assess the impact of the proposed development on the Severn Estuary RAMSAR, Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protection Area (SPA), and European Marine Site (EMS) which is located 1.6km south-east of the proposed development site. Current proposals are for a large urban area to undergo a contemporary transformation which will include a new arena, hotel and residential, transport and retail areas. The proposed development is to take place at the area to the south of Atlantic Wharf (hereafter referred to as “the site”).
- 1.2 This document follows on from the earlier reports carried out for the site. These previous reports include:
  -  Mott MacDonald (2020) Bat Survey Report, *Unpublished report for the Land Near Atlantic Wharf.*
  -  Mott MacDonald (2020) Preliminary Ecological Appraisal Report. *Unpublished report for the Land Near Atlantic Wharf.*
  -  Phlorum (2021) Preliminary Ecological Appraisal, *Unpublished report for the Land Near Atlantic Wharf.*
- 1.3 The site location map is provided in Appendix A, including the redline boundary and location of the Severn Estuary.
- 1.4 The layout of the proposed development can be found in Appendix B.
- 1.5 Certain species of plants and habitats are protected under the European Union (EU) Nature Directives (2015), which includes the EC Birds Directive and Habitats Directive. At the heart of both these Directives in the European Union (EU) is the creation of a network of sites called Natura 2000.
- 1.6 However, since the United Kingdom (UK) left the EU, the UK sites no longer form part of the EU’s Natura 2000 ecological network. As a result, the UK issued, The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, referred to as the 2019 Regulations. The 2019 Regulations have made changes to the Conservation of Habitats and Species Regulations 2017 (as amended) and created a National Site Network (NSN) on land and at sea. Any references to Natura 2000 in the 2017 Regulations, and in guidance, now refers to the new NSN (DEFRA, 2021). The 2017 Regulations cover England and Wales including their inshore waters up to 12 nautical miles (nm).

- 1.7 The Habitat Directive requires Special Areas of Conservation<sup>1</sup> (SACs) to be designated for species, and for habitats. Together with SPAs (Special Protection Areas), SACs make up the UKs NSN. The NSN includes existing SACs and SPAs, and any new SCAs or SPAs designated under these 2017 Regulations. If any proposed scheme is considered likely to impact on an area within the NSN then under Conservation of Habitats and Species Regulations 2017 (as amended), the scheme will require a Habitats Regulations Assessment (HRA) in order to identify and assess possible impacts from the proposed works on the designated areas and /or qualifying species.
- 1.8 Designated wetland of international importance, known as RAMSAR sites, do not form part of the National Site Network. However, many RAMSAR sites overlap with SACs and SPAs, and may be designated for the same or different species and habitats.
- 1.9 The process of a HRA involves 'Stage 1 – Screening' followed by 'Stage 2 – Appropriate Assessment' if the proposals are considered likely to have a significant impact on a NSN designated site, or designated (qualifying) species.
- 1.10 Designated wetland of international importance, known as RAMSAR sites, do not form part of the National Site Network. However, many RAMSAR sites overlap with SACs and SPAs, and may be designated for the same or different species and habitats.
- 1.11 The site is approximately 1.6km north-west of the Severn Estuary. The site is currently predominantly hardstanding carparks/roads with areas of amenity grassland, trees, introduced shrubs and water body. As the site is within the Impact Risk Zone (IRZ) for Severn Estuary, a HRA is required to assess the impact of the site on the RAMSAR, SSSI, SAC, SPA, and EMS.
- 1.12 The site boundary is illustrated in Appendix A and layout of the proposed development are included in Appendix B.

## Site Overview

- 1.13 The proposed planning is separated in to three boundaries of development. This includes the arena boundary, the hybrid boundary and the masterplan boundary which increase in size, respectively. This HRA is in reference to the largest boundary, the masterplan area which extends over approximately 22 hectares (ha).
- 1.14 The site is located in between Cardiff City Centre and Cardiff Bay. In a rough rectangular shape, the site stretches southwards from the southern area of the Atlantic Wharf and stops in an arcing shape around the Wales Millennium Centre.
- 1.15 The National Grid Reference for the centre of the site is ST 19333 74974. The site area extends over approximately 22 hectares (ha).

- 1.16 Mott MacDonald carried out a Preliminary Ecological Appraisal (PEA) in 2020 and subsequent bat survey report also in 2020. Phlorum Limited have since carried out an updated PEA to cover the masterplan boundary of the site (Phlorum, 2021). As part of the updated PEA a desktop review, consultations and a site visit were carried out. The results of which were used to assess the nature conservation importance of the site and the potential of the site to support protected species. The results from the PEA have been used to inform the HRA.

## Severn Estuary Special Protection Area RAMSAR, SSSI, SAC, SPA and EMS

- 1.17 The following table shows the range of nature conservation features for which Severn Estuary is valued and the interrelationship of these features by designation. This table outlines features of European and International importance in their own right and others of national importance for which the Severn Estuary has been designated as a Site of Special Scientific Interest (SSSI) but which form an intrinsic part of the Severn ecosystem and therefore contribute to the overarching “estuary” feature of the SAC and SPA.

