

Appendix 10.1
Technical Ecological Report
Phase 1B
Monarch's Quay
Liverpool,
Merseyside

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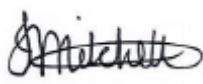
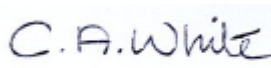
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1.0 INTRODUCTION

Smeeden Foreman Limited has been commissioned by Knight Frank LLP on behalf of YPG Developments Ltd. to undertake an Ecological Assessment for 'Phase 1B' Monarchs Quay, Liverpool, Merseyside (central grid reference SJ 343 891), hereafter referred to as the 'site'.

This report will include the following information gathered by desk study and a walkover habitat survey of the site:

- Proximity to statutory and non-statutory designated sites;
- Proximity to existing of protected species; and,
- Site habitat appraisal and potential to support protected species;

A review of the above information will be made to identify any features or sites of ecological interest which may be affected by the development proposals. Where potential impacts or protected species are identified the need for mitigation measures and specific species surveys will be discussed and recommendations for potential environmental enhancements will be made.

This report has been prepared to support the planning application to develop the site.

2.0 SITE DESCRIPTION

The site is located within the city of Liverpool, and lies along the Liverpool Waterfront. Refer to *Figure 01* below.

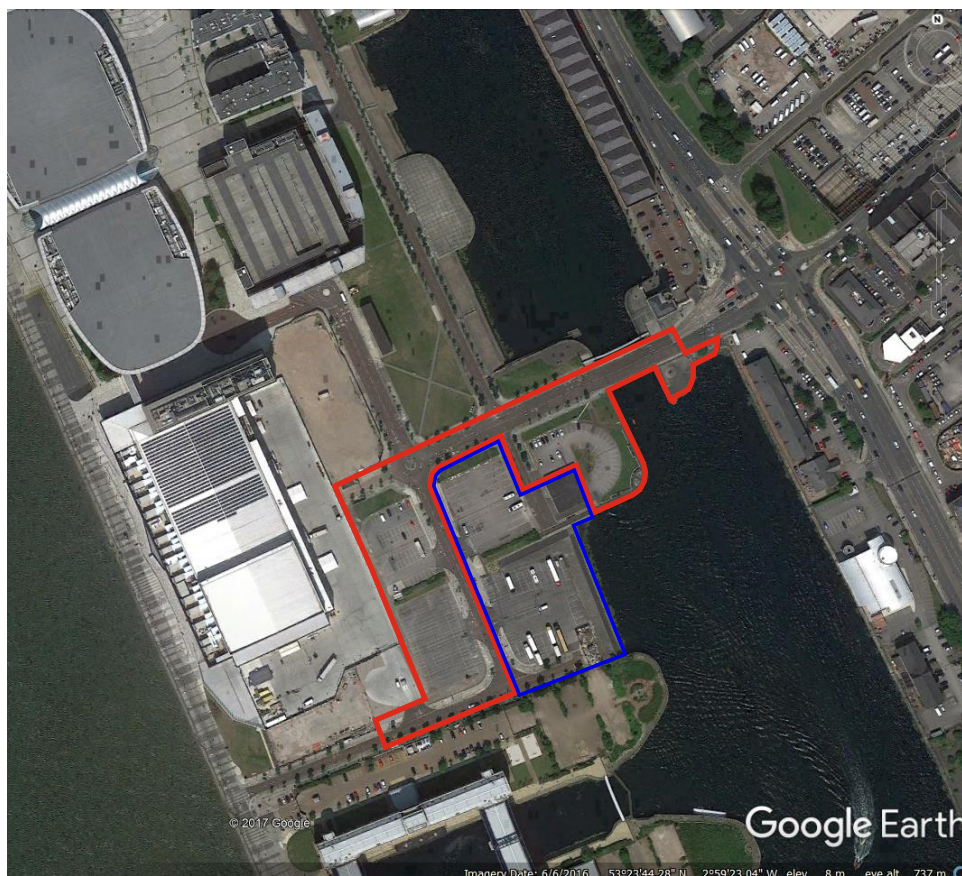


Figure 01: Aerial view / site location – Phase 1B outlined in red, phase 1A (previously submitted application) outlined in blue



The area in which the site is located has seen the development of a number of large venue buildings in the last 10 years, including Liverpool Echo Arena, BT Convention Centre and the Liverpool Exhibition Centre to the north and west of the site boundary. There are also a number of other structures adjacent to these buildings including a high rise car park block, and numerous apartment blocks and hotels. This area of the Liverpool Waterfront has the River Mersey located to the west, Wapping Dock located to the north east and Queens Dock located to the east and south.

The phase 1B site occupies an area of approximately 1.57 hectares comprising amenity grassland, hardstanding car parking areas, pavements and roads, introduced shrub hedges and tree planting.

3.0 THE DEVELOPMENT

The report has been commissioned to inform a full planning application to redevelop site 1B. This application includes the construction of the 'Interpretation centre' (building 2), carpark with a supermarket (building 3) and a residential apartment block (building 4).

A separate application (phase 1A) has been made previously for the construction of the TCC building (building 1) which lies directly adjacent to the phase 1B site boundary.

Refer to Appendix 01 for development proposals.

4.0 SITE SURVEY

4.1 Methodology

The ecological interest of the site and its surroundings has been investigated by a combination of the following.

- A survey of the site and immediate surroundings including a habitat appraisal and protected species assessment.
- Desk study of existing sources of information including:
 - The UK Biodiversity Action Plan;
 - North Merseyside Biodiversity Action Plan;
 - Natural England;
 - Magic map, a government website for nature conservation information; and,
 - Aerial photographs.
- Existing protected species records and statutory / non-statutory designated site information within 2km of the development site was obtained from Merseyside Biobank.

4.2 Walkover Phase 1 Habitat Survey

A walk over Phase 1 Habitat survey of the habitats on site was undertaken in January 2017, with an evening walkover survey being undertaken in August 2017. Habitat types were noted and are presented in the Phase 1 Habitat format based on the Joint Nature Conservation Committee methodology (2010).

Habitats on site comprise areas of hardstanding, amenity grassland, introduced shrub and ornamental tree planting. Refer to *Figure 02: Phase 1 Habitat Survey & Bat Assessment*, (appended).



4.2.1 Hardstanding

The majority of the site is hardstanding including a tarmac road, footpaths and car parking areas, with stone cobbled areas directly adjacent to the Queens Dock waterfront. To the north of the site boundary is a bridge with a road (Queens Wharf) which provides the main access to this area of the Liverpool Waterfront, and therefore provides access to the adjacent venue sites. Consequently it is anticipated that the car park areas on site and the adjacent road experiences high levels of vehicle activity during events at the venues.

4.2.2 Amenity Grassland

Amenity grassland can be found in small strips between hard standing footpaths and car parking areas around the edges of the site, and adjacent to a strip of introduced shrub in the centre of the site. All amenity grassland on site is highly managed and species poor; perennial rye grass (*Lolium perenne*) is predominant, with ribwort plantain (*Plantago lanceolata*) and creeping buttercup (*Ranunculus repens*) rarely occurring.

4.2.3 Introduced Shrub & Ornamental Trees

Introduced shrub is present on site, including a narrow linear strip between car parking sections in the centre of the site and a small amount of planting within a public seating area adjacent to Queens Dock to the north of the site. These areas are highly managed, with no native species evident.

The paved areas to the north and centre of the site feature ornamental tree planting set at regular intervals. The trees are all of a similar size and age, and are maples (*Acer spp*). To the east of the site on the eastern side of the bridge are three ash (*Fraxinus excelsior*) trees which are planted in a stone cobbled area. Due to the size and structure of the trees on site they are not considered to be suitable for supporting bat roosts.

All introduced shrub and trees on site have been recently planted for aesthetic purposes.

4.2.5 Fauna

During the survey six species of bird were noted on or adjacent to the site; pied wagtail (*Motacilla alba*), herring gull (*Larus argentatus*), mallard (*Anas platyrhynchos*), starling (*Sturnus vulgaris*), feral pigeon (*Columba livia domestica*) and cormorant (*Phalacrocorax carbo*). No evidence of nesting birds were noted on site during the site assessment, and the habitats on site are considered to offer very limited nesting opportunities for birds. Limited evidence of herring gull feeding activity was noted within the amenity grassland areas. A specific assessment of the site in relation to its potential to support bird species was undertaken in September 2017 and is included as Appendix 06.

There were no signs of badger activity such as digging, scratching, paths, latrines, setts or hairs detected within the site or up to 30 metres from its boundary, during the survey and no suitable habitat noted for badger in the local vicinity.

With regards to great crested newt (GCN) and other amphibians, there are no ponds on site or within 500m of the site. Consequently the site is not considered to be used by GCN.

A small remnant of a hedgehog was found within a hard standing car park area to the south of the site, however it is considered likely that this may have been transported to site on or by a vehicle.

Habitats on site provide very limited habitat for foraging and commuting bats as they provide a small degree of connectivity across the site. The evening walkover assessment found that the full survey area



was well lit due to street lighting across the site set at regular intervals, which is likely to deter bats from using the habitats considered to be of limited value for foraging and commuting.

4.2.6 Phase 1 Habitat Survey Photographs



Image 01: Hardstanding car parking



Image 02: Hardstanding road, pavements, car parking, strips of amenity grassland and introduced tree planting.

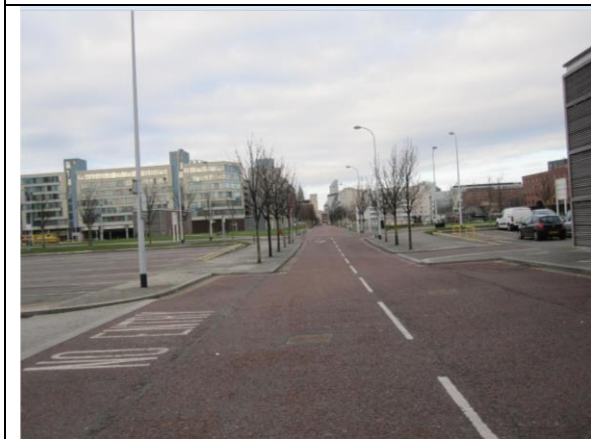


Image 03: Hardstanding access road and introduced tree planting along hard standing pavements



Image 04: A hardstanding stone cobbled area directly adjacent to the Queens Dock waterfront



Image 05: Amenity grassland



Image 06: Amenity grass between car park areas





4.3 Nature Conservation Designated Sites

4.3.1 Statutory Designations

The site contains no statutorily designated nature conservation sites; however there are two collective areas with statutory designations within 3km of the site boundary, detailed in the following table;

Site Name & Designation	Grid Ref.	Location	Notes
Mersey Narrows & North Wirral Foreshore – SSSI, SPA and Ramsar	SI 326 903 (at closest point to site)	The most southerly point of the area is approx. 1.9km to the north west of the site	The site is notified for its large areas of intertidal sand and mudflats, which support internationally important populations of turnstone, redshank and nationally important populations of cormorant.
New Ferry SSSI & Mersey Estuary SSSI, SPA and Ramsar	SI 337 869 (at closest point to site)	The most northerly point of this collective designated site is approximately 2.2km to the south of the site	An internationally important area for wildfowl and consists of large areas of intertidal sand and mudflats. It also includes an area of reclaimed marshland, salt-marshes, brackish marshes and boulder clay cliffs with freshwater seepages.

In addition to these sites, a proposal has been made to extend the boundary of the existing Liverpool Bay SPA to provide protection for little gull and extend further inshore to offer protection to foraging common tern and little tern. Liverpool Bay SPA is a marine site which is divided between England and Wales at the border running through the Dee Estuary. The site boundary of the SPA is currently 6.5km to the north east of the site. The proposed SPA (pSPA) is to extend the site, including into the River Mersey, and comprises areas for foraging seabirds, and nonbreeding waterbirds and a water bird assemblage. Cormorant and red breasted merganser will be additional named components of the water bird assemblage. The site boundary of this pSPA is located approximately 110m to the west of the site.

Refer to Appendix 02: Proposed SPA Extension for the site location.



4.3.2 Non-Statutory Designations

There are 9 non-statutory designated nature conservation sites within 2km of the site boundary including 8 'Liverpool Local Geological Sites' and 1 'Nature Improvement Area', listed within the following table;

Site Name	Designation
Lime Street Railway Cutting	Liverpool Local Geological Site
St James Cemetery, Liverpool Anglican Cathedral	Liverpool Local Geological Site
St Georges Hill, Netherfield Road South	Liverpool Local Geological Site
Queens Walk, Anglican Cathedral	Liverpool Local Geological Site
Herculaneum Bridge PH, Herculaneum Road, Dingle	Liverpool Local Geological Site
Metropolitan Catholic Cathedral, Brownlow Hill	Liverpool Local Geological Site
St Anne Street Underpass	Liverpool Local Geological Site
Mersey Estuary	Nature Improvement Area

The non-statutory site in closest proximity to the development site is the 'Mersey Estuary - Nature Improvement Area', which lies approximately 110m to the west of the site boundary.

Refer to Appendix 03: Designated Sites Maps for the site locations.

4.4 Existing Records

4.4.1 Protected species

There were no records for protected species found within the site.

Merseyside Biobank holds multiple records for protected species within 2km from the site. The records provided in the table below are for species most relevant to the site which are protected by UK legislation including: Wildlife & Countryside Act 1981 (as amended), and Conservation of Habitats and Species Regulations 2010. Full records are available on request.

