

Romal Capital

Plot C-02

Environmental Statement
Volume III: Non-Technical
Summary

Issue | 15 November 2019

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 262812

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1 Introduction

1.1 Introduction

This document provides a Non-Technical Summary (NTS) of the Environmental Statement (ES) that has been prepared on behalf of Romal Capital ('the Applicant') to support proposals for the proposed projects (hereafter referred to as 'the proposed scheme').

Full planning consent for residential development of up to 538 units (Use Class C3) and ground floor commercial space (Use Classes A1, A3 or A4) with associated partial dock infill of West Waterloo Dock, access, parking, servicing, soft and hard landscaping and public open space including a floating timber jetty and dockside walkway

This NTS provides a high-level summary of the technical assessments that have been carried out and how the proposed scheme could affect the environment. Full details are provided within the full ES (Volume I: Main Report and Volume II: Appendices and Figures).

The ES has been prepared to comply with the Town and Country (Environmental Impact Assessment) Regulations 2017. Environmental Impact Assessment (EIA) is a formal process to assess the negative and positive effects of a proposed scheme. In undertaking the EIA, current best practice has been followed, and in particular the guidance set out in the Institute of Environmental Management and Assessment (IEMA) Guidelines for Environmental Impact Assessment.

Hard copies of the ES are available for public viewing at Liverpool City Council, Cunard Building, Water Street, Liverpool, L3 1AH, during normal office hours.

Electronic copies of the ES can also be downloaded from the LCC planning website (www.liverpool.gov.uk).

Additional hard or electronic copies of the ES can be purchased from Arup on request:

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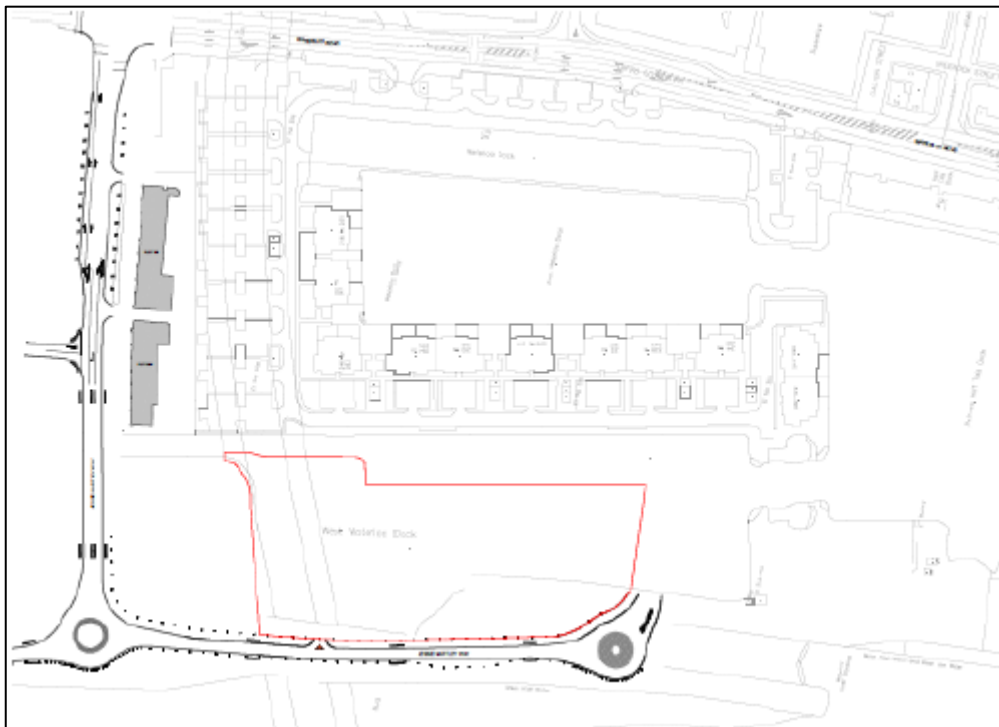
2 The Site and the Proposed Scheme

2.1 The Site

The site is located on vacant but previously developed land within Central Docks. It covers approximately 1.12ha and comprises areas of hardstanding, historic infilling and waterspace (part of West Waterloo Dock). Figure 1 depicts the site and its surrounding context. The proposed scheme has retained its development name 'C-02' for the sake of this application and the scheme is referred to as C-02 through this application.

Further hardstanding is located to the north and south of the site where future development is proposed as part of the Liverpool Waters Outline consent (100/2424) and the Isle of Man Ferry Terminal consent (18F/3231). The West Waterloo Dock is located to the east of the site along with adjacent residential amenity in the form of Waterloo Dock apartments and Waterloo Warehouse. To the west, road infrastructure is currently being constructed to service development within this area of Central Docks (17F/2628) and further west of this lies the River Mersey.

Figure 1: C-02 Site Location



2.2 Site History

One of the key attributes of Liverpool, and a fundamental reason for the inscription of the WHS, is the presence of the docks. At their peak the operational docks ran for c.12km north to south along the Mersey waterfront, and were a feat of engineering marked by innovative water management techniques and advances in cargo handling, that made them the most effective docks of the period. This was accomplished not through a long, drawn out process of gradual evolution, but over a relatively short time-frame, starting with the opening of the Old Dock by Thomas Steers in 1715, and which at the time was the world's first commercial wet dock, to the south of the development site.

Following on from the Steers Dock, an octagonal tidal entrance basin was built, with graving docks and a landing stage, and the first sea wall was constructed that started to define the new shoreline. The huge investment in land reclamation, with docks and sea walls built into the river, was supported by the requisitioning of waste material from the growing population of the city, including pottery, quarry waste, and organic matter generated by the butchers, tanners etc who were increasingly based along the new waterfront. The area known as Nova Scotia, constructed around a slipway to the river, and located in the present-day Mann Island area, provided a ready supply of infill material, and led to further westward expansion of the sea walls, and the Manchester Basin. By 1771, the area of Pier Head had also been reclaimed, with the central area of that location occupied by Georges Dock, and linked to Canning Dock via George's Dock passage to the south. Further change came with the construction of Georges Dock Basin and Georges Ferry, which effectively created a series of small 'islands' linked by swing bridges. At this stage, the northern docks, including Waterloo and Victoria Docks were not constructed, with the development site still within the River Mersey at this time.

To the north of Georges Dock, there followed a series of construction projects in quick succession. Princes Dock was completed in 1821, with a connection to Georges Dock to the south, and accessed from the Mersey via the Princes Dock Basin to the north. At the same time, the first of the Dock boundary walls was provided, to control access between the operational docks and the city. The next phase of dock construction was overseen by Jesse Hartley, between 1824 and 1860, the pre-eminent engineer who more than doubled the dock accommodation in the city. Clarence Dock and Clarence Graving Dock opened in 1830, with Waterloo Dock completed in 1834. By 1836, Victoria and Trafalgar Docks were open, and along with Waterloo Dock they formed a uniform trio of inter-connecting water spaces, with river access gained through the Victoria Dock lock gate. However, this access was closed after just 10 years, meaning that access could only be gained through the dock network. This made the trio of docks the first real examples of spine and branch dock, with the docks aligned on an east-west axis, and transit sheds surrounding them on each side.