**Table 1.1: Qualifying habitats under the Habitats Directives, the Convention on Wetlands of International Importance and SSSIs.**

Habitat	SAC	SPA	RAMSAR	SSSI
<b>Estuary (Annex I)</b>	Yes	Supporting habitat to designated bird interests	Yes	Yes
<b>Subtidal sandbanks (Annex I)</b>	Yes	No – outside boundary of SPA	No – outside boundary of Ramsar Site	No - outside SSSI boundary
<b>Intertidal Mud and Sand (Annex I)</b>	Yes	Supporting habitats to designated bird interests	Components of Ramsar “estuaries” feature and supporting habitat to designated bird interests	Yes
<b>Atlantic salt meadow / salt marshes (Annex I)</b>	Yes	No		Yes
<b>Reefs (Annex I)</b>	Yes	No	Intertidal Sabellaria contiguous with subtidal reefs is a component of the hard substrates subfeature of the Ramsar “estuaries” feature	No - outside SSSI boundary



<b>Hard substrate habitats (Rocky shores)</b>	Notable species sub-feature of estuary feature	Supporting habitat to designated bird interests	Component of Ramsar "estuaries" feature and supporting habitat to designated bird interests	Yes
<b>Freshwater grazing marsh / Neutral grassland</b>	No	Supporting habitat to designated bird interests within SPA but outside EMSs		Yes (currently England only)

*\*This table is adapted from the Natural England and Countryside Council for Wales' advice given under Regulation 33(2)(a) of the Conservation of Habitats and Species Regulations 2017 (as amended).*

- 1.18 The following table shows the qualifying species for the Severn Estuary in relation to SAC, SPA and RAMSAR

**Table 1.2: Qualifying Fish Species under the Habitats Directives and the Convention on Wetlands of International Importance.**

Fish	Species	SAC	SPA	RAMSAR
<b>River lamprey (Annex II)</b>	<i>Lampetra fluviatilis</i>	Yes		Yes
<b>Sea lamprey (Annex II)</b>	<i>Petromyzon marinus</i>	Yes		Yes
<b>Twaite shad (Annex II)</b>	<i>Alosa fallax</i>	Yes		Yes
<b>Salmon</b>	<i>Salmo salar</i> ,			Yes
<b>Sea trout</b>	<i>S. trutta</i> ,			Yes
<b>Allis shad</b>	<i>Alosa alosa</i> ,			Yes
<b>Eel</b>	<i>Anguilla anguilla</i> .			Yes
<b>Assemblage of fish species (&gt;100 species)</b>		Notable species sub-feature of estuary feature	No	Notable species sub-feature of estuary feature

*\*This table is adapted from the Natural England and Countryside Council for Wales' advice given under Regulation 33(2)(a) of the Conservation of Habitats and Species Regulations 2017 (as amended)*

**Table 1.3: Annex I and migratory bird species recorded on the Register and Citation for Severn Estuary**

Annex I species	Count	Period	% population
<b>Bewick's swan (<i>Cygnus columbianus bewickii</i>)</b>	289	5 yr peak mean :1988/9 to 1992/3	4.1% Great Britain 1.7% NW Europe

Internationally Important populations of regularly occurring migratory bird species	Count	Period	% population
European white-fronted goose ( <i>Anser albifrons albifrons</i> )	3,002	5 yr peak mean :1988/9 to 1992/3	50% British, 1% North West Europe
Dunlin ( <i>Calidris alpina alpina</i> )	41,683	5 yr peak mean :1988/9 to 1992/3	2.9% East Atlantic flyway
Redshank ( <i>Tringa tetanus</i> )	2,013	5 yr peak mean :1988/9 to 1992/3	1.3% East Atlantic flyway
Shelduck ( <i>Tadorna tadorna</i> )	2,892	5 yr peak mean :1988/9 to 1992/3	1.2% North West Europe
Gadwall ( <i>Anas strepera</i> )	330	5 yr peak mean :1988/9 to 1992/3	2.8% NW Europe
An internationally important assemblage of waterfowl	Count	Period	% population
Wigeon ( <i>Anas penelope</i> )	3,977	5 yr peak mean :1988/9 to 1992/3	1.6% Great Britain
Teal ( <i>Anas crecca</i> )	1,998	5 yr peak mean :1988/9 to 1992/3	2.0% Great Britain
Pintail ( <i>Anas acuta</i> )	523	5 yr peak mean :1988/9 to 1992/3	2.1% Great Britain
Pochard ( <i>Aythya farina</i> )	1,686	5 yr peak mean :1988/9 to 1992/3	3.8% Great Britain
Tufted duck ( <i>Aythya fuligula</i> )	913	5 yr peak mean :1988/9 to 1992/3	1.5% Great Britain
Ringed plover ( <i>Charadrius hiaticula</i> )	227	5 yr peak mean :1988/9 to 1992/3	1.0% Great Britain
Grey plover ( <i>Pluvialis squatarola</i> )	781	5 yr peak mean :1988/9 to 1992/3	3.7% Great Britain
Curlew ( <i>Numenius arquata</i> )	3,096	5 yr peak mean :1988/9 to 1992/3	3.4% Great Britain
Whimbrel ( <i>Numenius phaeopus</i> )	246	5 yr peak mean :1988/9 to 1992/3	4.9% Great Britain
Spotted redshank ( <i>Tringa erythropus</i> )	3	5 yr peak mean :1988/9 to 1992/3	1.5% Great Britain

\*This table is adapted from the Natural England and Countryside Council for Wales' advice given under Regulation 33(2)(a) of the Conservation of Habitats and Species Regulations 2017 (as amended).