Common Name	Scientific Name	No. of records	Dates	Approx. distance of closest record from site boundary
Black redstart	<i>Phoenicurus ochruros</i>	5	1979-1999	Limited grid reference to 1km square accuracy
Little ringed plover	<i>Charadrius dubius</i>	2	2002-2003	Limited grid reference to 1km square accuracy
Atlantic salmon	<i>Salmo salar</i>	2	1962	730m
Bluebell	<i>Hyacinthoides non-scripta</i>	6	1983-1997	860m
Bottle nosed dolphin	<i>Tursiops truncatus</i>	2	2000	Limited grid reference to 1km square accuracy
Common porpoise	<i>Phocoena phocoena</i>	8	2004-2012	1250m
Grey seal	<i>Halichoerus grypus</i>	1	1996	1300m
Common lizard	<i>Zootoca vivipara</i>	1	1903	Limited grid reference to 1km



				square accuracy
Bats	<i>Chiroptera</i>	3	1985-1993	760m
Brown long eared bat	<i>Plecotus auritus</i>	5	1986-1991	885m
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	5	2009-2012	1400m
Red squirrel	<i>Sciurus vulgaris</i>	1	1970	Limited grid reference to 1km square accuracy
Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>	1	1974	Limited grid reference to 1km square accuracy
Pipistrelle bat species	<i>Pipistrellus</i>	13	1980-2007	960m

4.4.2 Notable species

The following species which have been afforded national and local biodiversity action plans, have been recorded within the 2km search area:

NERC Act Section 41 Species – derived from the 2007 revised list of UK BAP priority species:

- *Birds*: Bullfinch, dunnock, grey partridge, herring gull, house sparrow, lapwing, linnet, reed bunting, skylark, song thrush, starling
- *Bony fish*: Atlantic cod, Atlantic salmon, Dover sole, European eel, whiting
- *Flowering plant*: Cornflower, dandelion
- *Insect*: Wall butterfly, dark brocade, rosy minor, sawfly, shoulder-striped wainscot
- *Marine mammal*: Bottle nosed dolphin, common porpoise
- *Reptile*: Common lizard
- *Terrestrial mammal*: Bats, brown long eared bat, red squirrel, pipistrelle bat species, hedgehog.

North Merseyside Local BAP:

- *Birds*: Grey partridge, house martin, house sparrow, lapwing, skylark, song thrush, starling, swift
- *Flowering plant*: Bluebell, willow
- *Insects*: Banded demoiselle, black tailed skimmer, blue tailed damselfly, brown hawker, common blue damselfly, emperor dragonfly, migrant hawker, southern hawker
- *Reptile*: Common lizard
- *Terrestrial mammal*: Bats, brown long eared bat, common pipistrelle bat, red squirrel, pipistrelle bat, pipistrelle bat species

Wildlife & Countryside Act 1981 (as amended) schedule 9 species:

Species of plants and animals for which it is a specific offence to plant or otherwise cause to grow in the wild (plants) or release or allow to escape into the wild (animals):

- Canada goose, Chinese mitten crab, Indian balsam, Japanese knotweed, New Zealand pigmyweed, Nuttall's waterweed, *Rhododendron ponticum*, black rat and grey squirrel.



4.5 Biodiversity Action Plan

4.5.1 National Biodiversity Action Plan

The UK Biodiversity Action Plan (UK BAP) identifies priority species and habitats which are considered to be those most threatened and therefore most in need of conservation action. The lists were updated in 2007 to include 1150 species and 65 habitats.

Herring gull were observed on site during the site assessment, with evidence of feeding activity noted. The site has low potential for bats. No other UK BAP priority habitats or species were noted during site survey.

4.5.2 Local Biodiversity Action Plan

Habitat types for which action plans have been prepared for the North Merseyside Biodiversity Action Plan include:

Woodlands

- Conifer Woodland
- Lowland Mixed Broad-leaf Woodland
- Wet Woodland
- Lowland Wood-pasture and Parkland
- Urban Trees

Grasslands

- Lowland Acid Grassland
- Lowland Heathland
- Urban Grasslands

Wetlands

- Lowland Raised Bog
- Canals
- Ponds
- Reedbeds
- Coastal Saltmarsh

Other habitats

- Coastal Sand Dunes
- Field Boundaries
- Urban Green Infrastructure

Grassland was noted onsite, however this is species poor and highly managed amenity grassland which is of low conservation value. No other priority habitats were noted during site survey. There are 3 LBAP habitats recorded within 2km of the site, including hedgerows, all woodland and ponds.

In addition to the UK BAP species, Species Action Plans have been developed within the North Merseyside Biodiversity Action Plan to include the following species;

Birds

- Corn Bunting
- Grey Partridge
- Lapwing
- Skylark
- Song Thrush
- Urban Birds



Mammals

- Bats
- Brown Hare
- Red Squirrel
- Water Vole

Amphibians & Reptiles

- Common Lizard
- Sand Lizard
- Great Crested Newt
- Natterjack Toad

Invertebrates

- Dark Green Fritillary
- Dragonflies
- Grayling Butterfly
- Vernal Mining-bee
- Northern Dune Tiger Beetle
- Sandhill Rustic Moth

Plants

- Bluebell
- Dune Helleborine
- Purple Ramping-fumitory
- Isle of Man Cabbage
- Petalwort
- Sand-grass
- Sefton Coast Plants
- Stoneworts

There are no habitats on site which could be used by roosting bats, however the site has limited potential to support foraging and commuting bats.

The North Merseyside species action plan for 'urban birds' includes 4 species; house martin, swift, house sparrow and starling. A small group of starling were noted foraging on site during the site assessment, however there are no suitable roosting habitats on site for this species (i.e. trees are too small). No other LBAP priority species were detected during the survey, and no suitable habitat for other species was noted within or adjacent to the site.



5.0 IMPLICATIONS / RECOMMENDATIONS

5.1 Nature Conservation Designated Sites

5.1.1 Statutory Sites

The site contains no statutorily designated nature conservation sites, however two areas (with collective designations), and a proposed site are located within 3km of the site boundary.

The Mersey Narrows & North Wirral Foreshore (SSSI, SPA and Ramsar) collective are located approximately 2.1km to the north west of the site (at the closest point). This area is notified for its large areas of intertidal sand and mudflats, which support internationally and nationally important bird populations.

The qualifying features of this site are:-

- Over wintering redshank (*Tringa tetanus*); 1,981 individuals representing at least 1.3% of the wintering Eastern Atlantic - wintering population (5 year peak mean 1991/2 - 1995/6);
- Over wintering turnstone (*Arenaria interpres*); 1,138 individuals representing at least 1.6% of the wintering Western Palearctic - wintering population (5 year peak mean 1991/2 - 1995/6);
- Water bird assemblage qualification: A wetland of international importance. Over winter, the area regularly supports 20,269 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: dunlin (*Calidris alpina alpina*), knot (*Calidris canutus*), grey plover (*Pluvialis squatarola*), oystercatcher (*Haematopus ostralegus*), cormorant (*Phalacrocorax carbo*), turnstone and redshank.

New Ferry (SSSI) and Mersey Estuary (SSSI, SAC and Ramsar) collective are located approximately 2.3km to the south of the site (at the closest point). This area is notified for its large areas of intertidal sand and mudflats, which support internationally and nationally important bird populations.

The qualifying features of this area are:-

- Overwintering golden plover (*P. apricaria*); 3,070 individuals representing at least 1.2% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6)
- Overwintering dunlin; 44,300 individuals representing at least 3.2% of the wintering Northern Siberia/Europe/Western Africa population (5 year peak mean 1991/2 - 1995/6)
- Overwintering pintail (*Anas acuta*); 2,744 individuals representing at least 4.6% of the wintering north western Europe population (5 year peak mean 1991/2 - 1995/6)
- Overwintering redshank; 4,689 individuals representing at least 3.1% of the wintering Eastern Atlantic - wintering population (5 year peak mean 1991/2 - 1995/6)
- Overwintering shelduck (*Tadorna tadorna*); 5,039 individuals representing at least 1.7% of the wintering north western Europe population (5 year peak mean 1991/2 - 1995/6)
- Overwintering teal (*Anas crecca*); 11,667 individuals representing at least 2.9% of the wintering north western Europe population (5 year peak mean 1991/2 - 1995/6)
- Migratory redshank; 3,516 individuals representing at least 2.0% of the Eastern Atlantic - wintering population (5 year peak mean, 1987-1991)
- Migratory ringed plover (*Charadrius hiaticula*); 1,453 individuals representing at least 2.9% of the Europe/Northern Africa - wintering population (Count, as at 1989).
- Assemblage qualification: A wetland of international importance. Over winter, the area regularly supports 99,467 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: curlew (*Numenius arquata*), black-tailed godwit (*Limosa limosa islandica*), lapwing (*Vanellus vanellus*), grey plover, wigeon (*Anas penelope*), great crested grebe (*Podiceps cristatus*), redshank, dunlin, pintail, teal, shelduck, and golden plover.



The Liverpool Bay pSPA boundary is located approximately 110m to the west of the site. The current Liverpool Bay supports important numbers of seabird species, including little gull. The site supports the third highest aggregation of little gull in the UK. The boundary of Liverpool Bay SPA is contiguous with the boundaries of The Dee Estuary SPA, Mersey Narrows and North Wirral Foreshore SPA, and Ribble and Alt Estuaries SPA. The recommendation proposed is to extend the boundary of the existing marine SPA to provide protection for little gull and extend further inshore to offer protection to foraging common tern and little tern. The pSPA comprises areas for foraging seabirds, and nonbreeding waterbirds and a water bird assemblage. Cormorant and red breasted merganser will be additional named components of the water bird assemblage.

The Habitats Directive seeks to protect the integrity of Natura 2000 sites and requires Habitats Regulations Assessments to be undertaken to assess the implications of plans or projects on, or in close proximity to, Natura 2000 sites. These sites include Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites. The screening process of the Habitat Regulations Assessments is undertaken to determine if there are likely to be any potentially significant impacts on the ecological integrity of such sites in respect to their designation criteria, as a result of development proposals.

The Habitat Regulations Assessment/scoping assessment of the application site identified that both the North Wirral Foreshore (SPA/Ramsar) site and the Mersey Estuary (SPA/Ramsar) site will not be impacted as a result of the development, due to the poor quality habitat on the application site, and due to the distance between the application site and the two areas with statutory designations. It is also anticipated that the Liverpool Bay pSPA will not be impacted as a result of the development due to the poor quality habitat on the application site, and the small size scale of the development proposals. It is therefore anticipated that an assessment under the Habitat Regulations will not be required as no pathway or likely impact has been identified, as demonstrated within Appendix 07: Habitat Regulations Assessment.

This assessment concludes that the risk of impacts to the Ramsar/SPA/SSSI collectives and pSPA are anticipated to be none or unlikely, such that it is considered that the proposed development will give rise to no significant effects that would harm the integrity of the protected areas, habitats or species for which they are designated. This is primarily due to the following factors:

- Lack of complimentary habitats: the sites do not have complementing habitats; the protected sites are predominately extensive intertidal flats; whereas the application site is predominantly hard standing and amenity grassland.
- Lack of suitable foraging and breeding habitat on site for the qualifying species (overwintering water birds and water bird assemblages).

5.1.2 Non-Statutory Sites

There are 9 non-statutory designated nature conservation sites within 2km of the site boundary including 8 'Liverpool Local Geological Sites' and 1 'Nature Improvement Area'. The non-statutory site in closest proximity to the development site is the 'Mersey Estuary - Nature Improvement Area', which lies approximately 110m to the west of the site boundary.

Liverpool Local Geological Sites are designated due to their geological interest, and are allocated to recognise and protect important geodiversity and landscape features. Consequently these designations are not of primary significance for their ecological value. The site in closest proximity to the site is approximately 900m to the east of the site, with built up areas and intervening land uses between this site and the site boundary. It is therefore considered that there will be no significant adverse effect in terms of ecology on these non-statutory sites as a result of the development.

The Mersey Estuary Nature Improvement Area is not a protected site, but is a designated area in which opportunities may lie to establish and improve ecological networks by enlarging, enhancing and connecting existing wildlife sites and creating new sites. Therefore it is considered that there will be no



significant adverse effect on this non-statutory site, and ecological enhancements at the development site will be recommended which could contribute to its aims.

5.2 Habitats

The habitats on site comprise areas of hardstanding, amenity grassland, introduced shrub and ornamental tree planting.

Generally the site is classified as having a low conservation value. None of the habitats within the site are of significant interest in terms of the plant species composition, nor do they have characteristics of semi-natural habitats. No rare or locally uncommon plant species or invasive species as listed under the Wildlife and Countryside Act 1981 (as amended) were detected at the site.

Approximately 110m to the west of the site is the River Mersey, and directly to the east of the site are Wapping Dock and Queens Dock. These waterbodies are not to be affected directly as a result of the development, however there is the potential for indirect impacts as a result of discharge and pollution from the development.

The trees and introduced shrub on site are of local value to breeding birds and invertebrate species, and also provide limited habitat for foraging and commuting bats as they provide a small degree of connectivity across the site.

In order to protect habitats of ecological value present the following recommendations are highlighted;

- Discharge and pollution control must be compliant with attenuation and treatments to minimise pollution to water courses;
- The retention of the trees and shrubs at the site where feasible, or replacement planting using appropriate native species;
- Implementation of a lighting scheme within proposals that minimise illumination of the site boundaries i.e. river edges.

5.3 Protected Species

Survey of the site and desk study has highlighted the potential for the following protected species within the search area or on site, upon which the potential effects of the proposed development are discussed below (see Appendix 05 for relevant legislation).