Whilst Princes Dock was constructed as the hub for trans-Atlantic trade, Waterloo Dock was also the location for the American packet ships, and was instrumental in the migration of people and goods. It was also at the centre for the traffic from

Ireland, and played an important role in the Irish diaspora following the potato famine in the 1840's. This aspect of Waterloo Dock was significantly reduced after the 1860's, as Princes Dock, and its new landing stage, once again became the focus for the American trade.

Hartley's successor, GF Lyster, was responsible for re-modelling a number of the docks, including Princes Basin in 1868, which was re-modelled and re-named as Princes Half-Tide Dock. In 1873, Georges Dock Basin was infilled allowing for a floating roadway leading down to the landing stage. Georges Dock itself was infilled c.1900, and the area of the former dock was used as the site for the construction of the Three Graces.

Waterloo Dock was re-developed in 1868 following the repeal of the Corn Laws, and this allowed the Dock to become the world's first specialist grain dock. From its original 5-acre space, the new dock was completely re-orientated, and two basins were constructed, on a north-south axis, and named Waterloo Docks East and West.

East Waterloo Dock became the specialist grain dock, with huge brick warehouses with colonnades. The three buildings were located on all three sides of the dock, with that on the northern quay being shorter than those to east and west. The long warehouses had granite bases with limestone floors, of 5 working storeys, plus basement and mezzanine. These levels housed machinery and conveyor belts, operated hydraulically, which in turn worked three bridges, ten ship capstans, and 24 gate engines. West Waterloo Dock was used for general cargo and provided a passage between Victoria Dock and Princes Half-Tide Dock, as well as berths for ocean going vessels. It had long transit sheds on its east and west quays, with a smaller one to the south. The northern warehouse was destroyed in the air-raids of 1941, whilst the western warehouse was demolished in 1969, along with the smaller transit buildings.

The eastern warehouse remains, although it was converted into residential accommodation in the 1980s, and is now a grade II listed building. The site of the northern warehouse is now partially a car-park for the residents of the former eastern warehouse.

In 1929, a modernization programme was undertaken that saw the in-filling of Clarence Dock, Clarence Half-Tide Dock and part of Victoria Dock, whilst Trafalgar Dock was substantially re-ordered, and a power station was constructed within the in-filled Clarence Dock.

With the provision of lock gates as part of the re-modelled West Waterloo Dock in 1949, which allowed direct access to the Mersey, the dock water space essentially merged with Victoria Dock to the north as a larger L-shaped dock, and was used as a small container port in the 1970's. However, this proved short-lived, and the Dock closed in 1988. Following its in-filling, it was partially re-excavated with the construction of the Leeds-Liverpool canal link in 2007.

The changes made to West Waterloo Dock included the demolition of its northern wall to allow for the breaking through into Victoria Dock, and the re-orientation of its western retaining wall to accommodate the canted river lock. This also led to a new sea wall being constructed in mass concrete, and its re-alignment. In the 1990's, the northern part of West Waterloo dock was infilled, along with Victoria Dock, and then partially re-excavated during the Leeds-Liverpool canal extension works in 2007.

The current dock retains none of the original form as designed by Hartley, and the only remaining works relating to the 1868 Lyster re-ordering is the eastern retaining wall. The remainder of the dock dates from the 1949 re-modelling to accommodate the river lock.

The site is currently vacant and holds no recreational value due to it not being publicly accessible. As mentioned in section 1.1.1, development is currently taking new road infrastructure (17F/2628) and a neighbouring Isle of Man Ferry Terminal consent (18F/3231).

2.3 The Proposed Scheme

2.3.1 Development Description

This planning application seeks full consent for the construction of a new residential development with supporting commercial floorspace and enhanced public realm within Central Docks, Liverpool Waters.

The proposed scheme is described as:

Full planning consent for residential development of up to 538 units (Use Class C3) and ground floor commercial space (Use Classes A1, A3 or A4) with associated partial dock infill of West Waterloo Dock, access, parking, servicing, soft and hard landscaping and public open space including a floating timber jetty and dockside walkway.

2.3.2 Land Use and Quantum of Development

The main elements of the proposal are summarised as follows:

Construction of a residential development consisting of four 10 storey blocks, 32.4m blocks accumulating in 538 residential units and commercial floorspace consisting of:

- Approximately 400sqm of commercial space with the consent for either use classes A1, A3 or A4 and 103sqm of residential amenity space;
- 379 1-bedroom apartments (70%);
- 137 2-bedroom apartments (26%); and
- 22 3-bedroom apartments (4%).

- 165 car parking spaces (equating to an 31% parking provision) comprising of:
- 142 car spaces
- 10 disabled spaces
- 13 electric vehicle spaces
- 280 secure cycle spaces

Partial infill of the West Waterloo Dock to create new land to construct the development;

Creation of new public open space, a 6m dockside walkway, timber jetties for mooring of boats within West Waterloo Dock;

Provision of an enhanced pedestrian and cycle link to further support connection into the wider Central Docks neighbourhood. This enhanced pedestrian and cycle link will connect to the proposed pedestrian link within the neighbouring Isle of Man Ferry Terminal development.

2.3.3 Proposed Site Access

Vehicular access to the proposed scheme will be provided from a priority-controlled access located to the north-west of the site, off the approved new spine linking Waterloo Road to the Northern Link Road currently being constructed. The proposed access has a carriageway width of approximately 6m and operates on a two-way basis.

Pedestrian access will also be provided from the new link road. Whilst not part of this proposed scheme, future aspirations for the area include a pedestrian and cycle link between the proposed Isle of Man Ferry Terminal and Princes Dock. As part of the consented Isle of Man Ferry Terminal proposals, a pedestrian and cycle link will be provided along the eastern boundary of the site, adjacent to the dock, which will connect to the future link, providing a direct route for pedestrians into the city centre.

The proposed scheme proposed to continue and enhance this pedestrian and cycle link along the Waterloo Dock to ensure a protected route along the historic waterfront. There is then an opportunity for this link to continue towards the north of Liverpool Waters as further development comes forward.

2.3.4 Servicing and Parking

The access and internal site layout has been designed to accommodate a large refuse vehicle and a 12m rigid vehicle to avoid servicing and deliveries taking place on the Northern Link Road outside the site boundary. A turning head is provided at the south west of the site to allow vehicles to turn around safely.

The car park will provide a total of 165 spaces (including 10 disabled bays) for the residential use which equates to a 31% parking provision. In addition to the car parking spaces, 280 secure cycle parking spaces will be provided which equates to a 52% parking provision.

2.4 Alternatives

2.4.1 The 'Do Nothing' alternative

Best practice guidance in EIA suggests that the assessment should consider the evolution of the site in the absence of the proposed Scheme i.e. the 'do-nothing' or no development alternative.

If no development was to take place on this site, the area would stay derelict, providing a negative impact in terms of visual impact, aesthetic and amenity. The site would cause a lack of connectivity to the wider Central Dock area, creating poor placemaking between the proposed Isle of Man Ferry Terminal and the rest of the Liverpool Waters due to the large exposed area between the south of Central Docks and the north, caused due to the lack of development.