## 2. Stage 1 - Screening

### Overview

- 2.1 The aim of the screening stage is to examine the likely effects of the project, upon the National Site Network sites and consider whether it can be objectively concluded that these effects will not be significant.
- 2.2 This HRA has been undertaken in respect to the proposed development work at the site which involves the contemporary transformation of a large urban area which will include a new arena and residential, transport and retail areas. The works are separated in to five stages and expect to finish in 2030. Works will be confined to the masterplan site boundary which is illustrated in the map in Appendix A.
- 2.3 The proposed works will not directly impact on any adjacent habitats including qualifying habitats within the Severn Estuary. Proposed works will not have any long-term damaging effects on any adjacent habitats. The works will include but are not limited to removing vegetation, demolishing buildings, ground works and construction which will include the conversion of parts of the Bute East Dock waterbody into a terrestrial habitat.
- 2.4 Qualifying species for the Severn Estuary comprise fish and bird species. The Severn Estuary is an important habitat for the Annex II fish species listed in table 2 and is used as a vital migratory route for these fish. It is considered that the arena boundary does not fall within the Severn Estuary Impact Risk Zone (IRZ) however the southern area of the masterplan site boundary is within the IRZ.
- 2.5 Bute East Dock was originally served as a port as part of the Severn Estuary. In 1830 a feeder canal was constructed from the River Taff, in effort to provide a constant supply of fresh water to the dock to keep the entrance channel clear. Following the docks closure in 1970, the basin has since become a popular fishery for 'urban carp fishing' and stocks species including but not limited to Pike (*Esox lucius*), Tench (*Tinca tinca*), carp (*Carassius carassius*), Bream (*Abramis brama*), Roach (*Rutilus rutilus*), Rudd (*Scardinius erythrophthalmus*), Perch (*Perca fluviatilis*) and Eels (*Anguilla anguilla*).
- 2.6 The most recent PEA (Phlorum, 2021) identified the habitats: building, amenity grassland, hardstanding, introduced shrubs, scattered trees, scrub, water body and broad leaved woodland and protected species which will be potentially impacted included bats, birds, hedgehogs and otters.

## Existing Baseline Data

- 2.7 Data on qualifying species and habitats for Severn Estuary have been obtained from Natural England, Countryside Council for Wales, Welsh Assembly Government and Natura 2000 (Natura 2000 has now been replaced by NSN in the UK, but Natura 2000 records have been used as reference). As part of the desk study for the Preliminary Ecological Appraisal a data search was commissioned from South-East Wales Biodiversity Records Centre (SEWBRc). As seen in Drawing 1 below, the data search was carried out up to a 2km radius from the site.



Drawing 1. 2km data search from the site.

- 2.8 A total of 1,1538 records for birds were returned. Five of these were for the Annex I species, Bewick's Swan (*Cygnus columbianus bewickii*) which were last seen in 1987 on Cardiff Flats (area can be seen in Drawing 1). No Bewick's Swan have been observed on site. The only qualifying bird species which is classed as 'Internationally Important populations of regularly occurring migratory bird' which was returned by the 2km data search was the European white-fronted goose (*Anser albifrons albifrons*) which was last seen in 1995 almost 2km away, in Cardiff Bay. None of the remaining 'Internationally Important populations of regularly occurring migratory bird species' including Dunlin (*Calidris alpina alpina*), Redshank (*Tringa tetanus*), Shelduck (*Tadorna tadorna*), and Gadwall (*Anas strepera*) were returned in the data search.
- 2.9 No fish species were returned by the data search from SEWBRc.

## Project Information

- 2.10 The table below provides a summary of the project and includes information on the National Site Networks sites that may be affected by the proposed development.

**Table 2.1: Project Summary** (data from *Seven Estuary Special Area of Conservation (SAC) Citation*. (Natural England) (2009), *Seven Estuary Special Protection Area (SPA) Citation*. (Secretary of state for the Environment) (1993), *Seven Estuary: Standard Data Form (SAC, SPA)*. (JNCC and DEFRA (2015); *European Site Conservation Objectives for Seven Estuary Special Area of Conservation* Natural England (2018); *European Site Conservation Objectives for Seven Estuary Special Protection Area* Natural England (2019); and Site improvement Plan Seven Estuary (2015).

Name of Project	Atlantic Wharf
Project reference	New Arena and modernisation of an urban area.
Name and location of National Site Network (NSN) designated site which may be impacted by the Scheme	<p>Severn Estuary SAC (UK0013030) and SPA (UK9015022), 16.km to the south east.</p> <p>It is considered that the masterplan site boundary is within the Impact Risk Zone of the NSN designated SPA and SAC,. The site is also designated as a RAMSAR and EMS.</p>
NSN designated site's qualifying features (data from JNCC)	<p><u>Seven Estuary SAC qualifying species:</u></p> <ul style="list-style-type: none"> <li>• Estuaries</li> <li>• Sandbanks which are slightly covered by sea water all the time; substantial sandbanks</li> <li>• Mudflats and sandbanks not covered by seawater at low tide; Intertidal mudflats and sandflats</li> <li>• Reefs</li> <li>• Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>); Atlantic salt meadows</li> <li>• Sea lamprey (<i>Petromyzon marinus</i>)</li> <li>• River Lamprey (<i>Lampetra fluviatilis</i>)</li> <li>• Twaite shad (<i>Alosa fallax</i>)</li> </ul> <p><u>Seven Estuary SPA qualifying species:</u></p> <ul style="list-style-type: none"> <li>• Bewick's swan (<i>Cygnus columbianus bewickii</i>) – non breeding</li> <li>• Common shelduck (<i>Tadorna tadorna</i>) – non breeding</li> </ul>