5.3.1 Bats

There are no records for bats or their roosts within the site. Consultation with Merseyside Biobank provided roost and field records of bats within the local area, the closest record within 760m of the development site boundary (Unknown species - Anglican Cathedral, Liverpool, found grounded inside building, 02/08/1993).

Habitats on site provide very limited habitat for foraging and commuting bats as they provide a small degree of connectivity across the site. The evening walkover assessment found that the full survey area was well lit overnight due to street lighting set at regular intervals throughout, which is likely to deter bats from using the habitats considered to be of limited value for foraging and commuting. The trees on site are not considered suitable to supporting bat roosts due to the size and structure, and there are no buildings on site which could provide roosting habitat for bats. Consequently, no further assessments for bats are recommended.

To enhance the site for bats it is recommended that bat boxes are installed within suitable buildings on site. Integral bat boxes are recommended within the residential apartment block included within development proposals of phase 1B. Refer to document "Phase 1B, Monarch's Quay, King's Dock,



Liverpool, Design and Access Statement, YPG Developments Ltd, October 2017" for bat box specifications and locations.

To reduce any disturbance to bats it is recommended that any lighting during development works is appropriately designed to avoid illuminating the boundaries, trees and shrubs within the site. Directional lighting should be adopted, and for additional information reference can be made to the Bat Conservation Trusts publication "Artificial Lighting and Wildlife" (2014).

5.3.2 *Great crested newt*

With regards to great crested newt (GCN) and other amphibians there are no ponds on site or within 500m of the site which could be used as breeding habitat by GCN. Consultation with Merseyside Biobank found that there are no records of GCN noted on site or within 2km of the site.

Due to the lack of suitable pond and terrestrial habitat and GCN records within the local area, it is considered that the presence of GCN's on site is unlikely and no further survey is recommended. No adverse impact upon GCN is therefore anticipated as a result of the proposed development.

5.3.3 *Birds*

The ornamental trees and introduced shrub at the site provide suitable but limited habitat which may be suitable for breeding birds, and there are various records for birds in the local area including protected and BAP species. All wild birds are protected under the *Wildlife and Countryside Act 1981 (as amended)* during breeding. It is, therefore, recommended that vegetation which provides suitable breeding bird habitat, and any storage of site materials is only removed/disturbed outside of the breeding bird season (March to August inclusive) or subsequent to a checking survey by a suitably qualified ecologist (SQE) which finds nests to be absent/inactive.

A number of herring gull and starlings (UKBAP) were noted on site, with evidence of feeding activity on hard standing areas adjacent to Wapping Quay, and some limited evidence within the amenity grassland areas. The habitats on site are not considered suitable for breeding herring gull and starling.

To enhance the site for birds it is recommended that bird boxes are installed within suitable buildings on site. Bird boxes are to include those suitable for house martin and starling (included within the North Merseyside LBAP 'urban birds') within the proposed residential apartment block included within development proposals of phase 1B. Refer to document "Phase 1B, Monarch's Quay, King's Dock, Liverpool, Design and Access Statement, YPG Developments Ltd, October 2017" for bird box specifications and locations.

A specific assessment of the site in relation to its potential to support bird species was undertaken in September 2017 and is included as Appendix 06. The proposals site is considered to be generally unsuitable for the breeding requirements of little ringed plover, black redstart and peregrine falcon and no adverse impacts on these species are therefore anticipated as a result of the development. Refer to Appendix 06 for additional recommendations for mitigation.

5.3.4 *Reptiles*

Consultation with Merseyside Biobank provided one record of common lizard within 2km of the site, however this record is dated 1903, with a limited grid reference to 1km square accuracy. Habitat at the site is not considered suitable for reptiles, and the site lacks associated rough grassland habitat to provide invertebrates/foraging habitat, has a high level of disturbance during venue events (i.e. vehicle use), and the presence of road barriers and built up areas are considered to provide a degree of severance between surrounding habitats and the site. The presence of reptiles on the site is therefore reasonably discounted.

5.3.5 *Badger*

No evidence of badger such as setts, digging, scratching, latrines, pathways, tracks or hairs were detected at the site or within 30 metres from it (where accessible). Habitat at the site is not considered



suitable for foraging badger. No local records of badger were found within a 2km radius of the search area, and there is no favourable woodland habitat for badger within 500m of the site.

5.3.6 *Hedgehog*

Consultation with Merseyside Biobank provided records of hedgehog (UKBAP) within 2km of the site. The introduced shrub planting has potential to be used as a form of shelter by this species, however it is limited and highly isolated on site.

5.3.7 *Other protected species*

Records of bottle nosed dolphin, common porpoise, grey seal and Atlantic salmon were recorded within 2km of the site. In addition to this UKBAP species for bony fish, including Atlantic cod, Dover sole, European eel, and whiting were also recorded within the search area. The waterbodies adjacent to the site are not to be affected directly as a result of the development, however there may be indirect impacts as a result of discharge and pollution from the development, which could therefore impact aquatic species. Refer to section 5.2 for measures to avoid effects on water quality.

There is one record of red squirrel within the local area, however this record is dated 1970, with a limited grid reference to 1km square accuracy. There is no suitable habitat for this species within or adjacent to the site. Consequently, the presence of this species at the site can be reasonably discounted and is not likely to be adversely impacted upon by the proposed development.

As the site is in an urban location, precautionary working methods are recommended to be adopted during construction works, which will include the covering or providing a means of escape to any trenches and capping any open pipework at the end of each working day to prevent accidental harm or injury to any fox should any come onto site. In the unlikely event that badger, hedgehog or otter are in the local area, this would also be beneficial for the prevention of harm for these species.



6.0 SUMMARY

Smeeden Foreman Limited has been commissioned by Knight Frank LLP on behalf of YPG Developments Ltd. to undertake an Ecological Assessment of 'Phase 1B' at Monarchs Quay, Liverpool, Merseyside. The report has been commissioned to inform a planning application to redevelop the site, including the construction of the 'Interpretation centre', carpark with a supermarket and an apartment block.

6.1 Baseline Information

6.1.1 *Designated sites*

The site contains no statutorily designated nature conservation sites, however Mersey Narrows & North Wirral Foreshore (SSSI, SPA and Ramsar) are located approximately 2.1km to the north west of the site, and the New Ferry (SSSI) and Mersey Estuary (SSSI, SPA and Ramsar) are located approximately 2.3km to the south of the site.

A proposal has been made to extend the boundary of the existing Liverpool Bay SPA, with a site boundary located approximately 110m to the west of the site.

There are 9 non-statutory designated nature conservation sites within 2km of the site boundary including 8 'Liverpool Local Geological Sites' and 1 'Nature Improvement Area'. The non-statutory site in closest proximity to the development site is the 'Mersey Estuary - Nature Improvement Area', which lies approximately 110m to the west of the site boundary.

6.1.2 *Habitats*

The site is located within the city of Liverpool, and lies along the Liverpool Waterfront. The area in which the site is located has seen the development of a number of large venue buildings in the last 10 years. There are also a number of other structures adjacent to these buildings including a high rise car park block, and numerous apartment blocks and hotels. The River Mersey is located to the west of the site (approx. 110m from the site boundary), and Queens Dock and Wapping Dock located directly adjacent to the east of the site.

Habitats on site comprise areas of hardstanding, amenity grassland, introduced shrub and ornamental tree planting. Generally the site is classified as having a low conservation value. None of the habitats within the site are of significant interest in terms of the plant species composition, nor do they have characteristics of semi-natural habitats. No rare or locally uncommon plant species or invasive species as listed under the Wildlife and Countryside Act 1981 (as amended) were detected at the site.

6.1.3 *Species*

- There are no habitats on site which could be used by roosting bats. The ornamental trees and introduced shrub across the site provide very limited habitat for foraging and commuting bats with a small degree of connectivity. The site is well lit overnight due to street lighting set at regular intervals throughout, which is likely to deter bats from using these habitats. Consequently no further assessments for bats are recommended.
- There is no suitable terrestrial or breeding habitat on site for great crested newts, and no records for this species within 2km of the site. The presence of GCN on the site is reasonably discounted;
- The ornamental trees and introduced shrub at the site provide suitable but limited habitat which may be suitable for breeding birds, and there are various records for birds in the local area including protected and BAP species. An old bird nest was recorded within an ornamental tree during the site assessment;
- Herring gull (UKBAP) were noted on site, with some limited evidence within the amenity grassland areas. The habitats on site are not considered suitable for breeding herring gull;



- The site does not contain any habitat considered suitable for reptile species. Barriers and built up areas are considered to provide a degree of severance between surrounding habitats and the site. Consultation provided one record of common lizard within 2km of the site, however this record is dated 1903, with a limited grid reference. The presence of reptiles on the site is reasonably discounted;
- Habitat at the site is not considered suitable for foraging badger, and no evidence of badger was detected at the site or within 30 metres from it (where accessible). No local records of badger were found within a 2km radius of the search area, and there is no favourable woodland habitat for badger within 500m of the site. The presence of badger on the site is reasonably discounted;
- The introduced shrub planting has potential to be used as a form of shelter by hedgehog (UKBAP), however this is isolated and highly limited on site;
- Records of bottle nosed dolphin, common porpoise, grey seal and Atlantic salmon were recorded within 2km of the site. In addition to this UKBAP species for bony fish, including Atlantic cod, Dover sole, European eel, and whiting were also recorded within the search area. The waterbodies adjacent to the site are not to be affected directly as a result of the development, however there could be indirect impacts via effects on water quality;
- There is one record of red squirrel within the local area, however this record is dated 1970, with a limited grid reference. There is no suitable habitat for this species within or adjacent to the site. The presence of red squirrel on the site is reasonably discounted.

6.2 Impact Assessment

It is anticipated that no statutory or non-statutory sites in the local area will be affected by the proposed development.

There is a distinct lack of complimentary habitats present within the application site compared to sites including North Wirral Foreshore (SSSI, SPA and Ramsar), New Ferry (SSSI) and Mersey Estuary (SSSI, SPA and Ramsar) and the proposed Liverpool Bay SPA extension, therefore it is considered that there will be no significant adverse effect on the statutory sites in the local area. Consequently, a scoping assessment of the application site identified that the North Wirral Foreshore (Ramsar) site will not be impacted as a result of the development, it is therefore anticipated that a Habitats Regulations Assessment will not be required, as demonstrated in Appendix 07.

Liverpool Local Geological Sites are designated due to their geological interest, therefore it is considered that there will be no significant adverse effect in terms of ecology on these non-statutory sites as a result of the development.

The Mersey Estuary Nature Improvement Area is a designated area in which opportunities may lie to establish and improve ecological networks by enlarging, enhancing and connecting existing wildlife sites and creating new sites. Therefore it is considered that there will be no significant adverse effect on this non-statutory site, however ecological enhancements within the development proposals may contribute to its aims.

Concerning habitats and species in the absence of suitable mitigation:

- The loss of introduced shrub and ornamental trees may have an adverse effect of wildlife, connectivity across and around the site, and cause loss of foraging and sheltering opportunities for wildlife in general, however this effect is anticipated to be limited due to the habitats being disconnected and of low quality to wildlife;
- Removal of vegetation could adversely affect breeding birds;



- Construction works have the potential to cause harm to fox, hedgehog etc. should one venture on to the site;
- Indirect impacts to aquatic species as a result of discharge and pollution into adjacent waterbodies affecting water quality.

6.3 Mitigation

Concerning protected species and avoidance of the impacts highlighted above, the following is recommended:

- The retention of the trees and shrubs where feasible, or replacement planting using appropriate native species;
- Vegetation clearance such as introduced shrub and tree pruning works to be undertaken outwith the nesting bird period (March – August inclusive) unless checks by a suitably qualified ecologist (SQE) find active nests to be absent immediately prior to works commencing;
- Habitat and mitigation enhancement to include use of appropriate native tree and shrub species;
- The removal of any tree/shrub cuttings from site once vegetation is cut so as to avoid the creation of brash piles; these may be attractive to nesting birds and other sheltering wildlife, which could subsequently be harmed if the brash pile is burnt or removed with machinery;
- The adoption of precautionary working methods to avoid potential harm to mammal species such as fox;
- Implementation of a lighting scheme within proposals that minimise illumination of the site boundaries i.e. river edges;
- The installation of bat and bird boxes within the development proposal (Refer to document “Phase 1B, Monarch's Quay, King's Dock, Liverpool, Design and Access Statement, YPG Developments Ltd, October 2017” for bat box specifications and locations);
- Discharge and pollution control must be compliant with attenuation and treatments to minimise pollution to water courses.