Because of the currently dereliction of the site, the area could also be an eyesore to visitors passing the site to and from the proposed Isle of Man Ferry Terminal and potential health and safety concerns due to the derelict nature of the current dock space and infrastructure around it.

The new northern link road currently being constructed by Liverpool City Council (17F/2628) is to service the proposed site and the Isle of Man Ferry Terminal. This would mean the 'do nothing' alternative would prevent the LCC from gaining complete investment in the infrastructure it had received funding for.

Development on this site would help connect Princes Dock with the wider Central Dock, providing public accessibility into a site which has been inaccessible for a large period of time. It would bring about better amenity space and access to the Liverpool Mercantile Maritime UNESCO World Heritage Site and prevent the complete deliverability of the Liverpool Waters Vision.

Therefore, the 'do nothing' alternative was not considered to be a viable option.

2.4.2 Alternative locations considered

The proposed scheme looks to provide high quality residential development along Liverpool's waterfront and regenerate previously developed land to bring an underused site back into use and to allow the general public to access waterfront which has been inaccessible for a number of years.

A unique aspect of the proposed scheme which has been in consideration from the beginning of the design has been the applicant's ambition to establish a pedestrian and cyclist route which connects people to the waterfront, providing them with a safe and secure route to other areas of the Liverpool Waters site. In addition to this, the scheme's design proposals allow for users of the Leeds/Liverpool Canal to moor up and enhance the activity of the waterspace through this recreational use. Something that has lacked along the Leeds/Liverpool Canal route for several years, preventing people from stopping along their route.

Therefore, when appraising sites for the proposed scheme, the Applicant required a site which offers the potential for waterside/riverfront regeneration and to meet

the above ambitions. The main drivers for the selection of a suitable location for the proposed scheme were:

- Proximity to Liverpool City Centre to ensure the development is of a suitable location to encourage sustainable modes of transport;
- Proximity to the waterfront to allow the scheme to establish a pedestrian and cyclist route which connects people to the waterfront and allows boats to moor up;
- Proximity to roads and utilities to ensure the development is deliverable;
- Availability of land; and
- Land ownership.

Due to the specific requirement of the applicant the following alternatives have been considered and ruled out.

Plot A01, Princes Dock.

Located in a sustainable location within Princes Dock and close to the three graces, the site is a prime site for redevelopment and is allocated within the Princes Dock Masterplan (as part of the Liverpool Waters Outline Consent) as a mixed-use development which would therefore promote residential as an appropriate use.

The site however would only provide a limited interaction with the existing dock space due to the need to retain the existing Leeds/Liverpool Canal route throughout the site. This and the fact that the site is currently being used as the Cruise Liner Terminal Facility and will be doing so for at least another 2 years means this site is not considered appropriate for the proposed scheme.

Plot C03, Central Dock

Located just north to the proposed scheme, Plot C03 has been allocated within the Central Docks Masterplan as a cultural use and is of much smaller floorspace than the proposed scheme. The site is located within close proximity to the Kingsway Tunnels and therefore has a number of constraints in terms of maximum built height and mass which would not be suited to the quantum the applicant requires. The plot is situated close to the Leeds/Liverpool Canal but due to the narrow width of the canal in this location, the sense of waterfront activity the applicant seeks would not be seen acceptable here. Therefore, it is considered that this site is not appropriate for the proposed scheme.

Plots C05 and C09, Central Dock

Located further north of C02 and C03 lies the proposed plots called C05 and C09 (as set out in the Liverpool Waters Outline Consent and Central Docks Masterplan). These plots are of considerable quantum and are located along the waterfront in close proximity to the River Mersey and the Leeds/Liverpool Canal.

Within the Central Docks Masterplan, these plots are allocated as predominately residential which allows them to be considered further for an alternative use to the proposed scheme.

However, there is currently no infrastructure (in terms of utilities and road networks) that reach to this part of the Liverpool Waters site and providing this would bring about additional time and cost to the applicant which may cause the proposed scheme to be unviable and at this time, is an unsuitable location to encourage sustainable modes of transport when there are other development plots located closer to the City Centre along the waterfront.

Although the locations of the site is in close proximity to water (both river and dock space), it is not of the same scale as the proposed scheme and would not benefit as much as the proposed site being regenerated.

Therefore although plots C05 and C09 could be considered in the future as potential sites, they are not as deliverable or suitable when being compared to the current site of the proposed scheme.

In addition to the assessment of these sites, it is important to state that the applicant currently has control over the land for the proposed site and therefore is seen to be more deliverable than other locations. That, along with the fact that the proposed site will be serviced by the Northern Link Road which is currently being constructed, in addition to the fact that there is outline consent for the partial infill of the dock to deliver a residential use scheme of similar scale clearly sets out how this location is suited to the proposed scheme.

In the context of the above need for development, the aspirations for the continued growth of Liverpool in this specific area and the availability of this significant brownfield site in a highly sustainable location.

For the reasons described above, the Applicant is progressing with the proposed site for this proposed scheme as it is considered that no other sites are suited as alternatives to deliver the outcomes and benefits that the applicant wishes to achieve.

2.4.3 Alternative uses considered

The applicant's aim is to develop a high quality residential use along the waterfront. Nevertheless hotel, commercial and solely landscaping of the site have been considered as alternative uses. However, as set out in the supporting Viability Report that is part of the planning application, these uses were not considered viable at the time of this submission.

2.4.4 Alternative Designs and Evolution of Proposed Scheme

The design of the proposed scheme has been informed by detailed discussions that have taken place internally within the design team in addition to the extensive pre-application engagement and consultation with LCC and key stakeholders throughout the scheme's evolution.

The scheme has evolved from its initial design and arrangement and in response to relevant technical reports submitted in support of the application (for example Townscape and Visual Impact and Wind impacts)

The design evolution can be reviewed in more detail within the supporting Design and Access Statement but the following sets out the design process in relation to the proposed scheme.

Design Strategy

As a result of detailed team discussions and the surrounding context, the original concept evolved as follows (and as evident in Figure 2 below):

- The historic warehouse is re-imagined on the adjacent site - Historically the Waterloo Quay consisted of two identical warehouses. The development starts its design process by reimagining this warehouse on the C02 plot.
- The warehouse has 6 bays - The Waterloo Warehouse has a clear division across its principal facade. Making use of vertical piers and larger windows.
- Rotating the blocks ninety degrees and distributing them evenly across the site provides through views to and from the river - Using the ratio of Waterloo Warehouse, the development then rotates the units to maintain views to and from the Waterloo Warehouse.
- The historic volume is reorganised - The volumes of the re-imagined warehouse that sit outside of the site boundary and re-distributed within the site.
- The blocks are aligned to site constraints - The Kingsway Tunnel runs below the site and is expressed through the alignment of the end block.
- Taller elements are positioned at the edges of the site, mirroring the towers of Waterloo Warehouse - Picking up on the taller elements of the Waterloo Warehouse and the proposed C04 Development, as well as Alexandra Tower. The development seeks to reflect this by creating site edges and focal points.