	<ul style="list-style-type: none"> <li>• Gadwell (<i>Anas strepera</i>) – non breeding</li> <li>• Dunlin (<i>Calidris alpina alpina</i>) – non breeding</li> <li>• Common redshank (<i>Tringa tetanus</i>) – non breeding</li> <li>• Greater white-fronted goose (<i>Anser albifrons albifrons</i>) – non breeding</li> <li>• Water bird assemblage.</li> </ul> <p><u>General site character from the Standard data form for the Seven Estuary SAC and SPA</u></p> <ul style="list-style-type: none"> <li>• Allis shad (<i>Alosa alosa</i>)</li> <li>• tidal river, estuaries, mud flats, sand flats, lagoons (including saltwork basins)</li> <li>• Salt marshes, salt pastures, salt steppes.</li> <li>• Sandbanks which are slightly covered in water all of the time for which this area is considered to support a significant presence</li> <li>• Estuaries for which this is considered to be one of the best areas in the UK.</li> <li>• Mudflats and sandflats not covered by seawater at low tide for which this is considered to be one of the best in the UK.</li> <li>• Reefs, considered to support a significant presence</li> <li>• One of the best areas in the UK for Atlantic salt meadows.</li> <li>• Considered one of the best places in the UK for Sea lamprey (<i>Petromyzon marinus</i>), River Lamprey (<i>Lampetra fluviatilis</i>), and Twaite shad (<i>Alosa fallax</i>)</li> </ul>
<p><b>NSN designated site's conservation objectives (Natural England and CCW)</b></p>	<p><u>Seven Estuary SAC objectives:</u></p> <p>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:</p> <ul style="list-style-type: none"> <li>• The extent and distribution of qualifying natural habitats and habitats of qualifying species;</li> </ul>



	<ul style="list-style-type: none"> <li>• The structure and function (including typical species) of qualifying natural habitats;</li> <li>• The structure and function of the habitats of qualifying species;</li> <li>• The supporting processes on which qualifying natural habitats and the habitats of the qualifying species rely;</li> <li>• The population of qualifying species; and</li> <li>• The distribution of qualifying species within the site.</li> </ul> <p><u>Seven Estuary SPA objectives:</u> Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:</p> <ul style="list-style-type: none"> <li>• The extent and distribution of the habitats of the qualifying features;</li> <li>• The structure and function of the habitats of the qualifying features;</li> <li>• The supporting processes on which the habitats of the qualifying features rely;</li> <li>• The population of each of the qualifying features; and</li> <li>• The distribution of qualifying features within the site.</li> </ul>
<p><b>NSN designated site's key environmental conditions</b></p>	<p><u>Estuaries' feature</u></p> <ul style="list-style-type: none"> <li>• the total extent of the estuary is maintained</li> <li>• the characteristic physical form (tidal prism/cross sectional area) and flow (tidal regime) of the estuary is maintained</li> <li>• the characteristic range and relative proportions of sediment sizes and sediment budget within the site is maintained</li> <li>• the extent, variety and spatial distribution of estuarine habitat communities within the site is maintained</li> </ul>

	<ul style="list-style-type: none"> <li>• the extent, variety, spatial distribution and community composition of hard substrate habitats and their notable communities is maintained</li> <li>• the abundance of the notable estuarine species assemblages is maintained or increased;</li> <li>• the physio-chemical characteristics of the water column support the ecological objectives described above</li> <li>• Toxic contaminants in water column and sediment are below levels which would pose a risk to the ecological objectives described above</li> </ul> <p><u>'Assemblage of migratory fish species' feature</u></p> <ul style="list-style-type: none"> <li>• the migratory passage of both adults and juveniles of the assemblage of migratory fish species through the Severn Estuary between the Bristol Channel and any of their spawning rivers is not obstructed or impeded by physical barriers, changes in flows, or poor water quality</li> <li>• assemblage species within the estuary, is maintained.</li> <li>• Toxic contaminants in the water column and sediment are below levels which would pose a risk to the ecological objectives described above.</li> </ul>
<p><b>NSN designated site's vulnerabilities</b></p>	<p><u>The Seven Estuary SAC and SPA vulnerabilities (standard data form):</u></p> <ul style="list-style-type: none"> <li>• Human induced changes in hydraulic conditions</li> <li>• Changes in abiotic conditions</li> <li>• Modification of cultivation practices</li> <li>• Other urbanisation, industrial and similar activities</li> <li>• Outdoor sports and leisure activities, recreational activities</li> </ul> <p><u>The Seven Estuary Improvement Plan:</u></p>



	<ul style="list-style-type: none"> <li>• Public access /disturbance – pressure</li> <li>• Physical modification – threat</li> <li>• Impacts of development – pressure/threat</li> <li>• Coastal squeeze – pressure/threat</li> <li>• Change in land management – pressure/threat</li> <li>• Change sin species distribution – threat</li> <li>• Water pollution – pressure/threat</li> <li>• Air pollution, impacts of atmospheric nitrogen deposition – pressure</li> <li>• Marine consents and permits, minerals and waste – pressure/threat</li> <li>• Fisheries, recreational marine and estuarine – pressure</li> <li>• Fisheries, commercial marine and estuarine – threat</li> <li>• Invasive species – threat</li> <li>• Marine litter – pressure/threat</li> <li>• Marine pollution incidents – threat</li> </ul>
Is the proposal 'directly connected with' or 'necessary to the management of the Sites for conservation of the NSN	<p>No. The proposals are limited to onsite habitats and common within the surrounding landscape. Severn Estuary is designated for its marine qualifying habitats and species which are predominantly marine based. The proposals are not considered to have a direct impact on the designated site and its habitats and species</p> <p>Surface water runoff during the construction phase is expected to mitigated through a strict construction management plan.</p>

2.11 A detailed description of the proposed development is provided in the table below. Information provided includes; size and scale; distance from Severn Estuary and associated qualifying features.