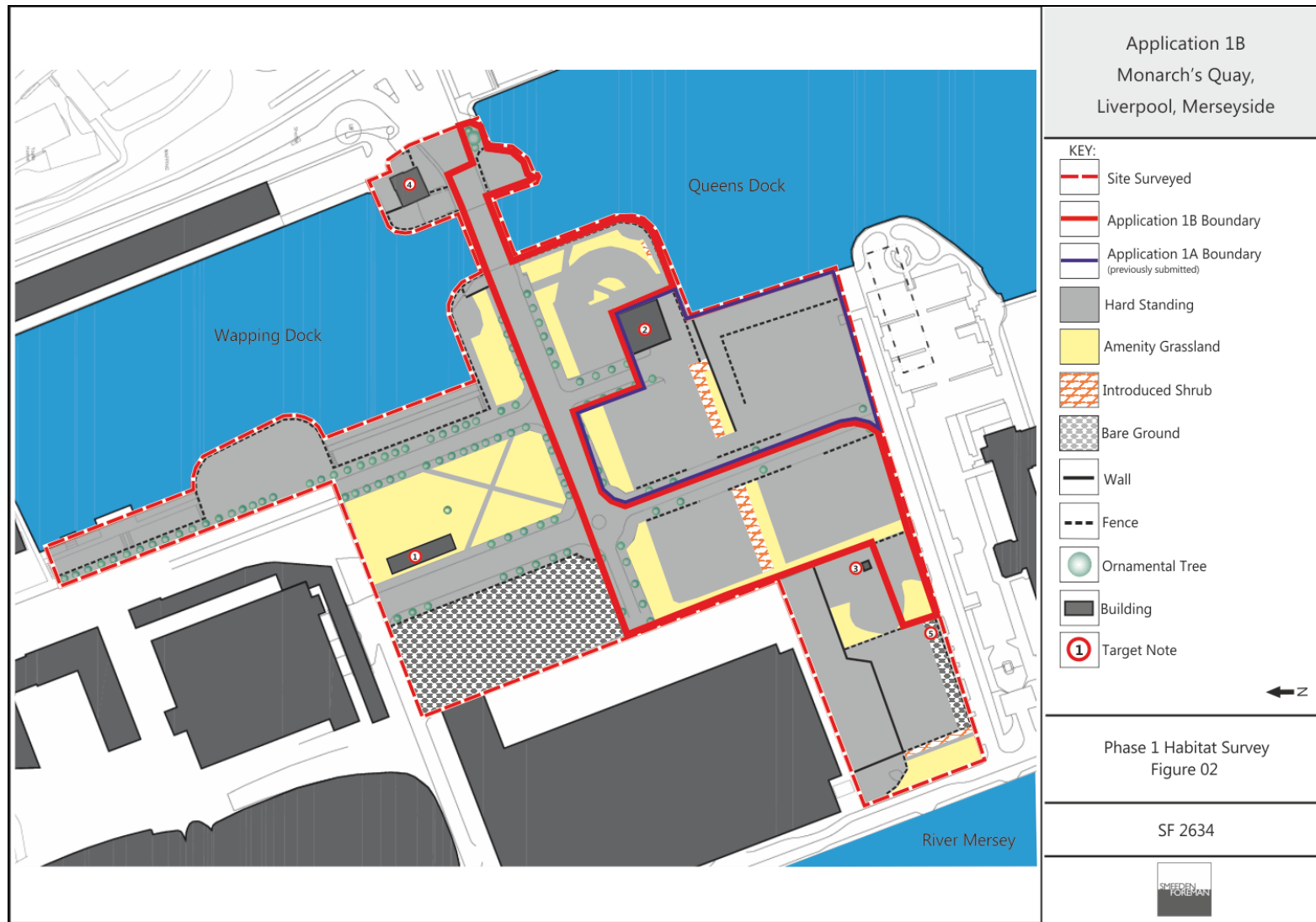
6.4 Residual Impacts and Effects

The loss of open space which has evidence of use by feeding herring gull, however given the abundance of similar habitats with the local and wider area, it is considered that this will not have a significant adverse effect on such species.

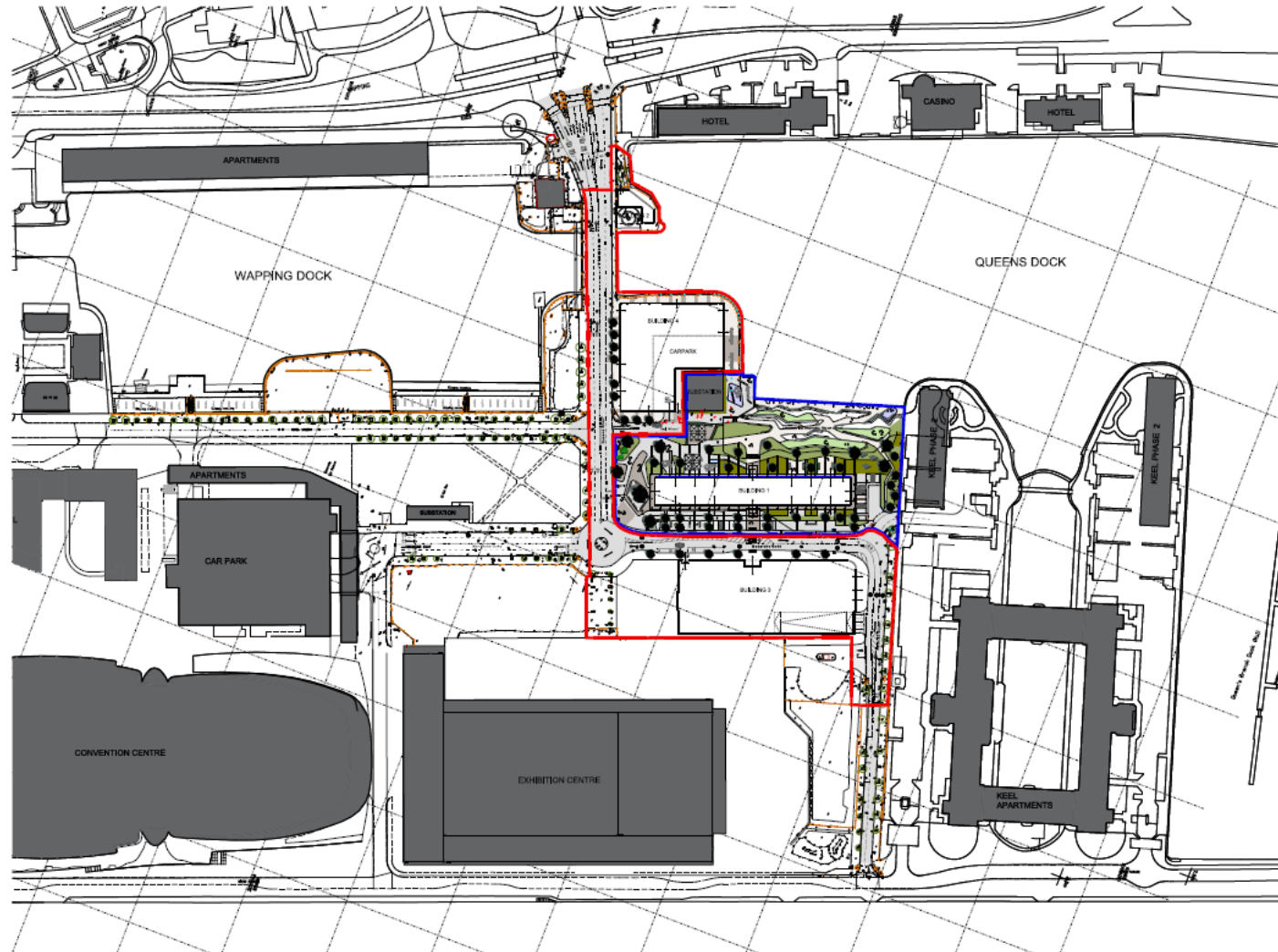


FIGURES

FIGURE 02: Phase I Habitat Survey



APPENDIX 01: DEVELOPMENT PROPOSAL



KEY
 — APPLICATION SITE
 15667 sq.m / 3.87 Acres / 1.57 Hectares
 — PREVIOUS APPLICATION
 ALREADY SUBMITTED

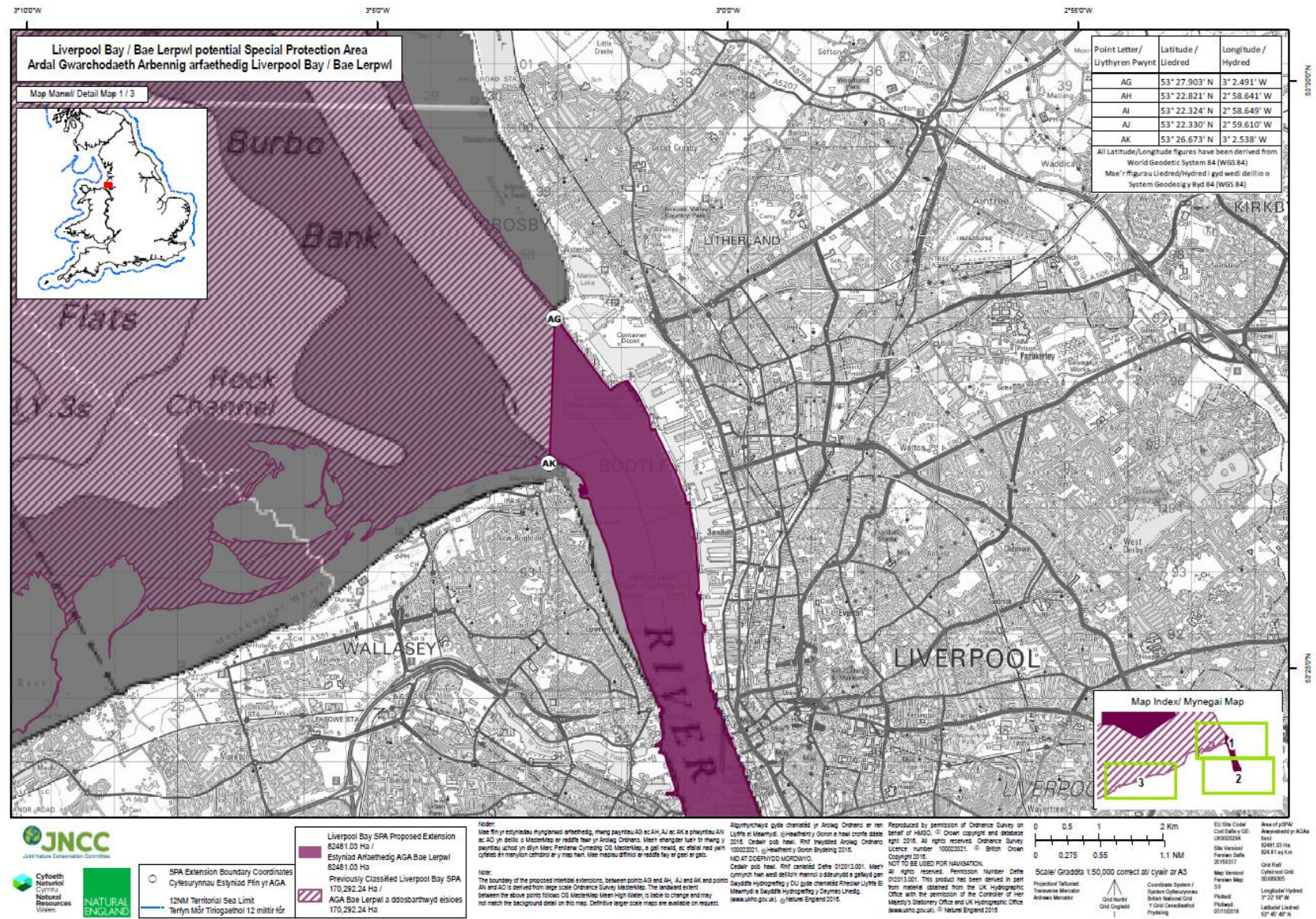


**FALCONER
CHESTER
HALL**
FCH

Site No: 15/04/17 Building: 15/04/17
 Drawing No: 00000000
 Drawing Title: 00-00-0000
 Drawing Date: 00-00-0000
 Drawing Scale: 1:1000
 Drawing Author: 00-00-0000
 Drawing Checker: 00-00-0000
 Drawing Approver: 00-00-0000
 Drawing Status: 00-00-0000
 Drawing Version: 00-00-0000
 Drawing Project: 00-00-0000



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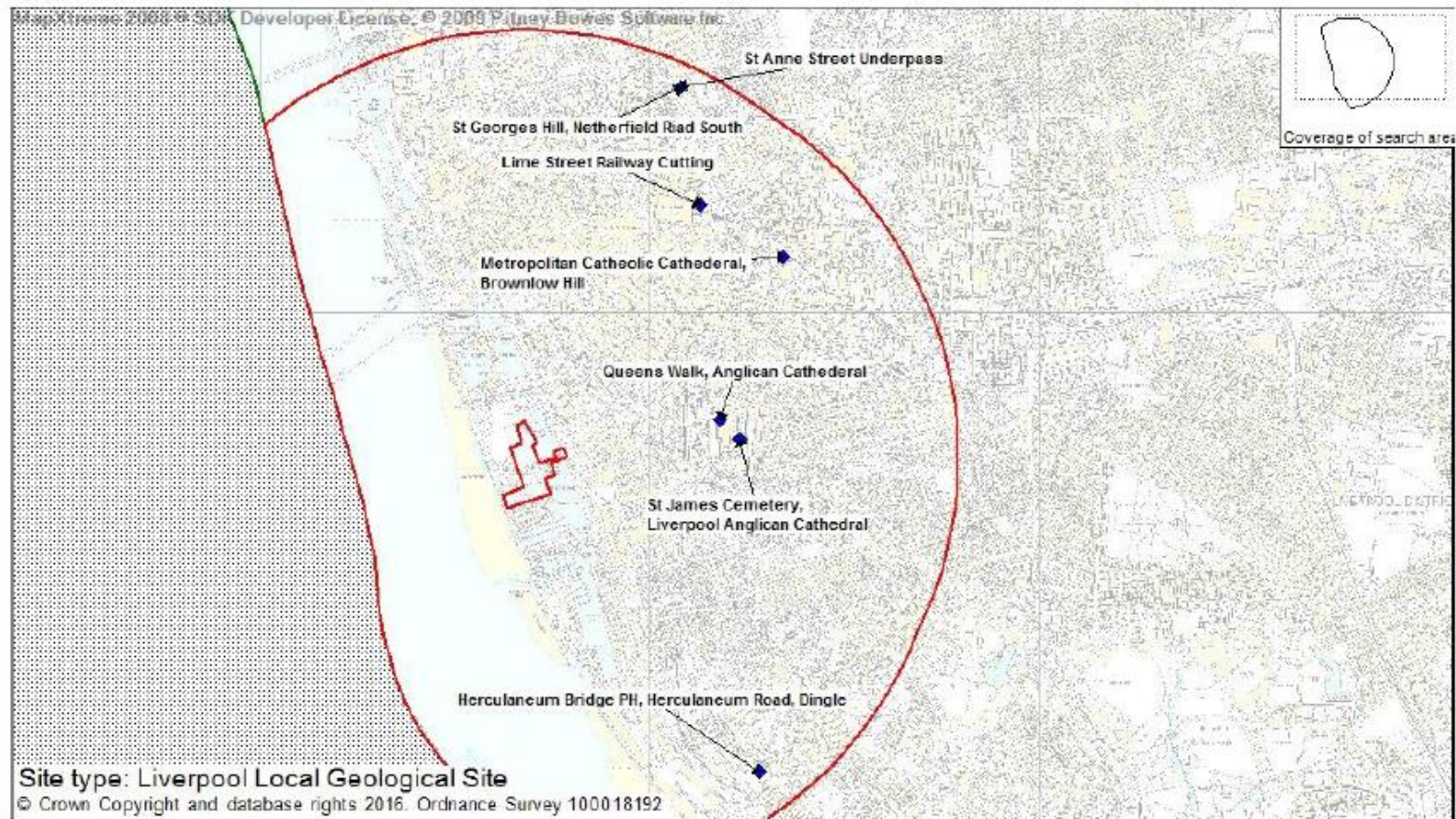


