

4.

DESCRIPTION OF THE PROPOSED DEVELOPMENT

4.1

Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) describes the Proposed Development and its component parts. This chapter also describes the key features of the environmental controls that will be used within the development during the construction phase and the management of site operations. This description sets the basis against which the EIAR has been carried out.

The Proposed Development being applied for under this current planning application includes for the development of a waterfront park and marina redevelopment measuring approximately 9 hectares (ha) in area. The Proposed Development description for the purpose of this EIAR is outlined below.

4.2

Site Setting

4.2.1

Site Location

The site is located within the townland of Barrymore and is 4 Kilometres (km) to the northwest of Athlone, Co. Roscommon. Irish Transverse Mercator (ITM) coordinates for the centre of the site are X 600814, Y 746366.

4.2.2

Site Description

The Proposed Development site measures approximately 9 ha and currently comprises the existing Waterways Ireland-operated marina facility, the Baysports water sports facility, areas of land currently owned by Roscommon County Council, Athlone Golf Club, the Hodson Bay Hotel, Inland Properties Ltd and other parties as outlined in the Planning Statement, car parking, landscaped public realm areas and an Uisce Éireann pumping station. The site forms part of an established recreational and tourism hub on the shores of Lough Ree. The Proposed Development is located both adjacent to and partially within the Lough Ree Special Area of Conservation (SAC) and the Lough Ree Special Protection Area (SPA).

The various elements of the current site include the following areas. Site photos are included within Appendix 4-1.

Water Sports Operations

Baysports operates out of an existing Roscommon County Council (RCC)-owned water sports building, with surrounding temporary marquee structures and uses an adjacent area for equipment storage. The operations also include an existing jetty structure on the lake.

Marina

The marina area comprises the Waterways Ireland-operated marina facility located within Lough Ree. A hardstanding area and slipway are located beside the marina to allow boat users to enter and exit the water with boats and trailers.

Parking Areas

The site currently provides a total of 353 parking spaces, with the breakdown of parking areas illustrated in Plate 4-1 below. These spaces are shared by visitors to the Hodson Bay Hotel, the marina, Baysports,

and other visitors to the area, with no spaces designated specifically for any individual business. The car park surface is macadam.



Plate 4-1 Existing Parking Areas at Hodson Bay

Site Access (L2020 Local Road)

The site is accessed via the L2020 Local Road from the N61 National Road which runs in a northwest-southeast direction to the southwest of the site. The N61 National Road travels between Athlone town and Roscommon town. There is a railway crossing on the L2020 Local Road approximately 270m from the junction with the N61 National Road in the south of the site. The existing footway along the L2020 Local Road is narrow & disjointed and does not provide sufficient width to facilitate safe shared use by pedestrians and cyclists accessing the site.

Vegetated Areas and Natural Spaces

The site contains small areas of alluvial forest, located adjacent to and in the vicinity of Proposed Development Site. Alluvial forest habitat is an Annex I habitat of Lough Ree SAC. Reedbed habitat is also located adjacent to and in the vicinity of Proposed Development site. Reedbed and alluvial forest

habitat are associated (as fringing habitats) with the eutrophic lake Annex I habitat, which is a Qualifying Interest (QI) habitat of Lough Ree SAC. The entirety of Lough Ree, including areas of lake within the Proposed Development, are considered to conform to eutrophic lake Annex I habitat. The Proposed Development has been designed taking consideration of these ecological sensitivities. Other natural spaces on the site include scattered trees and parkland and amenity grassland in the north of the site near the lake shore, and sections of narrow beach areas along the waterfront. Please refer to Section 6.6.1 of Chapter 6 Biodiversity for full detail on habitats within the Proposed Development site.

4.3

Description of the Proposed Development

This section of the EIAR describes the components of the Proposed Development. Further details regarding Construction Methodologies (Section 4.6) and Construction Management (Section 4.7) are provided subsequently in this chapter.