**Table 2.2: Project Outline**

### Project Outline of Atlantic Wharf

### **Overview**

- Proposals involve a large urban area to undergo a contemporary transformation which will include a new arena and residential, transport and retail areas
- The current proposed layout of the site is shown in Appendix B

### **Size and Scale**

- The size of the site is approximately 22 ha
- Works will include and are not limited to site clearance, demolition, ground works and construction
- Development will be over five phases and is expected to finish in 2030
- No works will be undertaken within any of the National Site Network's sites or any other designated site

### **Distance from NSN Designated Site or Associated Qualifying Features**

#### **Seven Estuary SAC and SPA**

- The Severn Estuary is located 1.6km south-east of the site.
- No qualifying bird species have been recorded on site. A lack of data in a biological data search does not mean the species are not there. However, the site is currently terrestrial and the qualifying birds are mainly water birds.
- No qualifying fish species have been recorded on site. A lack of data in a biological data search does not mean the species are not there. However, the site is currently terrestrial so there are no fish on site.

### **Land-take**

- Works will be confined to areas within the Masterplan site boundary.
- The proposed development will result in significant modifications or changes to the habitats recorded on site during the Preliminary Ecological Appraisal (Phlorum, 2021).
- Proposed activities will not result in the disturbance or removal of any adjacent habitats.

### **Individual Elements of the Project Likely to Give Rise to Impacts on the NSN Designated Site (Severn Estuary SAC, SPA)**

- Earthworks
- Demolition activities

- Construction of impermeable surfaces
- Soil stripping and vegetation removal
- Soil compaction
- Construction of sub surface infrastructure
- Use of concrete and cement
- Alteration of existing drainage regime
- Vehicle Movement
- Wastewater drainage
- Foul discharge
- Road conditions
- Drainage and sewage pipe malfunctions
- Use of vehicles and their associated spills
- Salt spreading

## Significance of Impacts

2.12 The next step of the screening stage is to assess the significance of the impacts identified in Table 2.2. These are addressed in the next table.

**Table 2.3: Significance of Effects**

Describe any likely direct or indirect effects to the NSN features, arising as a result of:	Is the Effect Significant/Not Significant? Why?
Loss of site	<p>The site is large in nature and comprises of building, amenity grassland, hardstanding, introduced shrubs, scattered trees, scrub and water body and broad leaved woodland which is typical within the surrounding landscape.</p> <p><b>Loss of Site is Not Significant.</b></p>

Describe any likely direct or indirect effects to the NSN features, arising as a result of:	Is the Effect Significant/Not Significant? Why?
Reduction in habitats	<p>It is considered that the above-mentioned habitats are of minimal importance to the qualifying species.</p> <p>Proposals are aiming to increase the sites biological net gain but will not provide any change in habitats suitable for the qualifying species.</p> <p><b>Reduction in Habitats is Not Significant.</b></p>
Changes in habitats and disruption	<p><i>Changes in Habitat</i></p> <p>The development will change and add/remove the habitats present which will not have any impact on the qualifying species.</p> <p><b>Changes in Habitats is Not Significant.</b></p> <p><u>Disruption</u></p> <p><i>Water Quality</i></p> <p>Surface water runoff during the construction phase may enter the watercourse and ultimately be discharged into the Severn Estuary.</p> <p>For construction phase it is understood a detailed CEMP will be issued which will address any impacts caused through each stage of construction.</p> <p>For operational phase it is anticipated that surface water run-off will include a sustainable drainage system (SuDS) and will be controlled and directed through a surface water drainage scheme. In addition, any foul discharge will require a licence.</p> <p><b>Disruption is Not significant.</b></p> <p><i>General Disturbance</i></p> <p>Due to the large scale project, it is considered that high levels of construction</p>

Describe any likely direct or indirect effects to the NSN features, arising as a result of:	Is the Effect Significant/Not Significant? Why?
	<p>activity will be taking place across the phases. The activity at the site is not considered to pose any impacts on the qualifying habitats and species.</p> <p><b>General Disturbance is Not Significant</b></p>

## In-Combination Effects

- 2.13 The next stage in the screening assessment takes into account other plans or projects that have potential to cause significant effects to the NSN sites when considered in conjunction with the currently proposed project.
- 2.14 The Severn Estuary covers a large area and development within the local area is common as it is close to Cardiff City Centre. With consideration to the area and the likely surrounding development of hotels, retail and residential properties we have listed five examples of development near the site as the combination of effects are likely to be similar across all similar projects. These can be found in the following table:

**Table 2.4: Assessment of Other Plans or Projects**

Provide details of any other projects or plans that together with the project or plan being assessed could (directly or indirectly) affect the Severn Estuary	Provide details of any likely in-combination effects and quantify their significance.
<b>16/00660/MJR</b> The Wharf, Schooner Way, Atlantic Wharf: Mixed use residential development of 180 dwellings with A1 (retail) and A3 (food and drink) use to ground floor and associated works.	A similar development and likely to have similar potential impacts and effects on the Severn Estuary. Assuming the correct mitigations are mirrored the impacts are likely to be <b>not significant</b> .
<b>17/01292/MJR</b> Land at Suffolk House, Trade Street, Butetown: Outline planning permission for the demolition of existing buildings and re-development of the site for new student residential accommodation.	A similar development and likely to have similar potential impacts and effects on the Severn Estuary. Assuming the correct mitigations are mirrored the impacts are likely to be <b>not significant</b> .
<b>17/01906/MJR</b> Custom House, Custom House Street and former York Hotel, City Centre: Redevelopment of the site to provide a 248-bed hotel (class C1) and	A similar development and likely to have similar potential impacts and effects on the Severn Estuary.

ancillary restaurant (class A3), including partial demolition of Custom House, retention and restoration of the Custom House Façade, demolition of the former York Hotel and associated access, parking and ancillary works.	Assuming the correct mitigations are mirrored the impacts are likely to be <b>not significant</b> .
<b>17/01300/MJR</b> East Bay Close, Atlantic Wharf: Erection of student block to form 711 No student rooms and ancillary accommodation plus landscaping and car parking.	A similar development and likely to have similar potential impacts and effects on the Severn Estuary. Assuming the correct mitigations are mirrored the impacts are likely to be <b>not significant</b> .
<b>17/02615/MJR</b> Land on the north and south side of John Street, Callaghan Square, Butetown: Hybrid application comprising of full application for the proposed mixed use commercial building on the south site No. 1 John Street outline application proposed mixed use commercial & leisure hotel for the north site No. 2 John Street including associated parkin, public realm and landscape works	A similar development and likely to have similar potential impacts and effects on the Severn Estuary. Assuming the correct mitigations are mirrored the impacts are likely to be <b>not significant</b> .

**Table 2.5: Potential Effects on the NSN Designated Sites as a Whole**

Describe any potential effects on the NSN designated sites as a whole in terms of: interference with the key relationships that define the structure or function of the site
<p>The proposed development does not directly impact on the qualifying features of the NSN designated Severn Estuary SAC or SPA. The Seven estuary is also a RAMSAR, EMS and SSSI.</p> <p>The principal risk is through water pollution which is caused by activities during the construction phase and also increased human activity during the operational phase.</p> <p>The mitigations in place include a detailed CEMP which will aim to remove any risk of water pollution throughout construction activities and a surface water drainage scheme and licence for foul discharge will be in place for the operational phase.</p>

## Likely Significant Effect

- 2.15 The final step of the screening stage is to conclude whether or not the proposal is likely to have a significant effect on the NSN designated sites, based on the above assessment.

**Table 2.6: Conclusions**

<b>Conclusion: Is the proposal likely to have a significant effect on the NSN Designated sites?</b>	<b>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b>
<p><u>Qualifying Habitat: Estuary (Annex I), Subtidal sandbanks (Annex I), Intertidal Mud and Sand (Annex I), Atlantic salt meadow / salt marshes (Annex I), Reefs (Annex I), Hard substrate habitats (Rocky shores) and Freshwater grazing marsh / Neutral grassland</u></p> <p>The proposed development will not have a direct impact on the habitats of the Severn Estuary RAMSAR, SSSI, SAC, SPA EMS.</p> <p><u>The SAC Qualifying Fish Species: River lamprey (Annex II), Sea lamprey (Annex II), and Twaite shad (Annex II). The site also has Salmon, Sea trout, Allis shad, Eel and Assemblage of fish species (&gt;100 species).</u></p> <p>No fish species were returned by the data search from SEWBReC, however with exception to eels, it is unlikely that any migrating fish of these species are present within the Bute East Dock and will be affected by the proposed development with the mitigations of CEMP and surface water run-off scheme.</p> <p><u>The SPA Qualifying Bird Species: Bewick's Swan (Annex I) and 'Internationally Important populations of regularly occurring migratory birds' European white-fronted goose, Dunlin, Redshank, Shelduck and Gadwall.</u></p> <p>The SEWBReC data search did not record any of these species as being present on the site and it is unlikely that the proposed development's impacts and mitigations will have and effect on these species.</p>	

## Conclusions and Recommendations

- 2.16 The greatest risk of water pollution and subsequent effect on the Severn Estuary is considered to be from the activities carried out during the construction phase. It is understood a detailed CEMP will be in place during each construction phase. It is recommended that the CEMP includes but is not limited to:
- Planning and preparation of works to ensure all precautions are taken to provide protection to watercourses, groundwater and attenuation features.
  - Permitting of any planned discharges with the appropriate regulator and implementation of any monitoring, self-assurance, maintenance and record keeping required under the approved permit.
  - Construction / demolition design to minimise disruption to the natural water flow regime. Also identify all Site drainage in the vicinity of Proposed Development and isolate / divert as appropriate ahead of works commencing.