APPENDIX 03: DESIGNATED SITES MAPS



The Local Biodiversity Records Centre for North Merseyside

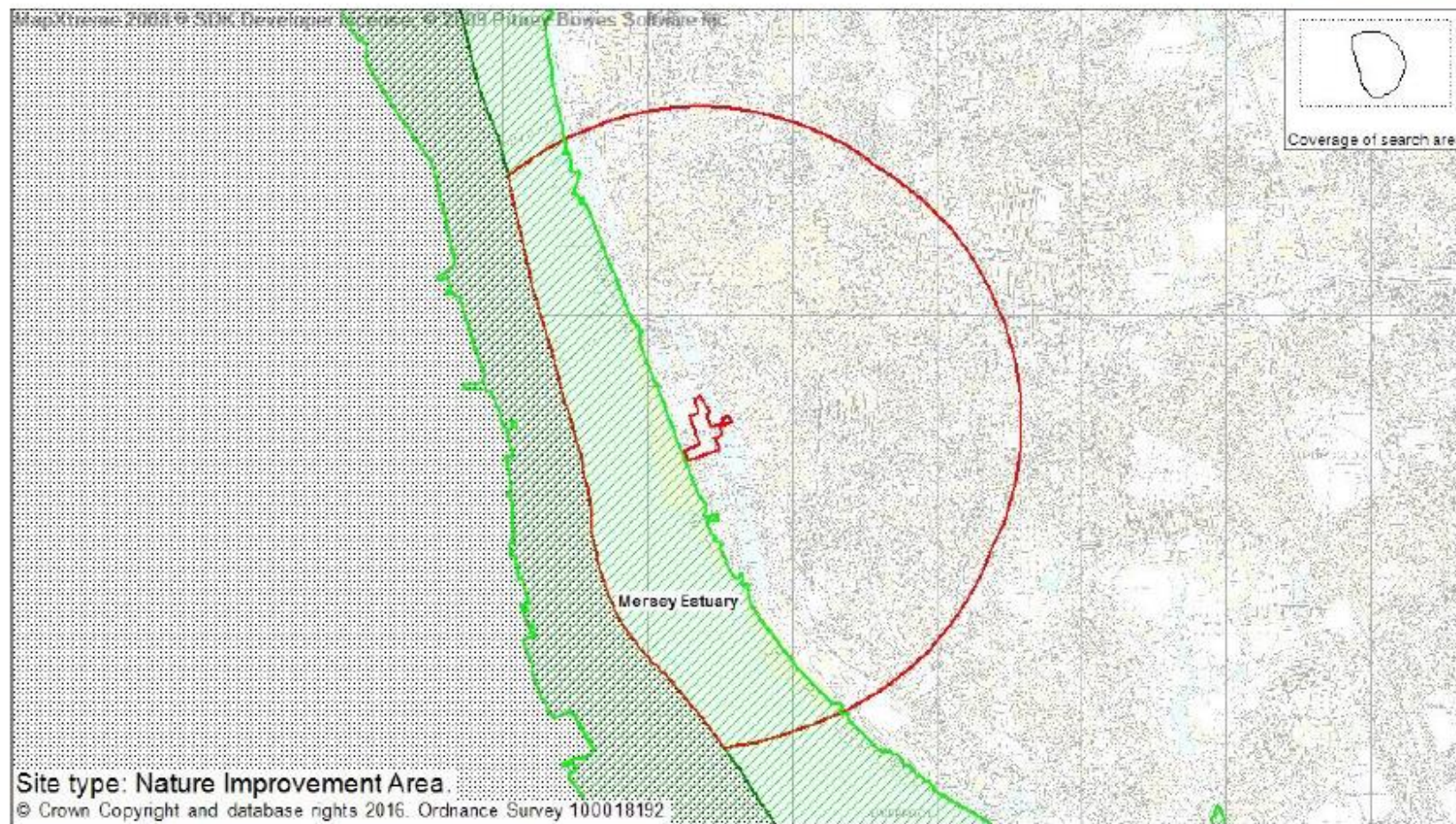
Merseyside BioBank,
Estate Barn, Court Hey Park
Roby Road, Liverpool
L16 3NA
Tel: 0151 737 4150
Info@MerseysideBiobank.org.uk





**The Local Biodiversity Records Centre
for North Merseyside**

Merseyside BioBank,
Estate Barn, Court Hey Park
Roby Road, Liverpool
L16 3NA
Tel: 0151 737 4150
Info@MerseysideBiobank.org.uk



APPENDIX 04: LOCAL RECORDS – MERSEYSIDE BIOBANK

- Multiple records – available on request



APPENDIX 05: PRINCIPLE LEGISLATION AND POLICIES

Principle Legislation

Wildlife and Countryside Act 1981 (as amended)

This is the primary legislation for nature conservation in England and Wales. It confers varying degrees of protection on selected species according to their conservation status, ranging from making it an offence to take a species from the wild for profit, to full protection of a species and its habitat. The Act also gives guidance and instruction on statutory sites, such as sites of Special Scientific Interest (SSSI). License exempting specific works can be granted by Natural England. Such licenses are only granted once a full assessment has been made and an appropriate, sustainable mitigation package devised.

Protection of Badgers Act 1992

Allied to the Wildlife and Countryside Act, 1981 are subsidiary Acts such as the Protection of Badgers Act, 1992 which consolidated and added to previous legislation. According to the PBA it is an offence to wilfully kill, injure or maim a badger. Badger setts are also protected from interference unless such activities are licensed through Natural England. Any mitigation packages devised for badgers found on development sites must be agreed by Natural England and all mitigation activities must be fully licensed.

Countryside and Rights of Way Act 2000

As well as providing measures to improve countryside access for walkers, ramblers and horse riders, this Act also strengthens the protection of species and designated sites made in the Wildlife and Countryside Act 1981. This Act also gives the importance of biodiversity conservation statutory basis requiring government departments to have regard for biodiversity in carrying out their functions, and to take positive steps to further the conservation of listed species and habitats.

Natural Environment and Rural Communities Act (NERC), 2006 – Biodiversity Duty

NERC received royal assent in March 2006. Section 40 of the Act replaces and extends a duty, from Section 74 of the Countryside and Rights Of Way Act 2000, on Ministers and Government which already requires them to have regard to the purpose of conserving biodiversity.

Section 40(1) states that, "Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity."

EC Habitats Directive (92/43/EEC)

This Directive aims to give Europe-wide protection to certain rare and threatened habitats on land and at sea. It builds on legislation already established under the Birds Directive of 1979, and aims to establish a series of protected sites known as Natura 2000 series. These sites are intended to protect the unique and special wildlife of Europe and to preserve it for future generations. In Britain these Natura 2000 sites include those areas designated as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). The Habitats Directive is implemented in the UK through the Conservation of Habitats and Species Regulations 2010.

EC Birds Directive (79/409/EEC)

The Directive provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. It sets broad objectives for a wide range of activities, although the precise legal mechanisms for their achievements are at the discretion of each Member State (in the UK delivery is via several different statutes). The Directive applies to the UK and to its overseas territory of Gibraltar.

The main provisions of the Directive include:

- The maintenance of the favourable conservation status of all wild bird species across their distributional range with the encouragement of various activities to that end;

- The identification and classification of Special Protection Areas (SPAs) for the rare and vulnerable species listed in Annex I of the Directive, as well as for all regularly occurring migratory species, paying particular attention to the protection of wetlands of international importance;
- The establishment of a general scheme of protection for all wild birds; Restrictions on the sale and keeping of wild birds.

The Hedgerow Regulations 1997

The *Hedgerow Regulations 1997* were made under Section 97 of the *Environment Act 1995* and came into force in 1997. They introduced new arrangements for local planning authorities in England and Wales to protect important hedgerows in the countryside, by controlling their removal through a system of notification. Important hedgerows are defined by complex assessment criteria, which draw on biodiversity features, historical context and the landscape value of the hedgerow.

Specific species protection (derived from legislation)

Bats

All species of bat and their roosts are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and by the Countryside and Rights of Way Act 2000, which extends the legal protection afforded to Schedule 5 species such as bats by including the word 'reckless'.

The European Habitats Directive 92/43/EEC places a legal requirement on all Member States of the EU to protect specified species and habitats through their own domestic legislation. In the UK this has been implemented by the Conservation of Habitats and Species Regulation 2010. All species of bat are included in Annex IV, which requires that they are given full legal protection. Taken together, this legislation makes it an offence to: intentionally kill, injure or capture (take) bats, recklessly disturb bats (whether in a roost or not) and/or damage, destroy or obstruct access to bats roosts.

Breeding Birds

All wild birds, their occupied nests and eggs are protected under the Wildlife and Countryside Act 1981 (as amended by the CROW Act 2000). Additional protection against disturbance is provided for birds on Schedule I.

Reptiles

The Wildlife and Countryside Act 1981 makes it an offence to intentionally kill, injure or sell common lizard.

Great Crested Newt

Great crested newts and their habitats are given full protection under Section 9 of the Wildlife and Countryside Act 1981 (as amended). The species is also listed on Annexes II and IV of the EC Habitats Directive (Council Directive 92/43/EEC) which is implemented in the UK by The Conservation of Habitats and Species Regulations 2010.

Red Squirrel

Red squirrel are fully protected under the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2010. They are given protection from intentional or reckless killing, injuring or taking; damage, destruction or obstruction of or to any structure or place used for shelter; protection and disturbance whilst occupying such a structure or place.

Badger

Badgers and their setts are protected by the Protection of Badgers Act 1992. Under this act it is illegal to: (1) wilfully kill, injure, take a badger or attempt to do so, (2) cruelly ill-treat a badger or (3) interfere with a sett, including disturbing a badger while occupying a sett.

Policy

National Planning Policy Framework (2012)

The National Planning Policy Framework replaces *Planning Policy Statement 9 (PPS 9) – Biodiversity and Geological Conservation* but the accompanying guidance document (*ODPM 06/2005: Biodiversity and Geological Conservation-Statutory Obligations and their impact within the Planning System*) has not been withdrawn.

The NPPF sets out the Government's policies on the protection of biodiversity and sites of geological interest through the planning system. It required local planning authorities, when taking decisions, to ensure that appropriate weight is attached to designated sites of international, national and local importance, protected species and to biodiversity and sites of recognised geological interest within the wider environment. It states:-

"The planning system should contribute to and enhance the natural and local environment by:

- Protecting and enhancing values landscapes, geological conservation interests and soils;*
- Recognising the wider benefits of ecosystem services;*
- Minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures."*

"When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

- If significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest;*
- development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;*
- opportunities to incorporate biodiversity in and around developments should be encouraged;*
- planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and*
- the following wildlife sites should be given the same protection as European sites:*
 - potential Special Protection Areas and possible Special Areas of Conservation;*
 - listed or proposed Ramsar sites^[26] and*
 - sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.*
- The presumption in favour of sustainable development (paragraph 14) does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined.*

Biodiversity Action Plan (BAP)

In 1993, the UK government consulted over three hundred organisations throughout the UK and held a two day seminar to debate the key issues raised at the Convention of Biological Diversity. The product of this was

the launch of Biodiversity: the UK Action Plan in 1994 which outlined the UK Biodiversity Action Plan for dealing with biodiversity conservation in response to the Rio Convention.

The UK Biodiversity Steering Group was created in 1994 and published Biodiversity: the UK Steering Group Report – meeting the Rio challenge. This established the framework and criteria for identifying species and habitat types of conservation concern.

From this list, action plans for 391 species and 45 broad habitat types were produced. As well as having national priorities and targets, action was also taken at a local level. The Steering Group drew up a set of guidelines that were discussed with the Local Authority Association and the Local Government Board. Today there are 162 Local Biodiversity Action Plans in the UK. A review of the UK BAP was undertaken between 2003 and 2006.