The Proposed Development will consist of the following:

- **Water Sports Pavilion (WSP) Development:** The demolition of the existing water sports building on site, and temporary relocation of the water sports facility to provide for the construction of a new Water Sports Pavilion;
- **Marina Redevelopment and Extension:** The redevelopment of an existing Waterways operated marina including an upgraded breakwater and jetty to increase marina capacity to approximately 59 berths;
- **Public Realm Upgrades:** Construction of a playground, nature observation space, picnic areas, benches, bicycle storage & service areas, wellness meadow, outdoor changing shelter and events spaces including the development of a continuous promenade pathway along the lakeshore along with secondary connection path;
- **Active Travel and Site Access Improvements:** Alterations and upgrade to the L2020 Local Road to include to provide for a 3m wide shared cycle / pedestrian pathway along the length of the L2020 from the N61 National Road junction to the Hodson Bay Marina; Implementation of traffic calming measures along the L2020 Local Road accessing the site including vertical deflection ramps & raised crossings at key pedestrian crossing locations. Creation of a pedestrian priority environment resulting in the re-location of 57 no. car parking spaces from the lakefront areas to improve landscape and visual context of the site. Alterations to existing car parking & provision of new carparking at Hodson Bay; and
- The Proposed Development includes for all associated ancillary site development infrastructure including site clearance, boundary treatments, associated public lighting, electrical substation, bin storage, hard and soft landscaping, site drainage upgrades, connections to existing utilities to include foul and surface water drainage, water supply, electrical & telecommunications networks. Boundary treatments involve upgrades to the existing golf course boundary safety netting (between 3m to 20m in height) and fencing in sections where the boundary is altered to accommodate the proposed development and maintain public safety.

Planning Drawings HB-RKD-ZZ-ZZ-DR-A-1020 to HB-RKD-ZZ-ZZ-DR-A-1023 provide an overview of the Proposed Development site layout.

4.3.1

Water Sports Pavilion Development

The Proposed Development will include for the demolition of the existing 500m² water sports building and the adjacent 40m² public toilet facility. The marquees housing the Baysports reception, changing facilities, safety briefing, and café will be dismantled.

The WSP will be designed to incorporate three main buildings and a plaza canopy structure. The WSP will be constructed in the area where the existing water sports building and associated temporary structures are located. In order to mitigate against future flood risk, the new WSP buildings will be constructed at a finished floor level of 38 metres above ordnance datum (mAOD).

- The main WSP building will house the operations for the water sports providers consisting of a briefing/mixed use space, staff canteen, office, changing facilities and toilets with a gross floor area (GFA) of 683m² and will extend to a maximum height of 9.3m. The building will also contain a basement which will have a finished floor level of 34.5 mAOD.
- The café building will have a GFA of 171m² and will extend to a maximum height of 7.45m. A Variable Refrigerant Flow system and bin store will be located external to the café building.
- The maintenance building will have a GFA of 185m² and will extend to a maximum height of 6.26m. The maintenance building will include attic and basement space for storage, maintenance and an engine room. A staff and wash down area will be located external to the maintenance building.
- The plaza area includes a permanent plaza canopy structure and 10 no. temporary marque structures which will be a multifunctional open-air space. The permanent plaza building will cover an area of 323m². The temporary marque structures will cover an area of 636m².

The 3 no. Water Sports Pavilion buildings and the permanent Plaza Canopy Structure will be modular steel frame structures, or similar, with terracotta-coloured concrete tile cladding on concrete foundations. The three primary buildings will sit on a concrete plinth.

The temporary marquees will be constructed with timber-clad walls and tensile canvas roofs, or similar. The demountable marquees will be lightweight steel and fabric. They will be mounted on the concrete plaza to reinforced concrete foundations.

It is also proposed to install 45 no. solar panels on the WSP building and another 9 no. on the café building. The proposed panels will be erected at a 30-degree angle and orientated south facing to maximise generation. Maintenance requirement for the panels will be minor; the main requirement for maintaining panels consists of periodic cleaning of the panels.

4.3.2 Marina Redevelopment and Extension

The Proposed Development will include for the redevelopment of the existing Waterways Ireland-operated marina at Hodson Bay comprising an extension to the existing breakwater and the creation of a new jetty extension for boats to berth.

The existing marina structure will remain in place. A gangway will connect the existing breakwater structure to a new extended breakwater. The breakwater extension will be a floating breakwater of up to 6m in width and it will be secured in place by guided vertical piles. The new jetty will be comprised of a series of floating pontoons which will also be secured in place by guided vertical piles. A canoe step launch platform will be included in the new jetty design. The marina extension will have a footprint of approximately 130m x 110m in the lake. The length of the floating breakwater will total approximately 218m.