- Adoption of measures to prevent and control the release of sediment, such as directing surface water through mesh fencing to capture the sediment or active treatment units, as appropriate to achieve the required quality of any water discharges. Sediment traps may be considered if the quantity of sediment laden water is anticipated to be large. The CEMP will specify the maintenance requirements to ensure that sediment control measures, drains and potholes are regularly inspected, cleared, infilled and/or repaired.
- The preparation of pollution incident response plans, identifying the type and location of on-Site resources (spill kits, absorbent materials, oil booms etc.) available for the control of accidental releases of pollution and other environmental incidents. These resources will be available to contractors at all times of operation.
- Securely storing all fuel, oils, and other polluting substances within suitably bunded containers and placed upon impermeable surfaces in accordance with GPP2: Above Ground Oil Storage and GPP8: Safe Storage & Disposal Of Used Oils. All fuels need to be stored in bunded areas with at least 110% of the capacity of the fuel tank.
- The use of integral drip trays for any static machinery/ plant, where practicable. All plant, vehicles and machinery will also be regularly inspected for leaks.
- Refuelling will be undertaken in a designated refuelling area or preferably off Site and the use of biodegradable oils and lubricants will be considered where possible.
- Cement/concrete mixes will be calculated to ensure that sufficient quantities are supplied without needing disposal of excess and cement/sand mix ratio will be monitored for consistency and suitability.
- Use only designated areas for concrete washout. No concrete contaminated water is permitted to be discharged to the water environment (including the Atlantic Wharf).
- Concrete, bulk and bagged, and concrete additives must be stored a minimum of 10m (increasing to 50m where practical) away from watercourses and in properly secured, covered and bunded areas.
- 'Toolbox talks' will be undertaken by the contractor to implement the environmental management measures and start of shift briefings will be provided each day to alert the workforce of works progressing on a given day and any associated environmental risks and measures that are necessary (such as permitting for dewatering and discharge activities).



- 2.17 It is understood that the operation of the Proposed Development will also pose a pollution risk to the Severn Estuary however adequate drainage schemes and requirement of licence for foul discharge will largely mitigate these problems. In addition to the abovementioned we recommend that all drainage, pipes and roads are managed and maintained regularly to the appropriate best practise and guidelines.

### 3. References

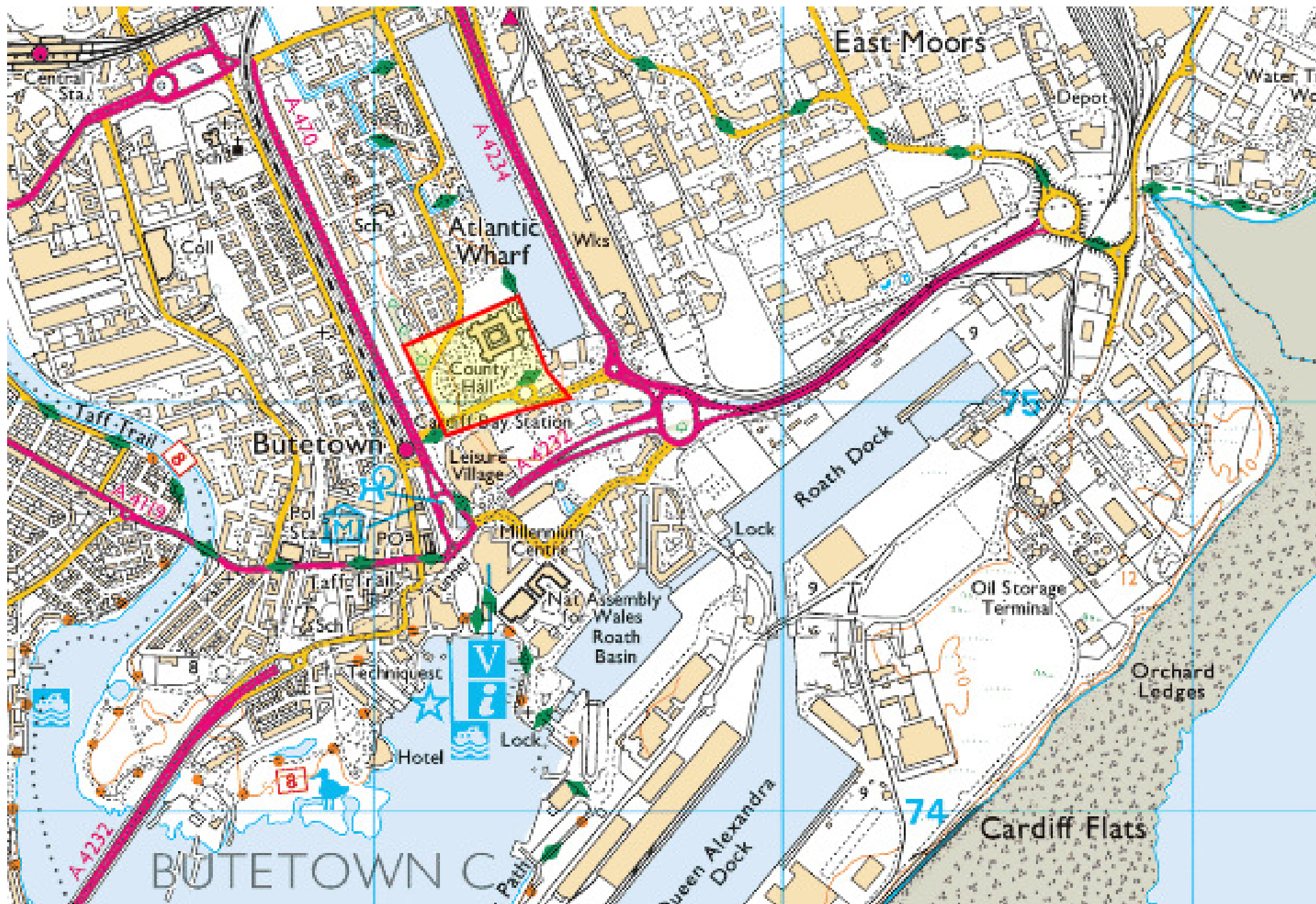
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## Figures and Appendices