Local Supplementary Planning Notes

Liverpool City Council has produced the Unitary Development Plan (UDP) which provides the statutory framework to guide development and protect and enhance the environment of the City. It gives clear guidance on the wide range of land use issues which will arise over the plan period and provide the basis for development control decisions. To provide further guidance about the implementation of specific planning, the policies within 'Chapter 8: Open Environment' of the UDP are as follows:

Policy No.	Policy Topic
OE1	Green belt boundary
OE2	Development in the green belt
OE3	Green wedges
OE4	The Mersey coastal zone
OE5	Protection of nature conservation sites and features
OE6	Development and nature conservation
OE7	Habitat creation and enhancement
OE8	New countryside areas
OE9	Fazakerly Ecology Park
OE10	The Mersey Forest
OE11	Protection of green space
OE12	Enhancement of green space
OE13	Protection of allotment sites
OE14	Open space in new residential developments
OE15	Environment improvement corridors
OE16	The Leeds and Liverpool canal
OE17	The recreational routes network.

Policy 'OE7: Habitat creation and enhancement' is relevant to the application site, as a selection of bat and bird boxes will be included within the development proposal as a form of ecological site enhancement.

APPENDIX 06: SITE ASSESSMENT FOR BIRD SPECIES

1.0 INTRODUCTION

YPG Developments Ltd. commissioned Smeeden Foreman Ltd. to provide a habitat assessment of Monarch's Quay, Liverpool for bird species to inform their planning applications in response to comments received from Liverpool City Council. Three separate planning applications are to be produced which are listed as follows:

- Phase 1A – The TCC building,
- Phase 1B – The Interpretation Centre, a multi-storey car park with ground floor retail; and
- Phase 2 – A retail and leisure complex, apartment block and a hotel.

Refer to Figure A for the site outlines for each application to be produced.

This report details the findings of a single walkover survey of the full application area to assess the suitability of the site for supporting breeding/wintering bird species in relation to the potential impact of the proposed developments. This report will also consider any potential impacts in relation to the proposed extension of Liverpool Bay Special Protection Area (pSPA) and the associated bird species assemblage.

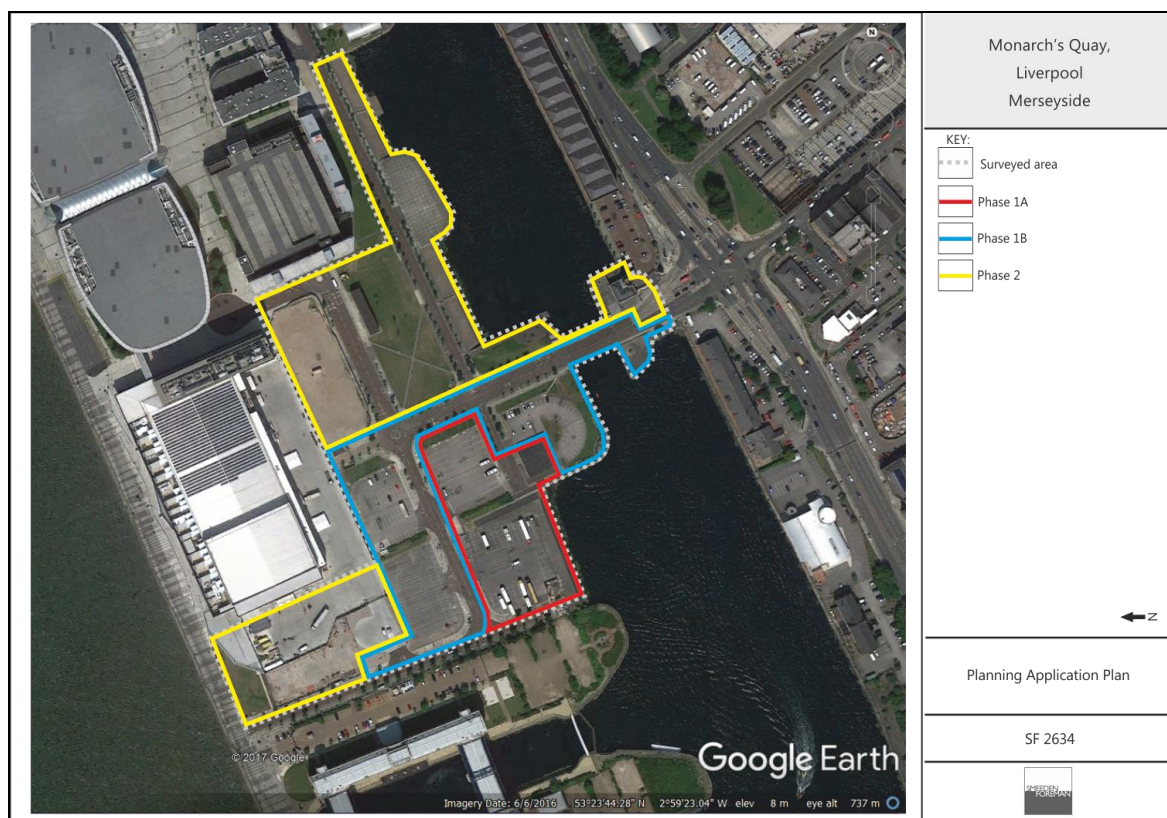


Figure A: Planning Application Plan

2.0 NATURE CONSERVATION DESIGNATED SITES

Statutory Designations in relation to birds

The site contains no statutorily designated nature conservation sites, however two areas (with collective designations) are located within 3km of the site boundary, and one area within 6.5 km of the site with a proposed extension expanding towards the site.

Mersey Narrows & North Wirral Foreshore (SSSI, SPA and Ramsar)

This habitat collective is located approximately 1.9km to the north west of the site (at the closest point). This area is notified for its large areas of intertidal sand and mudflats, which support internationally and nationally important bird populations.

The qualifying features of this site are:

- Overwintering redshank (*Tringa tetanus*); 1,981 individuals representing at least 1.3% of the wintering Eastern Atlantic - wintering population (5 year peak mean 1991/2 - 1995/6);
- Overwintering turnstone (*Arenaria interpres*); 1,138 individuals representing at least 1.6% of the wintering Western Palearctic - wintering population (5 year peak mean 1991/2 - 1995/6);
- Water bird assemblage qualification: A wetland of international importance. Over winter, the area regularly supports 20,269 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: dunlin (*Calidris alpina alpina*), knot (*Calidris canutus*), grey plover (*Pluvialis squatarola*), oystercatcher (*Haematopus ostralegus*), cormorant (*Phalacrocorax carbo*), turnstone and redshank.

New Ferry (SSSI) and Mersey Estuary (SSSI, SAC and Ramsar)

This habitat collective is located approximately 2.2km to the south of the site (at the closest point). This area is notified for its large areas of intertidal sand and mudflats, which support internationally and nationally important bird populations.

The qualifying features of this area are:

- Overwintering golden plover (*P. apricaria*); 3,070 individuals representing at least 1.2% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6)
- Overwintering dunlin; 44,300 individuals representing at least 3.2% of the wintering Northern Siberia/Europe/Western Africa population (5 year peak mean 1991/2 - 1995/6)
- Overwintering pintail (*Anas acuta*); 2,744 individuals representing at least 4.6% of the wintering north western Europe population (5 year peak mean 1991/2 - 1995/6)
- Overwintering redshank; 4,689 individuals representing at least 3.1% of the wintering Eastern Atlantic - wintering population (5 year peak mean 1991/2 - 1995/6)
- Overwintering shelduck (*Tadorna tadorna*); 5,039 individuals representing at least 1.7% of the wintering north western Europe population (5 year peak mean 1991/2 - 1995/6)
- Overwintering teal (*Anas crecca*); 11,667 individuals representing at least 2.9% of the wintering north western Europe population (5 year peak mean 1991/2 - 1995/6)
- Migratory redshank; 3,516 individuals representing at least 2.0% of the Eastern Atlantic - wintering population (5 year peak mean, 1987-1991)
- Migratory ringed plover (*Charadrius hiaticula*); 1,453 individuals representing at least 2.9% of the Europe/Northern Africa - wintering population (Count, as at 1989).
- Assemblage qualification: A wetland of international importance. Over winter, the area regularly supports 99,467 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: curlew (*Numenius arquata*), black-tailed godwit (*Limosa limosa islandica*), lapwing (*Vanellus vanellus*), grey plover, wigeon (*Anas penelope*), great crested grebe (*Podiceps cristatus*), redshank, dunlin, pintail, teal, shelduck, and golden plover.

Liverpool Bay (SPA)

This habitat is located approximately 6.5km to the north west of the site. The current Liverpool Bay supports important numbers of seabird species, including little gull. The site supports the third highest aggregation of little gull in the UK. The boundary of Liverpool Bay SPA is contiguous with the boundaries of The Dee Estuary SPA, Mersey Narrows and North Wirral Foreshore SPA, and Ribble and Alt Estuaries SPA.

The qualifying features of this site are:

- Overwintering red-throated diver (*Gavia stellata*); 922 individuals representing at least 5.4% of the wintering Great Britain - wintering population (5 year peak mean 2001/2 – 2006/7);

- Overwintering common scoter (*Melanitta nigra*); 54,675 individuals, 54% of the Great Britain population (5 year peak mean 2001/2 – 2006/7);
- Water bird assemblage qualification: A wetland of international importance. Over winter, the site regularly supports at least 55,597 individual waterfowl (5 year peak mean 2001/2 – 2002/3) including: red throated diver and common scoter.

An extension of this pSPA boundary has been recommended (to be referred to as the proposed SPA, pSPA), with proposals to extend the boundary of the existing marine SPA to provide protection for little gull and extend further inshore to offer protection to foraging common tern and little tern. This boundary extension will result in the Liverpool Bay pSPA being located 20m to the west of the full application site at its closest point, refer to Appendix 02 for proposed location in relation to the site. The pSPA comprises areas for foraging seabirds, and nonbreeding waterbirds and a water bird assemblage. Cormorant and red breasted merganser will be additional named components of the water bird assemblage.

3.0 BIRD RECORDS

3.1 Site Walkover Surveys

An initial walkover of the site was undertaken for the purposes of the Phase 1 habitat survey undertaken by Smeeden Foreman during January 2017. A follow up walkover survey of the site was undertaken on 18th September 2017 to review the habitats present on site with particular focus on potential use of these habitats by bird species.

The following species were observed on site or in close vicinity of the site boundary, refer to Table 01 and Figure B below for locations of birds on site.

Table 01: *Bird species recorded on site 2017, with species codes to correspond with Figure B. Note, WD denotes Wapping Dock, QD Queen's Dock.*

Species	Species Code	Habitat where observed on site	Number	Notes
<i>January 2017</i>				
Herring gull <i>Larus argentatus</i>	HG	Across site in association with WD	30+	Loafing/resting
Mallard <i>Anas platyrhynchos</i>	MD	WD waters	1	Resting
Cormorant <i>Phalacrocorax carbo</i>	CA	Dockside	1	Resting/drying out
Starling <i>Sturnus vulgaris</i>	SG	Amenity grassland	5	Small foraging flock
Pied wagtail <i>Motacilla alba</i>	PW	Bare ground	2	Foraging
Feral pigeon <i>Columba livia domestica</i>	FP	Hardstanding	6	Resting/foraging
<i>September 2017</i>				
Herring gull	HG	Dockside and on WD waters	46	Birds located in association with WD, loafing on water or resting on dock edge.
Black-headed gull <i>Chroicocephalus ridibundus</i>	BG	WD waters and at dockside of WD and QD	7	All birds noted using dockside for foraging/resting
Cormorant	CA	Adjacent to site	1	Perched adjacent to the north-eastern site boundary
Canada goose <i>Branta canadensis</i>	CG	Amenity grassland	18	Foraging flock
Pied wagtail	PW	Dockside, bare ground and amenity grassland	3	Foraging
Mallard	MD	-	3	Flock recorded in flight only



Magpie <i>Pica pica</i>	MG	-	2	Flight record only
Blue tit <i>Cyanistes caeruleus</i>	BT	Within ornamental tree planting	1	-
Great tit <i>Parus major</i>	GT	Within ornamental tree planting	1	-
Goldfinch <i>Carduelis carduelis</i>	GO	-	16	Flock recorded in flight only
Starling	SG	-	9	Flock recorded in flight only
Woodpigeon <i>Columba palumbus</i>	WP	-	1	Flight record only
Feral pigeon	FP	Hardstanding	7	Sheltering at bridge wall
Northern wheatear <i>Oenanthe oenanthe</i>	W	Foraging and perching on substation	2	Migrant passage