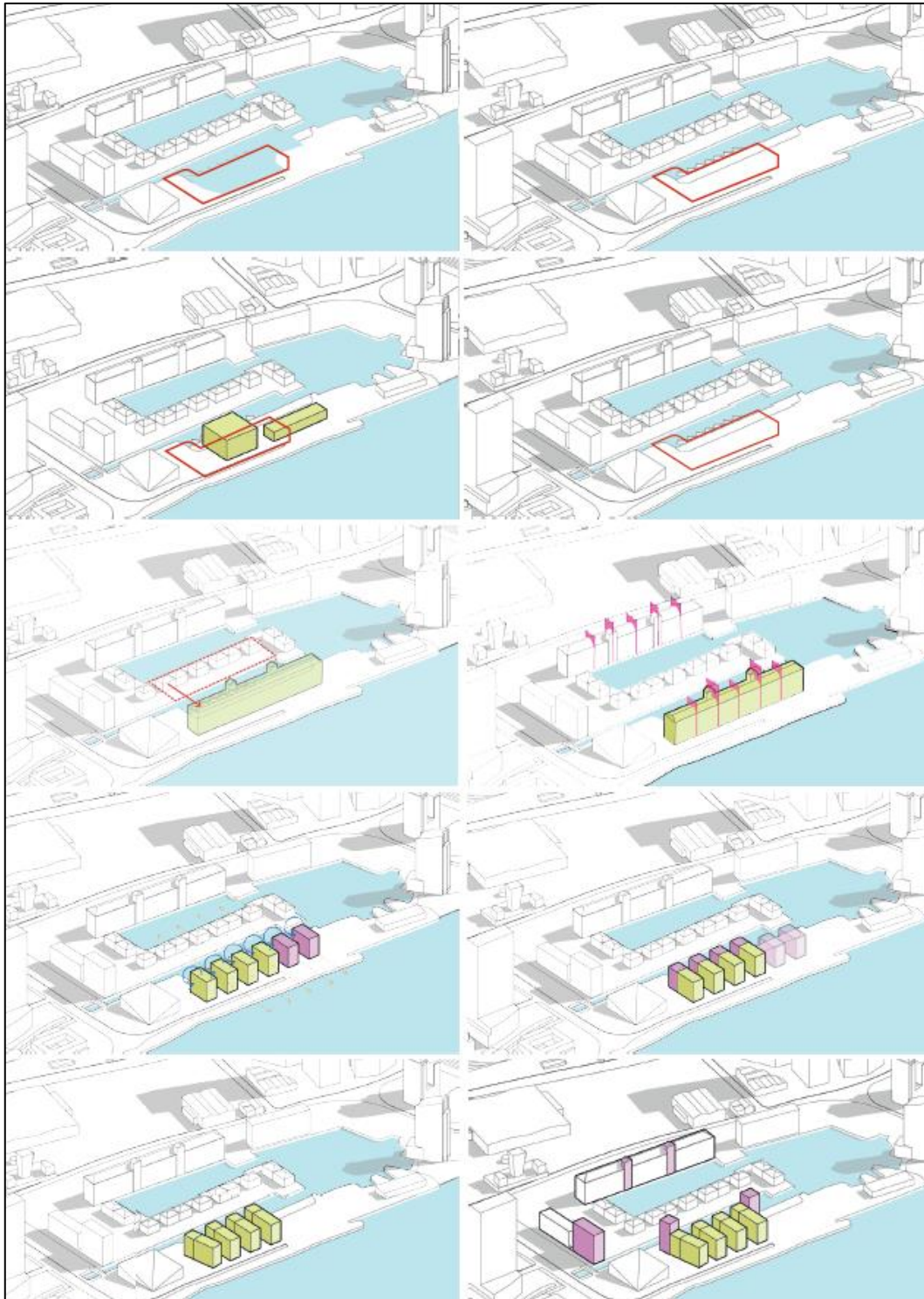


Figure 2 – Original Design Concept

The design further evolved through a number of pre-application meetings with Liverpool City Council. Comments raised about the initial design concerned the following:

- The extent of the infill exceeded the amount outlined in the Liverpool Waters Masterplan, thus raising concern; the development was advised to re-visit this solution;
- It was recommended to present proposals to Places Matter! Design Review at an early stage so any points raised can be duly considered;
- Rationale for the proposed form & massing needed further investigation and the contextual justification for the concept proposed needs to be explored further;
- Advised to ensure that all servicing is undertaken off-street, whilst not undermining landscaping at the front of development, which may require that the public footway is taken through part of the site;
- Provision of amenity space, contribution to public routes across the wider LW scheme and connections to neighbouring plots will need to be agreed in line with the proposals emerging within the Central Docks Masterplan;
- Highways & levels and nature of parking will also need to be agreed, as well as provision for sustainable means of travel, including a minimum of 50% secure, covered cycle storage.

Figures 3 and 4 below depict the design at this early stage.



Figure 3 – Visualisation of initial scheme

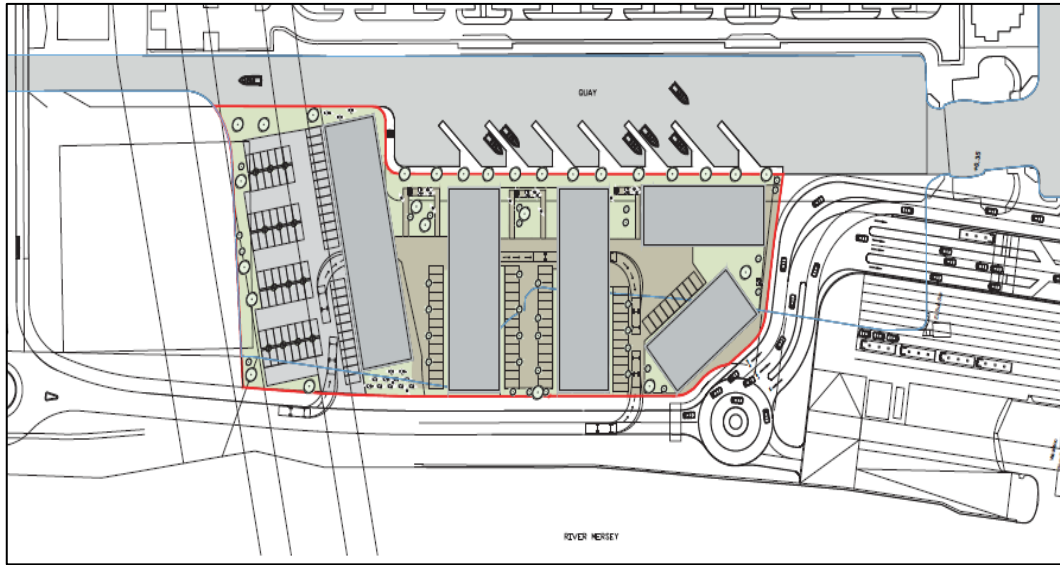


Figure 4 – Site Plan of initial scheme

The design team also met with Historic England (HE), who questioned the extent of the infill. Furthermore, HE noted that the proposal is unlikely to result in notable harm to the setting of the surrounding heritage assets, due to the proposed scale and massing being contextual with the existing dock landscape.