## Appendix A

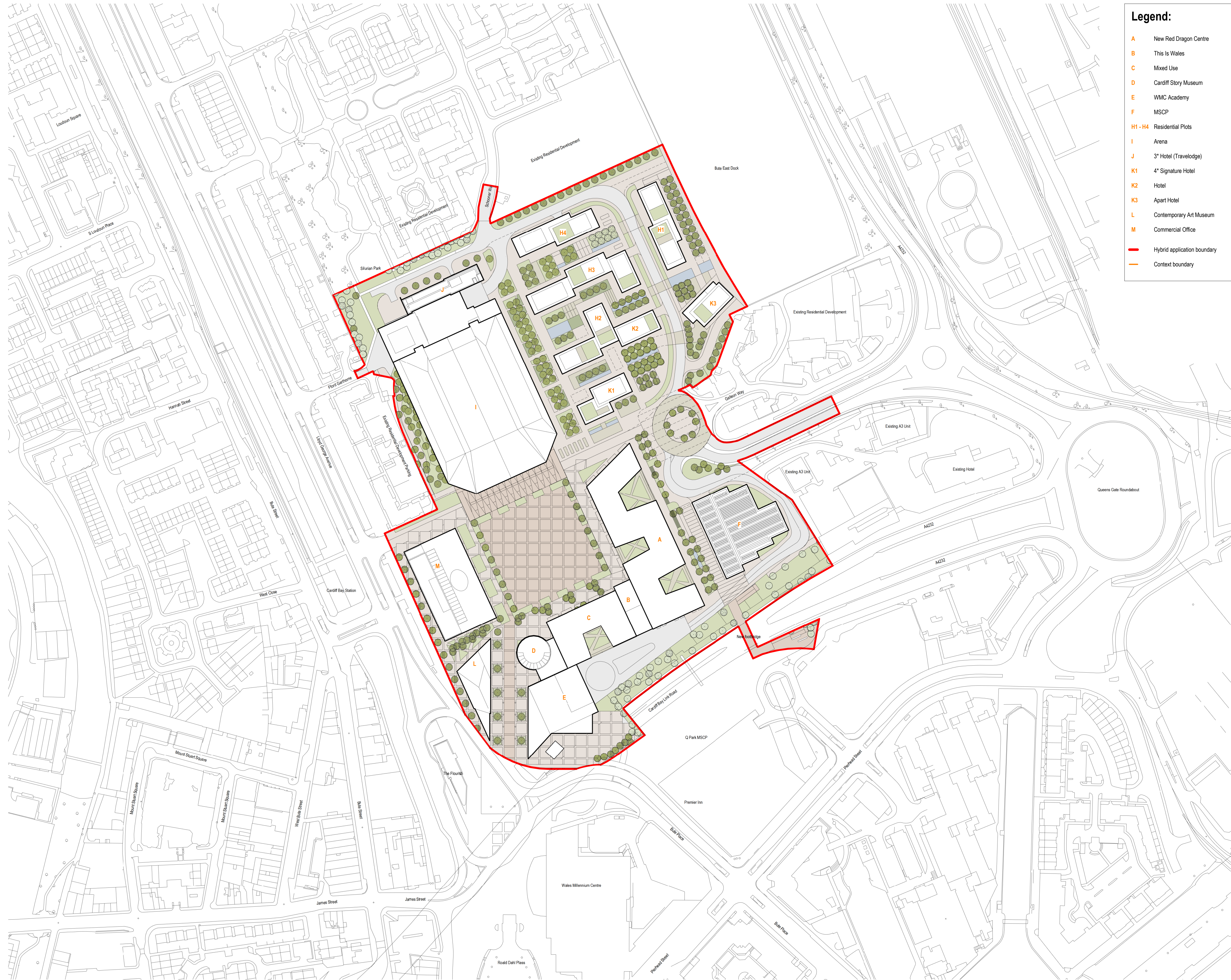
### Site Location Map



## Appendix B

### Map of Proposed Development





Legend:

- A New Red Dragon Centre
- B This Is Wales
- C Mixed Use
- D Cardiff Story Museum
- E WMC Academy
- F MSCP
- H1 - H4 Residential Plots
- I Arena
- J 3\* Hotel (Travelodge)
- K1 4\* Signature Hotel
- K2 Hotel
- K3 Apart Hotel
- L Contemporary Art Museum
- M Commercial Office
- Hybrid application boundary
- Context boundary

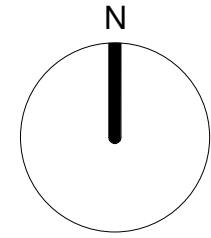
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SUITABILITY NUMBER KEY:			
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S0 - Work in Progress*		A - Fit for construction	
SHARED		B - Fit for construction, with comments	
S1 - Fit for co-ordination**		ARCHIVE	
S2 - Fit for information		AB - As Built	
S3 - Fit for internal review and comment		FC - Final Construction	
S4 - Fit for construction approval		DOCUMENTATION	
D1 - Fit for costing		* For internal pre-issue usage only.	
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Robertson Group

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Cardiff

DRAWING TITLE :  
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