The new floating breakwater will comprise of a series of concrete platforms finished with timber or plastic and connected together by stainless steel wire rope and rubber buffers. The new jetty will be comprised of a series of steel and concrete floating pontoons likely finished in glass fibre reinforced concrete or glass fibre reinforced plastic. The vertical piles which will secure the floating breakwater and jetty in place will be made of steel.

The marina redevelopment and extension will provide approximately 29 no. additional boat berths, ensuring that the extended marina will be capable of hosting approximately 59 no. berths for cruisers and visiting watercraft. The redevelopment will also include for the provision of services for boat users including potable water, electricity and foul water pump-out facilities. A new marina service block building covering an area of 74m² will be constructed as part of the Proposed Development adjacent to the marina which will provide shower and toilet facilities for marina users. The marina service block building will be constructed with concrete and steel and finished with concrete terracotta tiles similar to the Water Sports Pavilion buildings.

The marina will be an integral part of the public realm and promenade design, and it will have adequate provision for drop off and short-term parking alongside the jetty.

4.3.3 Public Realm Upgrades

The Public Realm Upgrades will provide a flexible public space at the centre of the site, providing a space for programmed activity and events while serving as a functional amenity for marina activities. Public picnic areas, play areas, and benches and rest areas at viewpoints will also be incorporated into the design.

The upgrades along the lake shore aim to enhance the visitor experience through the development of a continuous promenade along the lakeshore. This element will also focus on the improvement and redevelopment of the shoreline and providing public access to the River Shannon, creating a pedestrian priority environment.

Amenities

The Public Realm Upgrades will include for the construction of a playground, nature observation space, picnic areas, benches, wellness meadow, changing shelter and events space including the development of a continuous promenade along the lakeshore.

The playground which will measure approximately 400m², will be located adjacent to the WSP and will be constructed largely with wood with surfacing using plastic Ethylene Propylene Diene Monomer (EPDM).

The swimming changing shelter will be a precast concrete structure and will cover an area of approximately 19m². The shelter will be constructed in the north of the Proposed Development site.

Landscaping

A key feature of the Public Realm Upgrades will be the provision of extensive natural landscaping to ensure that the Proposed Development assimilates with the natural environment. The Public Realm Upgrades will incorporate extensive planting of native trees and shrubs throughout the site.

The Proposed Development will result in the removal of approximately 239 no. trees throughout the site. A total of 240 trees will be planted as part of the replanting scheme, with all trees replanted being native species. Details of the tree replanting scheme across the site are found in Planning Drawing HBWP-ZZ-ZZ-DR-OKR-LA-001201.

The site landscaping will also include Sustainable Drainage Systems (SuDS) planting zones, integrated planter boxes with public seating, open grassed areas including the wellness meadow in the north of the site and green lake shore areas.

The Public Realm Upgrades will include a variety of finishes for pedestrian areas including promenade areas, steps and ramps finished in high quality concrete. The promenade along the marina quay will be constructed with timber decking. Sections of the Public Realm will include resin bound and self-bound gravel footpaths. Public Realm seating will include high quality concrete benches and timber insert benches.

Lighting

The Public Realm Upgrades will include a lighting scheme which is designed ensure visitor safety and to minimise disturbance to wildlife. Key principles in the lighting design included minimising disturbance to bats and preventing lighting from shining directly on to the lake. The existing lighting infrastructure on the site will be removed and disposed of in appropriate waste facilities.

Site lighting has been designed to the following principles:

- The lighting scheme includes the use of warm white 2700 Kelvin light emitting diode (LED) luminaires, precision optical control, shielding where required, careful luminaire orientation and an intelligent lighting control strategy that progressively reduces light output during periods of reduced site activity. Collectively, these measures seek to minimise obtrusive light, reduce sky glow and limit unnecessary illumination of surrounding habitats.
- The external lighting has been designed around the principle of providing the right level of light, in the right location, for the right duration. Lighting has been designed to ensure a minimum overall uniformity to the areas where illumination is required in principal circulation routes and external public spaces to support safe movement, accessibility and operational requirements, whilst avoiding excessive illumination or ornamental lighting that would increase disturbance through the lighting management system. This operating philosophy contributes to a reduction in operational energy consumption while also reducing the duration and intensity of artificial lighting during periods when ecological activity is generally greatest.
- The proposed lighting design has been prepared using recognised lighting design software together with manufacturer-verified photometric data and has been developed in accordance with the relevant industry standards and guidance applicable to external lighting installations.