It was also discussed that the public benefits of the development would need to be clearly stated, since the original plot was allocated for commercial space and a Cruise Liner.

As a result of discussions, the design orientation was amended as seen in the below Figures 5 and 6.



Figure 5 – Site elevations of initial scheme



Figure 6 – Site plan of second revision of scheme (original submission)

Further engagement with the Places Matter! Design Review, Merseyside Environmental Advisory Service (MEAS) and Natural England raised the following points:

- Overall, the Places Matter! panel accepted the approach to height and scale, and felt the materials and detailing would lead to a robust scheme
- The colonnade to the canal side was felt to be a useful space but activating the proposed boardwalk would provide the opportunity to introduce independent amenity retail along this frontage;
- Although considered inappropriate for existing water spaces in the WHS Buffer Zone to be infilled, an exception exists for where permission has previously been granted for partial infilling;
- The retention of open water is considered desirable in terms of retaining character and the value of these spaces in terms of historic and urban design terms.

Following meetings and various concerns about infill, the design team pulled back the extent of the infill to the original outline application. However, the development team recognised the importance of the connectivity of the site, linking the North and the South. Therefore, it endeavoured to permit overhang of buildings into the water, allowing a covered walkway for pedestrians and cyclists.

Public consultation took place on 7th November 2018, to share draft proposals with the public, including local residents and workers. Over 70 people attended the event with comments left for the design team through feedback forms. Overarching comments included the need for a quality development with materials that suited the waterfront and marine environment, the need for good connectivity to the site, and a suitable mix of apartments. (Further details regarding the consultation can be found in the supporting Consultation Statement.)

It was stated during the design evolution, the southern corner is the first impression of the city someone would have leaving the Isle of Man Terminal. The design team submitted the application in December of 2018. Upon additional conversations, the team revisited the scheme and progressed the design further, resulting in the following design changes for this revised submission in 2019 (2018 and 2019 designs seen comparatively in below Figure 7).

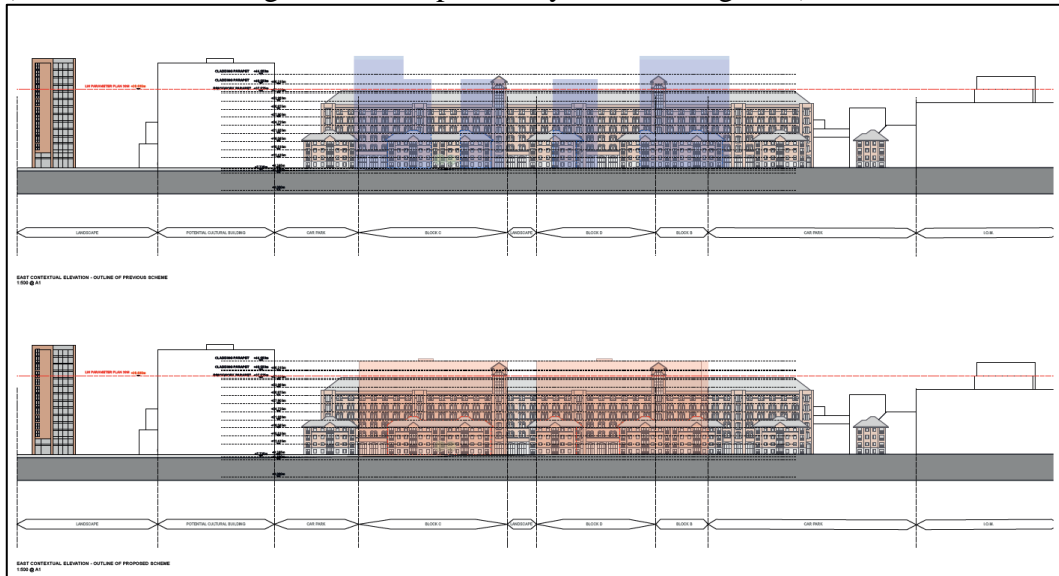


Figure 7: Comparative context elevations

The proposed scheme's design's contextual response (evident in Figure 8 below) resulted from re-imagining the historic warehouse on the site, and then dividing it into bays and reinstating it horizontally. This approach is considered favourable as the buildings are orientated parallel to the East Waterloo Warehouse, providing a stronger roofscape typical of the Liverpool dock character. It has also enabled the scheme to be more favourably aligned with the canal and River Mersey and has resulted in less environmental effects, especially regarding heritage impact and amenity to existing neighbourhood.



Figure 8: Visualisation of the proposed scheme

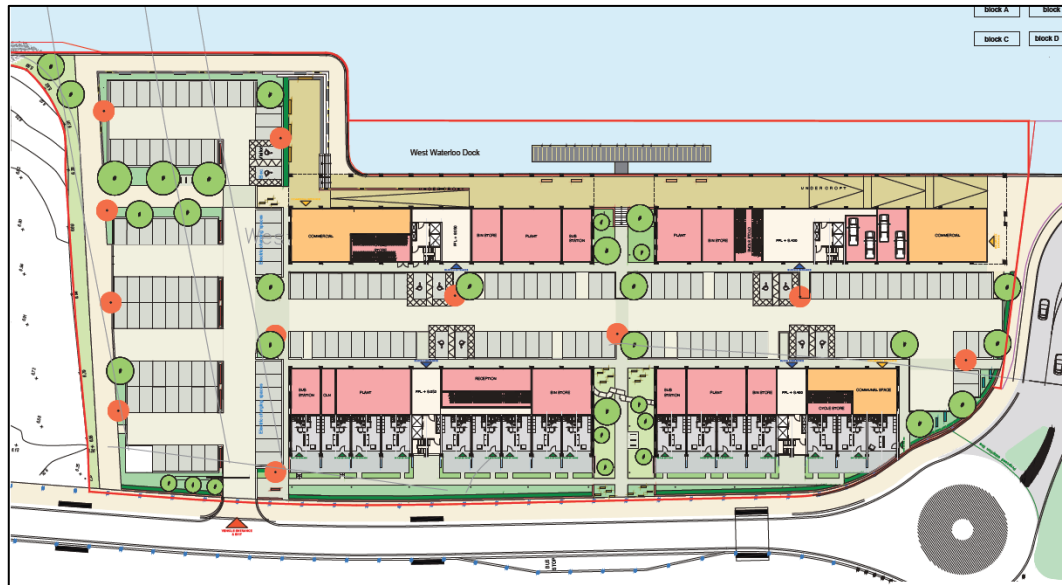


Figure 9: Proposed site layout

3 Summary of the Main Environmental Effects

This section sets out the main environmental effects that are anticipated from the proposed scheme. Effects can be positive or negative and the EIA uses a scale to show whether effects are significant or not:

- ‘Negligible’ means that effects would not be noticed or barely noticed;
- ‘Minor’ means effects would be slight, very short or very local;
- ‘Moderate’ means an effect would be more than a slight, very short or very local effect and this would be considered ‘significant’; and
- ‘Major’ means that an effect would be considerable, over a long time, over a large area and perhaps result in a breach of legislation or recognised standards to protect the environment. This would be considered ‘significant’.

Where significant environmental effects are identified in an EIA, measures to prevent, reduce or make good these effects are proposed and any remaining, residual effects are identified.