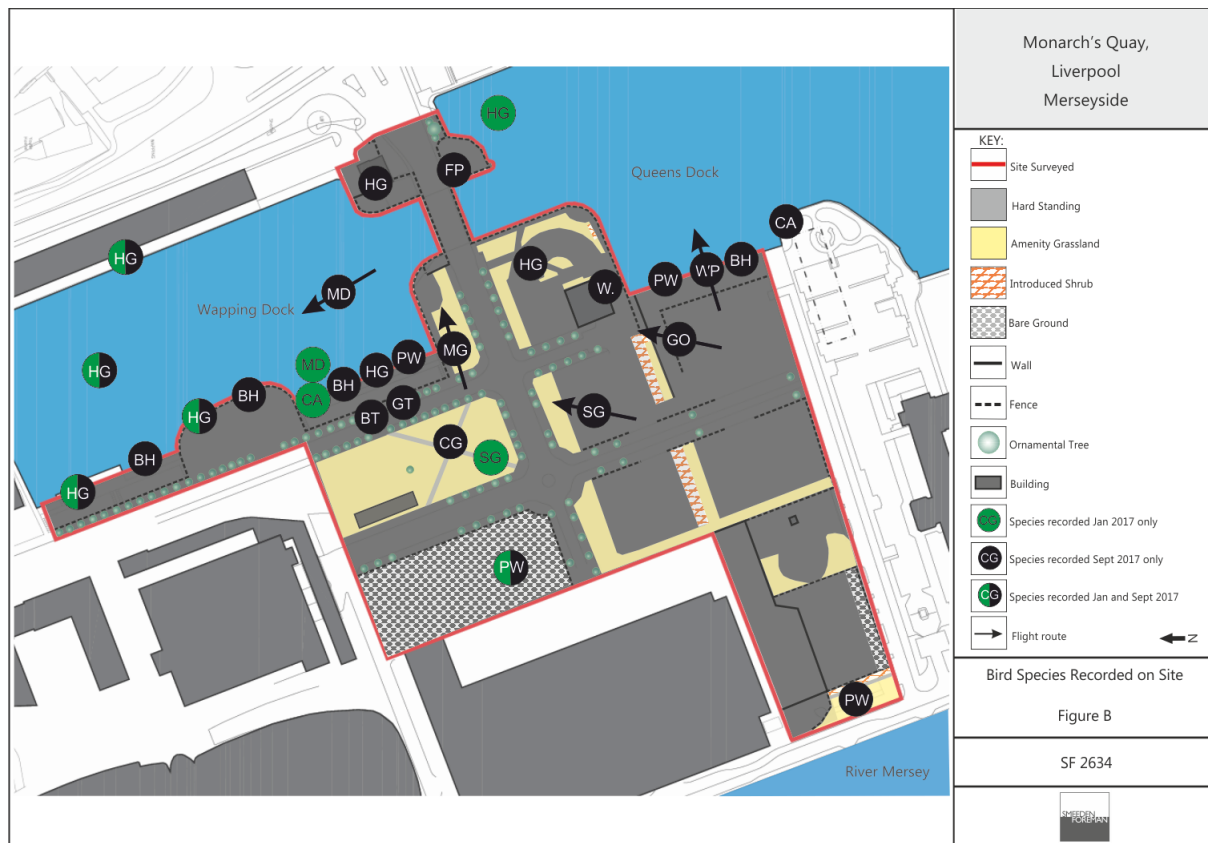


Figure B: Locations of birds recorded on site during January and September walkover surveys

3.2 Desktop Consultation

A desktop consultation was carried out in February 2017 to determine the presence of protected and notable species within 2km radius of the study site. There were no records for protected species found within the site, however, Merseyside Biobank holds multiple records for protected species within 2km from the site. The records provided in the table below are for bird species most relevant to the site which are protected under UK legislation including: Wildlife & Countryside Act 1981 (*as amended*), and Conservation of Habitats and Species Regulations 2010. Details of the conservation status assigned to these species has also been included in reference to the Birds of Conservation Concern List (BoCC), refer to Table 02 below. Full records are available on request.

Table 02: Protected bird species within 2km

Species	No. of records	Dates	Protection/ Conservation Status	Notes on location
Black redstart <i>Phoenicurus ochruros</i>	5	1979-1999	Schedule 1, Red (BoCC Red List)	Possible breeding evidence at Canning Dock (480m north),

				Liverpool Docks and Liver Building (1km north). Grid references give limited accuracy to within 1km
Little ringed plover <i>Charadrius dubius</i>	2	2002-2003	Schedule 1, <i>Green (BoCC Red List)</i>	Unsuccessful breeding attempt at Trafalgar Dock (over 2.5km north). Grid references give limited accuracy to within 1km.

3.3 Previous Surveys

Following consultation with Merseyside Environmental Advisory Service (MEAS), additional species records were obtained following wintering bird surveys undertaken by TEP Limited at the Liverpool Docklands during the period November 2013 – October 2014^[1]. These records were reviewed for the purposes of this report as recommended by Liverpool City Council and are summarised in the following tables.

The species listed in the table below were recorded within the survey area which includes/lies adjacent to the proposals site (Wapping Dock and Queen's Dock) and adjacent areas, namely, Wapping Basin (80m north), Duke's Dock (150m north) and Queens Branch Docks No.1 and No. 2 (160m south).

Table 03: *The following species were recorded in the vicinity of the site. Species highlighted in green are currently listed within the Liverpool SPA waterbird assemblage, species highlighted in blue are proposed for inclusion within the SPA extension:*

Species	On site	Adjacent sites	Peak count	Months recorded	Notes
Canada goose	✓	-	2	Nov/Dec 13, Apr/May/Aug 14	High and low tide
Mallard	✓	✓	11	Nov/Dec 13, Jan/Oct 14	High and low tide. High tide at Duke's Basin
Great crested grebe* <i>Podiceps cristatus</i>	✓	-	1	Mar 14	Low tide at Queen's Dock only
Little grebe <i>Tachybaptus ruficollis</i>	-	✓	1	Mar 14	Low tide at Wapping Basin
Redshank *† <i>Tringa tetanus</i>	✓	-	1	Nov/Dec 13, Feb 14	High tide
Oystercatcher*	✓	-	1	Feb 14	Low tide
Turnstone*	✓	-	2	Feb/Mar 14	High and low tide
Cormorant *†	✓	✓	2	Jan/Feb/Sept 14	High and low tide
Black-headed gull	✓	✓	60 (Feb 14)	Nov/Dec 13, Jan/Feb/Mar/Jul/Aug/Sept 14	High and low tide
Herring gull	✓	✓	40 (Sept 14)	All months	High and low tide
Common gull <i>Larus canus</i>	✓	-	2	Jan/Mar 14	High and low tide, Queen's Dock only
Lesser black-backed gull <i>Larus fuscus</i>	✓	✓	39 (Aug 14)	Nov 13, Jan-Mar/May-Sept 14	High and Low tide at Wapping/Queen's Dock, Duke's Basin
Great black-backed gull <i>Larus marinus</i>	✓	-	1	Dec 13, Jan/Sept 14	High tide and Wapping/Queen's Dock only

Additional flight records during nocturnal/vantage point surveys					
Species	On site	Adjacent sites	Peak count	Months recorded	Notes
Turnstone*	-	✓	1	Apr 14	Across Queen's Branch Dock 2
Little gull* <i>Hydrocoleus minutus</i>	-	✓	2	Nov 13	Coburg Dock
Redshank*†	-	✓	1	Dec 13	Coburg Dock
Cormorant*†	-	✓	19	Mar-Oct 14	Wapping and Queen's Dock waters only
Mallard	-	✓	18	Mar-Oct 14	Wapping and Queen's Docks waters only

* Species listed within qualifying features of Mersey Narrows & North Wirral Foreshore (SSSI, SPA and Ramsar)

† Species listed within qualifying features of New Ferry (SSSI) and Mersey Estuary (SSSI, SAC and Ramsar)

Other wintering bird surveys of relevance were undertaken during 2013 in relation to the approved planning application for the construction of the Exhibition Centre and associated infrastructure adjacent to the proposals site (application reference 13F/2655). These surveys covered Wapping Dock and Queen's Dock and the main findings reported no notable species present in relation to the areas on or adjacent to the proposals site^[1].

4.0 HABITATS ON SITE

Following the Phase 1 Habitat survey undertaken by Smeeden Foreman Limited in January 2017, the majority of the proposals site was found to comprise hardstanding including access roads, car parking and paved footpaths. Minimal areas of green space exist on site with areas of amenity grassland, introduced shrub and young ornamental tree planting present. Bare ground comprising compacted rubble is also located in close proximity to the Exhibition Centre and pedestrian walkways. These habitats are illustrated in Figure B above.

4.1 Schedule 1 Breeding Species



Merseyside BioBank provided records of two Schedule 1 protected bird species within 2km of the site, black redstart and little ringed plover. Habitats on site provide very limited potential for supporting these species and this is discussed in further detail below:

Little ringed plover

This species has been recorded breeding within the Liverpool Docklands and the most recent record provided by Merseyside BioBank highlights a breeding attempt over 2.5km north at Trafalgar Dock in 2003. A more recent record of a pair of birds have also been recorded at West Waterloo Dock over 2.5km north of the proposals site in 2011^[1].

The bare ground at the proposals site comprises compact rubble with little colonising vegetation. This habitat could be considered suitable for supporting little ringed plover, however, this ground-nesting species is particularly susceptible to disturbance and due to the proximity of the habitat to pedestrian walkways and regular vehicle traffic, it is anticipated the presence of this species occurring on site is unlikely. The strip of ground to the southern site boundary (Photo A below) is enclosed and considered too small to be attractive to little ringed plover. This small strip and the larger area to the western site boundary (Photo B) are subjected to frequent disturbance from pedestrians, dog-walkers and vehicle noise. Both areas are also well-lit with street lighting and adjacent development.

Due to the transient nature of breeding habitat for little ringed plover, with potential sites becoming unsuitable for nesting birds as plants regenerate, this area may only serve to be attractive to this species for a short period. Although nesting is considered unlikely, on a precautionary basis, if works must take place during the breeding bird season (March – August inclusive) it is recommended a checking survey for little ringed plover is undertaken prior to the commencement of any works on site to ensure any potential harm or disturbance to this species is avoided.

	
<p>Photo A: Small strip of enclosed bare ground to southern site boundary, unsuitable for nesting.</p>	<p>Photo B: Larger area of bare ground to western site boundary adjacent to access road for multi-storey car park – well-lit and subject to disturbance.</p>

Black redstart

Consultation with Merseyside BioBank provided records for the nationally rare black redstart which pre-date 1999. The most recent record is of possible breeding evidence located at the Liver Building approximately 1 km north of the proposals site.

In urban habitats, black redstart favour ledges/recesses within man-made structures with vertical features such as building gantries, old jetties and flood defence structures in proximity to open water for foraging. There are limited breeding opportunities for black redstart at the proposals site with the buildings being unsuitable for this species and the jetties and bridge present generally being intact unsuitable for this species. There is limited scope for nesting opportunities at Wapping and Queen's Dock edges and Queens Wapping Bridge itself with no visible cavities suitable for nesting or potential song perches used during breeding.

As a precautionary measure, if works must take place during the breeding bird season (March – August inclusive) it is recommended a checking survey for nesting birds is undertaken prior to the commencement of any works on site to ensure any potential harm or disturbance to breeding bird species is avoided.

Peregrine falcon

Peregrine falcon are known to breed at Liverpool Docklands with individual birds observed passing through the docks^[1]. The buildings on site comprise two flat roofed substations and a hydraulics tower, none of which are considered to be of a sufficient height or provide suitable ledges for the breeding requirements of peregrine. No evidence of previous breeding was noted during an inspection of the hydraulics tower in July 2017.

4.2 SPA/pSPA Species

Existing records present for the site and surrounding area are summarised within Table 02. With the exception of gull species using the dock waters, low numbers (<3 individuals) of the following SPA/pSPA species were recorded in the vicinity of the site and immediate surrounding area: redshank, little gull, oystercatcher, turnstone and great crested grebe. The majority of birds were recorded using the dock waters with minimal flight paths across site. Higher numbers of cormorant and mallard flight line routes followed the Leeds Liverpool Canal docks with no recorded flight paths across the proposals site.

Habitats on site are considered to have little capacity to support roosts of SPA/pSPA species and no roosts were identified during previous wintering bird surveys of the Liverpool Docklands^[1]. Sympathetic lighting schemes need to consider potential areas which will be sensitive to artificial light sources, such as the southern site boundary close to the proposed extension of Liverpool Bay (pSPA) and the areas with higher bird activity, i.e. Wapping Dock and Queen's Dock.

4.3 Other Species

During the walkover surveys undertaken by Smeeden Foreman in January and September 2017, starling and northern wheatear were recorded on site. The starling is a UKBAP priority species and listed on the Birds of Conservation Concern UK Red List as a result of population declines^[3]. Nesting opportunities for starling are to be included within the proposals for the site, refer to the section below. Northern wheatears are a summer

migrant species and the typical breeding habitat for this species is generally associated with upland moorland, therefore the two individuals recorded in late September are considered to be birds on passage, briefly stopping on site.

5.0 IMPLICATIONS/RECOMMENDATIONS

5.1 Timing and Lighting

Vegetation clearance and site checking surveys

All wild birds are protected under the *Wildlife and Countryside Act 1981 (as amended)* when breeding. It is, therefore, recommended that any vegetation clearance which is suitable breeding bird habitat is only removed outside of the breeding bird season (March to August inclusive) or subsequent to a checking survey by an appropriately qualified ecologist to establish that no active nests are present. If nesting birds are identified works should cease in proximity to the nest until the young birds have fledged.

If works take place during the breeding bird season (March – August inclusive) it is recommended additional checking surveys for little ringed plover and black redstart are undertaken prior to the commencement of any works on site and during construction to ensure any potential harm or disturbance to Schedule 1 protected species is avoided. Black redstart may breed on active construction sites and monitoring of the site during this time will ensure any potential nests are located and protected accordingly.

Lighting

Sympathetic lighting schemes included within the proposals need to consider potential areas which will be sensitive to artificial light sources, such as the southern site boundary close to the proposed extension of Liverpool Bay (pSPA) and the areas with higher bird activity, i.e. Wapping Dock and Queen's Dock.