3.1 Transport and Access

The Transport and Access assessment has considered the effects from construction and operation on transport related environmental impacts.

The assessment is based around seven categories which assess the impact of the proposed scheme, these are:

- ‘Driver Delay
- Impacts on Public Transport Users
- Pedestrian Delay and Amenity
- Impacts on Fear and Intimidation
- Severance
- Accidents and Safety
- Hazardous Loads

There is no potential for any transport related impacts during the construction and operation of the proposed scheme.

As the majority of the site is vacant, the construction phase is expected to involve the use of plant, machinery and HGVs required for site clearance and earthworks, followed by the construction of the development. Construction traffic is expected to access the site via a dedicated construction access from the Northern Link Road.

The level of construction traffic has been estimated during the infill period, which

is considered to be the worst-case scenario in terms of material movement. The infill period is estimated to generate approximately 131 HGV movements (two-way) and 60 LGV movements (two-way) during the day. Compared to the existing traffic flows on the highway network, this increase in traffic is significantly less than 10%. As such a detailed assessment is not needed, in line with the IEA 'Guidelines for the Environmental Assessment of Road Traffic' and construction traffic is seen to have no significant effect and is **negligible**.

A typical working day during the infill period has been assumed to start at 08:00 and finish at 18:00 during the weekday and 08:00 to 13:00 on a Saturday.

During the demolition and construction phase a Construction Traffic Management Plan (CTMP) would be required by LCC as a condition of planning following any grant of approval. This could form part of the general CEMP.

The CTMP would provide a robust management strategy and a package of measures that would be adhered to by all operations both on and off-site during the construction phase. These measures would range from education and training of operatives to adhere to safe and courteous working practices (limiting noise and minimising vehicle movements) to on-site wheel washing facilities for Plant and HGVs to ensure material from the demolition and construction phase does not enter the public highway.

The development will provide a total of 165 car parking spaces for residents which equates to a 31% provision. The vehicle trip generation undertaken within the TA suggests that there would be between 123 two-way trips generated within the AM peak hour and 134 two-way trips generated within the PM peak hour.

The pedestrian trip generation undertaken within the TA suggests that the development would result in approximately 84 pedestrian movements within the AM peak and 110 pedestrian movements within the PM peak. Movements would be seen to be **negligible** and therefore have no significant effect.

Given that the significance of impact on all seven transport related environmental impacts (Pedestrian Severance, Pedestrian Delay, Pedestrian Amenity, Fear and Intimidation, Hazardous Loads, Accidents and Highway Safety and Driver Delay) has been found to be minimal, no mitigation measures for the operational phase of the development are required.

3.2 Air Quality

The Air Quality assessment has considered the effects from construction and operation on air quality related environmental impacts.

The following impacts in relation to air quality have been considered.

Construction Phase Impacts: to evaluate the potential impacts from fugitive dust and exhaust emissions associated with construction activities and the recommendation for any necessary mitigation measures; and

Operational Phase impacts: to assess the significance of potential air quality impacts resulting from changes in traffic flow on the local road network and on

site energy generation due to the operation of the proposed scheme. This will be assessed with due regard for any impacts on the human-health and ecological receptors, with subsequent recommendation for any necessary mitigation

The main pollutants of concern in this assessment are those associated with vehicle exhaust emissions, the energy centre and nuisance dust from construction works activity and vehicle movements.

The proposed scheme has the potential to cause air quality impacts at sensitive locations. As such, this assessment was required to quantify pollutant levels across the site, consider its suitability for the proposed end-use and assess potential impacts as a result of the development.

During the construction phase of the development there is the potential for air quality impacts as a result of fugitive dust emissions from the site. These were assessed in accordance with the IAQM methodology. Assuming good practice dust control measures are implemented, the residual significance of potential air quality impacts from dust generated by earthworks, construction and trackout activities was predicted to be **negligible**.

Dispersion modelling was undertaken in order to quantify pollutant concentrations at the site and to predict air quality impacts as a result of road vehicle exhaust emissions associated with traffic generated by the development. Results were subsequently verified using monitoring results obtained from LCC.

The dispersion modelling results indicated that pollutant levels at sensitive locations across the site were below all relevant AQOs. The location is therefore considered suitable for the proposed end-use without the inclusion of mitigation methods to protect future users from poor air quality. Predicted impacts on human and ecological sensitive receptors as a result of operational exhaust emissions were predicted to be **negligible**. The overall significance of potential impacts was determined to be **not significant**, in accordance with the EA and EPUK and IAQM guidance and therefore there will be no significant effects on human or ecological receptors.

3.3 Noise and Vibration

The noise and vibration assessment has considered the effects from construction and remediation on human and ecology receptors. There is no potential for noise or vibration impacts during the opening and operation of the proposed scheme.

The impact of noise and vibration from the construction stage of the proposed scheme is unlikely to be significant at the nearest noise sensitive receptors. There may be some potential impact on cormorants with cumulative construction but this will be temporary.

With the implementation of best practice/CEMP, and suitable planning conditions, the residual effects are expected to be not significant.

Noise impact of operations is expected to be negligible and easily controllable where necessary by planning conditions.

3.4 Townscape and Visual Impact

The townscape and visual impact assessment assesses the impact of the proposed scheme on townscape and visual amenity for this proposed scheme. It considers the potential effects on townscape character, for both the site and the surrounding area, and the potential visual effects on a number of selected viewpoints that are considered to represent the principal view of the proposed scheme

The development will have a largely **beneficial effect** on the townscape of the neighbourhood.

Potential impacts at construction and operational phases have been identified, and a series of actions undertaken to ensure that residual and cumulative effects will be reduced.

In particular, the opportunity has been taken following initial consultations to re-arrange the configuration of the proposed blocks, and change their alignment from an east-west orientation, to north-south, following the established axis of West and East Waterloo Docks and the East Waterloo Corn warehouse. Whilst this will retain some views towards the East Waterloo Corn warehouse from the west, it also provides greater continuity and enclosure for the riverside promenade, and allows for the inclusion of a dock-side walkway to West Waterloo dock. Movement and linkages are improved, in part by providing a protected route along the proposed dock walkway, and by establishing a city scale block to the wide promenade at the river side.

The development proposal includes uses which will encourage active uses and frontages, and a residential population which will ensure that there is adequate natural surveillance. A heritage interpretation strategy will be formulated as part of the public realm improvements, allowing for a greater understanding of the site and its surroundings. The proposed scheme will not bring any significant effects to Townscape and Visual Impact on the neighbouring area.

3.5 Cultural Heritage and Archaeology

The assessment on cultural heritage and archaeology reviews the potential impacts associated with the proposed scheme.

In terms of construction impacts, following mitigation such as site and construction management inductions for operators; siting of machinery and compounds further to the north of the Site, away from Princes Half Tide dock; impacts of the proposed scheme are at most, minor adverse or neutral and will therefore not have any significant effects.

In terms of the operational impact, design mitigation has already been undertaken and therefore there are only minor adverse impacts arising from the change to the setting on cross-river views and local views from the north, as a result of the development.

There is the potential for the proposed scheme to impact in a minor way on heritage assets, although some mitigation has been undertaken at the design stage. The benefits of the development in terms of opening up the waterfront area and providing a more appropriate scale and mass in this location, that resonates with the original arrangements and townscape, outweigh any potential for minor harm.

The heritage impact assessment that accompanies the proposals confirms that there will be no adverse impacts on the Outstanding Universal Value of the World Heritage Site, and Cultural Heritage/Archaeology and OUV will not be subject to any permanent significant adverse effects.

3.6 Ground Conditions and Contamination

This chapter assesses the likely significant effects of the proposed scheme with respect to ground conditions and contamination.

This chapter also describes: the methods used to assess the effects; the baseline conditions currently existing at the site and surrounding area; the mitigation measures required to prevent, reduce or offset any significant negative effects; and the likely residual effects after these measures have been adopted.

The most significant potential impacts of the proposed scheme are considered to arise during the construction phase when development work will expose the existing made ground forming the partially infilled dock and fill placement commences to raise the infill to finished ground levels. On the basis of information obtained from intrusive investigation, the existing dock infill does not contain significantly elevated concentrations of contaminants and it is considered that the enhanced risks identified during the construction phase can be adequately addressed by commonly used control measures.

Particular vigilance will be required for excavations and piling in the infilled Waterloo Lock where the infill is much more heterogeneous and may contain contaminants not detected by the ground investigation survey. Appropriate methodologies must be developed for piling works in the Waterloo Lock to prevent the migration of water entrapped within the lock, to the bedrock underlying its base slab.

During the operational phase, most of the site will be covered by the floor slab of the building or by areas of adjacent hardstanding. As such, users/occupiers of the site will not be able to come into contact with any contaminants present in the made ground and risks to human health will therefore be negligible. Provision of clean cover in any limited areas of landscaping will address risks to human health associated with any contamination present in the un-paved areas of the site.

The provision of floor slabs and hardstanding will reduce infiltration from the surface into the made ground. This will reduce the potential for mobile or leachable contaminants to be leached from within the made ground underlying the Site and will therefore, slightly reduce the risk to Controlled Waters.

Overall, contamination in made ground at the site is considered to represent only Minor Adverse environmental effects which can be reduced to **Negligible** residual

effects by the adoption of appropriate routine control measures. Therefore the proposed scheme will bring about no significant effects.

3.7 Dock Infill Methodology and Impact

This chapter presents an assessment of potential impacts on the Dock Infill Methodology and Impact associated with the proposed scheme.

This chapter outlines the findings and the initial methodology philosophy for the infill works of the dock and the piling operations for the proposed scheme. The likely significant environmental effects associated with the infill works are set out, together with a summary of the proposed mitigation measures, where necessary.

The proposed scheme will consist of the construction of a new dock wall within West Waterloo Dock and the subsequent infilling of this dock to provide a platform to construct four new residential blocks with additional areas for commercial use.

It is anticipated that the dock wall between the development and the dock will be constructed using a 'Combi-wall' piling solution or a similar type of arrangement.

It is estimated in the region of 6m depth of imported fill will be required to increase existing levels to the proposed scheme levels. An outline specification has been provided for the imported fill, laying and testing procedures to be followed. The introduction of the imported fill will result in settlement of the existing loose fill within the dock and this has been estimated to be in the region of 200mm.

The proposed works will require stringent regime of material selection, compaction control, monitoring and validation testing will be employed for the dock infilling and the piling methods used on this development along with all relevant certification.

A Construction Environmental Management Plan (CEMP) will be necessary to ensure compliance with legislation, regulations, planning policy and best practice.

A Piling Risk Assessment will be required to show consideration of potential contamination, pathways and receptors.

The neighbouring development for the new Isle of Man Ferry Terminal also involves land reclamation and piling works and as a result there will be an interface between the two developments. During detailed design, it will be imperative that both developments liaise with one another to ensure the works do not hinder each other's development.

Overall the work to partially infill West Waterloo Dock will bring about no significant effects.

3.8 Flood Risk and Drainage

The Flood Risk and Drainage chapter presents an assessment of potential impacts brought about through the proposed scheme.

This chapter assesses the likely significant effects of the proposed scheme with respect to Flood Risk and Drainage during the construction and operational phases of the proposed scheme. This Chapter also describes the methods used to assess the effects; the baseline conditions currently existing at the Site and surrounding area; the mitigation measures required to prevent, reduce or offset any significant negative effects; and the likely residual effects after these measures have been adopted.

The site is part of the historic dock network on Liverpool's waterfront and had remained derelict and unused for some time. As such, surface water runoff is believed to drain directly into West Waterloo Dock, as there are no existing public sewers to connect to.

The development is predominantly within Flood Zone 1 as defined by the Environment Agency, with less than 4% within a Flood Zone 3. The risk of flooding from rivers, seas and surface water is generally low subject to suitable design and maintenance of the proposed drainage systems.

All more vulnerable residential properties are located approximately 600mm above the required minimum levels for residential use as defined in Appendix 12C.

This Flood Risk Assessment has demonstrated that the development is generally at low risk from all forms of flooding applicable to this development and would not increase the risk of flooding elsewhere.

A flood management plan is recommended for the proposed scheme and general advice is given with the FRA. This can be developed at the detailed design stage and following completion with the buildings managers and residents.

The proposed scheme will collect rainfall from roofs, hardstanding and car parking and discharge this volume directly into West Waterloo Dock. Following discussions with the LLFA, no betterment is required, and the FRA has established that the volume of surface water from the peak storms can be accommodated within the dock itself.

Foul water will be collected from the buildings in a separate foul drainage network before discharging into the main Liverpool Waters drainage network to be constructed as part of the Link Road.

Approval of flows entering the drainage system by relevant and interest parties will be required to proceed with detailed design.

No surcharging of access chambers/ manholes during the 1 in 2 year storm event.

No surface flooding will occur for all storm events up to and including the 1 in 30 year storm event.

Under the 1 in 100 year storm event plus 30% climate change allowance, on site flooding is acceptable. Site levels will be designed to ensure flood water remains on site whilst also not effecting the residents.

The FRA has established that the attenuation requirements for the 30 year and 100 year (including 30% climate change) rainfall events can be accommodated by allowing the water level in the dock to raise temporarily.

The volume range for the 30 year and 100 year storm events entering West Waterloo Dock ranges between 215m³ and 425m³. This gives a theoretical water level increase in West Waterloo Dock from this development of 38mm and 76mm respectively.

Therefore the proposed scheme will have no significant effects on flood risk and drainage.

3.9 Wind

This chapter details the wind microclimate assessment undertaken for the proposed scheme. The purpose of the study is to consider the impact of the proposed buildings upon local wind patterns within and around the site, with the emphasis of the analysis being on the impact of wind on the comfort and safety of users at ground level.

A wind microclimate analysis has been undertaken for the proposed C02 buildings. When compared to the existing conditions, the proposed development is generally likely to increase the wind conditions as well as create some areas of shelter around the site under certain wind conditions/directions. However, there are some areas where minor to moderate adverse effects may be experienced, mainly caused by increased façade downwash and corner accelerations around the proposed buildings, as well as wind funnelling. These identified impacts may occasionally cause discomfort to pedestrians and users of the site.