It is recommended any lighting during and post-development works is appropriately designed to avoid illuminating potentially sensitive areas such as estuary and dock side edges and wildlife mitigation areas such as bird box locations and proposed green/brown roof areas (see *Habitat Enhancement Measures* section below).

5.2 Habitat Enhancement Measures

As highlighted above, the proposals site is considered to be generally unsuitable for the breeding requirements of little ringed plover, black redstart and peregrine falcon and no adverse impacts on these species are therefore anticipated as a result of the development. Enhancements for black redstart and little ringed plover should be considered for inclusion within the proposals, where feasible, in addition to mitigation already proposed.

Species-specific nestboxes to be installed in site will provide nesting opportunities for black redstart, swift, house martin and starling (refer to 'Phase 1A', 'Phase 1B' and Phase 2' Design and Access Statements - Monarch's Quay, King's Dock, Liverpool, YPG Developments Ltd, for bird box specifications and locations). The provision of nestboxes for black redstart and the incorporation of a green/brown roof scheme would aim to increase nesting/foraging opportunities and enhance the area for this species, both during breeding and on passage.

- In addition to the variety of bird boxes recommended for installation on site, the incorporation of green/brown roof schemes within the proposals would aim to benefit a range of SPA/pSPA/UKBAP species recorded on or in the vicinity of the site. The creation of green/brown roofs require little to no maintenance and, depending on the extent of the roof space available, would aim to provide nesting and foraging opportunities for ground nesters such as little ringed plover and oystercatcher and cavity nesters such as black redstart. Other features such as log and stone piles would provide important foraging habitat for black redstart, starling, goldfinches and wagtail species.
- Green/brown roof design should aim to incorporate features such as the following:

- Creation of a rock/stone/gravel substrate mixed with small amounts of natural soil to be left for plants to naturally regenerate by self-seeding, replicating sparse vegetation typical of that found at brownfield sites;
- Provision of nesting opportunities in the form of vertical cracks, recesses, cavities and ledges;
- Log and boulder piles to encourage insect diversity
- Varied substrate depth to allow wildflower planting and sedum mats^[4].

6.0 REFERENCES

^[1] Assessment of Supporting Habitat (Docks) for Use by Qualifying Features of Natura 2000 Sites in the Liverpool Region. TEP Limited. Accessed September 2017 at www.meas.org.uk/1088.

^[2] *Wildlife and Countryside Act* (1981). H.M.S.O., London.

^[3] Eaton MA, Aebischer NJ, Brown AF, Hearn R, Lock L, Musgrove AJ, Noble DG, Stroud D and Gregory RD (2015) *Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man*. British Birds 108, pp 708-746.

^[4] Black redstart ecology and mitigation design <https://www.blackredstarts.org.uk/> [Accessed September 2017]

APPENDIX 07: HABITAT REGULATIONS ASSESSMENT

1.0 INTRODUCTION

European sites (e.g. designated Special Areas of Conservation and Special Protection Areas) fall within the scope of the Conservation of Habitats and Species Regulations 2010. In addition paragraph 118 of the National Planning Policy Framework requires that potential Special Protection Areas, possible Special Areas of Conservation, listed or proposed Ramsar sites, and any site identified as being necessary to compensate for adverse impacts on classified, potential or possible SPAs, SACs and Ramsar sites be treated in the same way as classified sites.

Under Regulation 61 of the Conservation of Habitats and Species Regulations 2010 (The Habitat Directive) an appropriate assessment needs to be undertaken in respect of any plan or project which is (a) likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and (b) not directly connected with or necessary to the management of the site.

The Habitats Directive seeks to protect the integrity of Natura 2000 sites and requires Habitats Regulations Assessments (HRA) to be undertaken to assess the implications of the plan or project on, or in close proximity with, Natura 2000 sites, including Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites.

The Habitat Regulations Assessment consists of 4 stages as follows:-

- Stage 1. *Screening:*
Determine if an Appropriate Assessment under the HRA is required; is it likely that a significant adverse effect (SAE) will occur on a N2K site?
- Stage 2. *Appropriate Assessment:*
If at *Stage 1* it is determined that significant effects are likely then an Appropriate Assessment should be made of the impact of any identified SAEs on the integrity of a N2K site, including where applicable the effects of appropriate mitigation.
If an SAE on the integrity of a NK2 site cannot be avoided despite proposed mitigation measures then consent can on be given if stages 3 and 4 are satisfied.
- Stage 3. *Assessment of Alternatives;*
Determine if there is an alternative way of achieving the objectives of the project that will avoid a SAE on the integrity of a NK2 site.
- Stage 4. *Imperative Reason of Overriding Public Interest (IROPI):*
Where there are no alternative solutions an assessment is made to determine if the proposed development is necessary for an IROPI.

Stage 1 consists of a screening exercise designed to identify whether the project is likely to have a significant effect on the interest features of the site alone or in combination with other plans/projects. In the event of a Likely Significant Effect on a European/Internationally designated site being identified or being uncertain, Stage 2 of the assessment is required, that is an Appropriate Assessment needs to be undertaken.

The screening process of the Habitat Regulations Assessments is undertaken to determine if there are likely to be any potentially significant impacts on the ecological integrity of such sites in respect to their designation criteria, as a result of development proposals. This section of the report constitutes the screening exercise undertaken to determine whether the proposed development is likely to have a significant effect on the interest features of the European sites.

2.0 EUROPEAN DESIGNATED SITES

The site is located within 1.9km of the Mersey Narrows and North Wirral Foreshore SSSI/SPA/Ramsar, 2.2km of the New Ferry SSSI and Mersey Estuary SSSI/SPA/Ramsar and 110m of the proposed Liverpool Bay SPA extension. The site is therefore in close proximity to European designated sites (SPA/Ramsar).

The Mersey Narrows & North Wirral Foreshore (SSSI, SPA and Ramsar) collective are located approximately 2.1km to the north west of the site (at the closest point). This area is notified for its large areas of intertidal sand and mudflats, which support internationally and nationally important bird populations.

The qualifying features of this site are:-

- Over wintering redshank (*Tringa tetanus*); 1,981 individuals representing at least 1.3% of the wintering Eastern Atlantic - wintering population (5 year peak mean 1991/2 - 1995/6);
- Over wintering turnstone (*Arenaria interpres*); 1,138 individuals representing at least 1.6% of the wintering Western Palearctic - wintering population (5 year peak mean 1991/2 - 1995/6);
- Water bird assemblage qualification: A wetland of international importance. Over winter, the area regularly supports 20,269 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: dunlin (*Calidris alpina alpina*), knot (*Calidris canutus*), grey plover (*Pluvialis squatarola*), oystercatcher (*Haematopus ostralegus*), cormorant (*Phalacrocorax carbo*), turnstone and redshank.

New Ferry (SSSI) and Mersey Estuary (SSSI, SAC and Ramsar) collective are located approximately 2.3km to the south of the site (at the closest point). This area is notified for its large areas of intertidal sand and mudflats, which support internationally and nationally important bird populations.

The qualifying features of this area are:-

- Overwintering golden plover (*P. apricaria*); 3,070 individuals representing at least 1.2% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6)
- Overwintering dunlin; 44,300 individuals representing at least 3.2% of the wintering Northern Siberia/Europe/Western Africa population (5 year peak mean 1991/2 - 1995/6)
- Overwintering pintail (*Anas acuta*); 2,744 individuals representing at least 4.6% of the wintering north western Europe population (5 year peak mean 1991/2 - 1995/6)
- Overwintering redshank; 4,689 individuals representing at least 3.1% of the wintering Eastern Atlantic - wintering population (5 year peak mean 1991/2 - 1995/6)
- Overwintering shelduck (*Tadorna tadorna*); 5,039 individuals representing at least 1.7% of the wintering north western Europe population (5 year peak mean 1991/2 - 1995/6)
- Overwintering teal (*Anas crecca*); 11,667 individuals representing at least 2.9% of the wintering north western Europe population (5 year peak mean 1991/2 - 1995/6)
- Migratory redshank; 3,516 individuals representing at least 2.0% of the Eastern Atlantic - wintering population (5 year peak mean, 1987-1991)
- Migratory ringed plover (*Charadrius hiaticula*); 1,453 individuals representing at least 2.9% of the Europe/Northern Africa - wintering population (Count, as at 1989).
- Assemblage qualification: A wetland of international importance. Over winter, the area regularly supports 99,467 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: curlew (*Numenius arquata*), black-tailed godwit (*Limosa limosa islandica*), lapwing (*Vanellus vanellus*), grey plover, wigeon (*Anas penelope*), great crested grebe (*Podiceps cristatus*), redshank, dunlin, pintail, teal, shelduck, and golden plover.

The Liverpool Bay pSPA boundary is located approximately 110m to the west of the site. The current Liverpool Bay supports important numbers of seabird species, including little gull. The site supports the third highest aggregation of little gull in the UK. The boundary of Liverpool Bay SPA is contiguous with the boundaries of The Dee Estuary SPA, Mersey Narrows and North Wirral Foreshore SPA, and Ribble and Alt Estuaries SPA. The recommendation proposed is to extend the boundary of the existing marine SPA to provide protection for little gull and extend further inshore to offer protection to foraging common tern and little tern. The pSPA comprises areas for foraging seabirds, and nonbreeding waterbirds and a water bird assemblage. Cormorant and red breasted merganser will be additional named components of the water bird assemblage.

3.0 POTENTIAL IMPACTS

In order to identify whether the proposed development is likely to have a significant effect on the interest features of the European sites, the potential impact pathways have been considered in terms of potential direct and indirect impacts. Where a potential impact or pathway has been identified the potential for a significant impact to result from it which would affect the integrity of the site or feature has been considered. This assessment is presented in Table 01 and 02 below.

The results of the assessment indicate that significant impacts which would affect the integrity of the site or feature are considered unlikely. An Appropriate Assessment is therefore considered unnecessary.

The main factors pertaining to this conclusion are the poor quality habitat on the application site which is unsuitable for use by the qualifying species, and the distance between the application site and the statutory designations.

Table 01: Direct impacts			
Potential direct impacts	Applicability to the proposals site.	Proposed mitigation.	Probability of a significant effect.
Loss/reduction of habitat within an N2K site.	None – the proposals do not directly affect the designated sites.	None.	None.
Loss/reduction of functional land outside an N2K site.	None - the proposals site contains no habitats which compliment those of the designated sites (refer to Appendix 01).	None	None.
Light pollution.	Additional light pollution anticipated to be insignificant compared to existing situation (residential and commercial areas within the vicinity of the proposals site).	Lighting scheme to be designed to minimise light spill – use of low wattage, low level lighting, directed away from boundaries i.e. adjacent waterbodies.	Unlikely.
Air pollution – building emissions.	Negligible – proposals are for office and residential development (no high pollution activities such as waste incinerators/manufacturing industries).	None – building emissions to be regulated according to current standards.	Unlikely.
Air pollution – traffic emissions.	Additional emissions as a result of increased traffic anticipated to be negligible compared to existing city traffic in the local area.	None.	Unlikely.
Ground pollution.	The River Mersey lies directly between development site and the designated collective areas.	Best practice procedures in respect of potential pollution incidences to be in place during construction including sediment fencing.	Unlikely
Water quality	The River Mersey lies directly between development site and the designated collective areas.	Best practice procedures in respect of potential pollution incidences to be in place during construction and operation.	Unlikely
Changes in water table or drainage.	The River Mersey lies directly between development site and the designated collective areas.	Drainage scheme to preserve existing flow conditions, incorporate silt/oil traps and meet standard discharge requirements of the Environment Agency.	Unlikely

Table 02: Indirect impacts

Potential indirect impacts	Applicability to the proposals site.	Proposed mitigation	Probability of a significant effect.
Loss of complimentary habitats.	The proposals site contains no habitats which compliment those of the designated sites.	None.	None.
Loss of semi-natural habitats within the surrounding area.	The proposals site does not contain any semi-natural habitat.	None.	None
Fragmentation – breaking up connections between areas of semi-natural habitat.	The proposals site does not contain any semi-natural habitat connections.	None.	None.
Increased disturbance to wildlife (people and traffic)	None anticipated - due to type of proposed development, existing use of site and surroundings and distance from the designated sites.	None.	Unlikely
Increased light pollution.	Additional light pollution anticipated to be insignificant compared to existing situation (residential and commercial areas within the vicinity of the proposals site).	Lighting scheme to be designed to minimise light spill – use of low wattage, low level lighting, directed away from boundaries i.e. adjacent waterbodies.	Unlikely
Increased fly-tipping.	None anticipated - due to type of proposed development and distance from the designated sites.	None	Unlikely
Increased predators eg. cats.	None anticipated - due to type of proposed development and distance from the designated sites.	None.	None

4.0 CONCLUSION

This assessment concludes that the risk of impacts to the Ramsar/SPA/pSPA/SSSI collectives are anticipated to be none or unlikely, such that it is considered that the proposed development will give rise to no significant effects that would harm the integrity of the protected areas, habitats or species for which they are designated.

This is primarily due to the following factors:

- Lack of complimentary habitats: the sites do not have complementing habitats; the protected sites are predominately extensive intertidal flats; whereas the application site is predominantly hard standing and amenity grassland.
- Lack of suitable foraging and breeding habitat on site for the qualifying species (overwintering water birds and water bird assemblages).
- Proposed mitigation for potential indirect effects including lighting, air pollution and effects on water quality.

The potential effects on the Natura 2000 sites posed by the proposed development have been assessed as negligible with all potential impacts anticipated to be unlikely to have a significant effect. It is therefore considered that a Stage 2: Appropriate Assessment is not required.