Some small areas exceeding the safety threshold were identified within the site, however these will be resolved as the mitigation strategy is refinement further throughout the design process. A larger area exceeding the safety threshold was observed at the south of the development. This would need to be resolved through an operational management strategy.

Mitigation is recommended to resolve the safety issues at the northeast corner of block C, between blocks C and D, on the western elevation and northeast corner of block A and south to the development.

With the addition of the above mitigation measures, all areas of the development are considered fit for purpose and would bring about no significant effects.

3.10 Daylight and Sunlight

This chapter presents an assessment of potential impacts on Daylight and Sunlight associated with the proposed scheme.

An assessment of the impact of the proposed scheme on existing surrounding properties showed **negligible impact** to existing buildings and open amenity spaces.

The cumulative impact of the proposed scheme and committed developments is also **negligible** to existing buildings and existing amenity spaces.

The potential impact of committed developments on the proposed scheme is **negligible** due to building separation distances.

Daylight and sunlight access within the proposed scheme is consistent with that typically found in urban settings.

Therefore the proposed scheme brings no significant effect to the surrounding area or buildings itself in regard to daylight and sunlight.

3.11 Terrestrial Ecology

The Terrestrial Ecology chapter has been compiled based on the best practice guidance described by CIEEM (2019). It comprises a review of relevant legislation and planning policy, a summary of baseline ecological data and an evaluation of the potential ecological receptors in a geographical context. Potential impacts arising from the development proposals are then assessed in the absence of mitigation, after which proposed mitigation measures are described. Predicted residual effects upon implementation of mitigation are then stated, and an assessment of potential in-combination effects with other consented and proposed schemes is provided.

Thes baseline data, in addition to a consultation response received from MEAS, allowed the following key ecological receptors to be identified:

- European statutory nature conservation sites: Liverpool Bay SPA, Mersey Narrows and North Wirral Foreshore SPA/Ramsar, Dee Estuary SAC, Mersey Estuary SPA/Ramsar, Sefton Coast SAC and Ribble and Alt Estuaries SPA/Ramsar.
- UK statutory nature conservation sites: Mersey Narrows SSSI and North Wirral Foreshore SSSI.
- Non-statutory nature conservation sites: River Mersey NIA and Leeds-Liverpool Canal LWS.
- Habitats: standing water and ephemeral/short perennial vegetation.
- Species: birds, bats and terrestrial invertebrates.

Potential impacts on Liverpool Bay SPA, Mersey Narrows and North Wirral Foreshore SPA/Ramsar and Mersey Estuary SPA/Ramsar are considered in detail in a separate Shadow Habitat Regulations Assessment: Stage 2 Appropriate Assessment (Report RT-MME-128844-02 Rev B, Technical Appendix 15B), which identified a number of potential impact pathways on Natura 2000 sites, arising as a result of the proposed scheme in isolation. These comprised: loss of supporting habitat for cormorants as a result of the partial infilling of West

Waterloo Dock; disturbance of cormorants, during both the construction phase and the operational phase of the proposed scheme; and, pollution of West Waterloo Dock, during both the construction phase and the operational phase of the proposed scheme, leading to a potential decline in the availability of prey resources for cormorant.

Potential impact pathways on Natura 2000 sites arising as a result of the proposed scheme in combination with other plans and projects comprised: the loss of supporting habitat for cormorants as a result of the partial infilling of West Waterloo Dock and the subsequent prevention of proposed mitigation for the adjacent Northern Link Road development; and, cumulative recreational impacts on Natura 2000 sites. However, the report concludes that, provided a series of mitigation and monitoring measures are implemented, no likely significant effects on the conservation objectives of any Natura 2000 sites are anticipated, when the development is considered alone or when considered in combination with other plans or projects.

This chapter further concludes that no likely significant effects are predicted for any other statutory or non-statutory nature conservation sites during either the construction or operational phases. All existing habitat on site will be lost, which, in the absence of mitigation, represents a minor adverse effect in terms of the loss of ephemeral / short perennial habitat. Disturbance effects on birds (non-qualifying species) and bats during the construction phase are considered to be of minor adverse significance, in the absence of mitigation. During the operational phase minor adverse effects are predicted on populations of bird species due to human disturbance and populations of bats due to operational phase lighting.

Mitigation proposals for predicted construction phase impacts comprise the design and implementation of an Ecological Conservation Management Plan (ECMP) and a Construction Environmental Management Plan (CEMP). Predicted residual effects after these documents have been agreed and implemented are of negligible significance for the Leeds-Liverpool Canal LWS, ephemeral / short perennial habitat, non-qualifying bird species and bats.

Mitigation proposals for predicted operational phase impacts comprise the implementation of the ECMP for the lifetime of the development, and the design and implementation of a Landscape and Ecological Management Plan (LEMP) to ensure created habitats are managed for biodiversity value, and also the completion of an ecological lighting review to minimise potential disturbance impacts on fauna that could arise from operational phase lighting. Predicted residual effects after these documents have been agreed and implemented are of negligible significance for bats, and of minor adverse significance for any (non-qualifying) bird species using adjacent habitat areas.

Overall none of the predicted impacts are considered to be significant from a favourable conservation status perspective.

3.12 Marine Ecology

This Marine Ecology chapter has been prepared to outline any significant effects, either beneficial or adverse, on important ecological receptors, which may result from the construction and operational phases

This chapter summarises the significant legislation, guidance and policy relevant to the development in respect of marine ecology and outlines the methods used in the assessment. The marine ecological baseline of the proposed development site (and relevant adjacent areas) has been described and subsequently used to inform the assessment of potential effects of the proposed scheme during both the construction and operational phases. Where significant marine ecological effects have been identified, avoidance and mitigation measures have been developed to reduce or offset these. The nature and significance of any likely residual effects, after avoidance and mitigation has been employed, is then described.

With the exception of the European eel, no habitats or species of conservation interest were recorded during the marine baseline surveys. Within the Mersey estuary catchment, the European eel is protected at regional, national and international level.

A summary of the potential effects from the proposed scheme in West Waterloo Dock on Marine Ecology showed there were no potential significant effects on marine ecological receptors for the operational phase are anticipated given the current plans.

Baseline fish surveys concluded that the number and diversity of fish species within the dock was low. The dock does support a good population of stickleback. A few sand smelt were caught and two gobies which indicate that these species are present but probably in relatively low numbers.

Sediments within the dock were relatively contaminated. Piling within the dock is only likely to cause localised re-suspension of material and therefore the risk to the marine ecology of the area is insignificant. However, consideration should be given to measures to mitigate the resuspension of sediments (e.g. the use of silt curtains) particularly if medium-large scale dewatering practices are employed.

The greatest effects upon the European eel were determined to be during the construction phase and these were loss of habitat and underwater noise and vibration.

Mitigation has been proposed to reduce underwater noise but the need for this is dependent upon the piling/drilling methods proposed in the final construction method statement. Nonetheless, with the inherent mitigation measures already designed into the project, the residual effects of the construction phase assessed to be of minor adverse significance overall which are not considered significant in EIA terms.