4.3.4 Active Travel Site Access Improvements

With the Active Travel site access improvements, RCC aims to prioritise sustainability and to enable a safe environment for non-motorised visitors to the area. The Proposed Development includes for a 3m wide shared cycle / pedestrian pathway along the length of the L2020 Local Road from the N61 National Road junction to the Hodson Bay Marina. The upgrades to the L2020 Local Road and pathway will involve two elements.

1. Involves a widening of c. 900m of the existing footpath along the western side of the L2020 Local Road from the junction with the N61 National Road and the pedestrian crossing at the Athlone Golf Club lands. The L2020 Local Road will be narrowed to between 5.5m and 6m to facilitate space for the 3m wide pathway in this section.
2. The Active Travel corridor then crosses the L2020 Local Road and the existing footpath along the eastern side of the L2020 Local Road will be widened along a c. 415m section terminating at the Hodson Bay Marina. The existing carriageway widths in this section will be retained, and land acquisition from Athlone Golf Club is required to widen the pathway to 3m.

The Proposed Development will also see the implementation of traffic calming measures along the L2020 Local Road accessing the site including c. 6 no. speed humps at c. 150m spacing and 7 no. raised crossings at key pedestrian crossing locations. The creation of a pedestrian priority environment will include the re-location of car parking and creation of a low-speed driving environment around the waterfront area to prioritise safety.

4.3.5 Extension of Existing Parking Provision

The Proposed Development will allow for an increase in the overall parking provision from 353 to 504 no. spaces. In addition to increasing capacity, the parking layout has been redesigned to improve the operation and appearance of the waterfront area by relocating existing on-street parking away from the immediate lakeshore, thereby enhancing the visual amenity, landscape setting and pedestrian environment. The layout also seeks to improve the distribution of parking demand across the site through enhanced wayfinding and signage, encouraging greater utilisation of the northern car park, particularly by visitors accessing the water sports facilities and café. This will improve the overall efficiency of the parking provision and reduce vehicle congestion within the central waterfront area.

The parking provision also includes:

- 30 electric vehicle (EV) charging spaces;
- 28 accessible parking spaces;

- Three dedicated bus parking bays within the northern car park;
- Three dedicated boat trailer parking bays adjacent to the marina.

4.3.6 Site Drainage Design

This section provides details of the site drainage for the Proposed Development with regard to surface water drainage and foul water management. Further details are also provided in the Drainage Strategy Report prepared by CIVIC Engineers which is included as Appendix 4-4.

Surface Water

The Proposed Development site is located in close proximity to Lough Ree, the surface water drainage strategy has been developed with water quality as a primary consideration alongside Nature Based Solutions (NBS) and SuDS. The surface water drainage network for the site will collect runoff from roofs, roads and other hard standing areas. The drainage strategy will follow a SuDS treatment train approach to manage water quality. This will involve intentional grading of the site, reducing surface water runoff entering any conventional drainage systems and attenuating the runoff in proposed SuDS features, prior to discharge to Lough Ree. There are select areas of Proposed Development that cannot be routed to attenuation. All surface water runoff from car parking and other vehicular areas will be routed through hydrocarbon interceptors combined with a full retention silt/suspended solids trap prior to discharge.

The SuDS strategy has been developed with the Landscape Architect to maximise nature-based drainage solutions including the below:

- Permeable/porous surfacing for car parking and shared surface areas.
- Tree pits with structural cells, providing interception, attenuation storage.
- Rain gardens and bioretention systems/depressions, providing surface ponding storage, filtration and passive treatment prior to discharge. Treatment is provided in the form of engineered media to remove certain urban pollutants.
- Integrated filter strips along boundaries and promenade edge.

The Active Travel corridor within the Proposed Development site will retain its existing network and drainage regime, with no material alteration to runoff behaviour from these areas. Existing gullies along the active travel corridor will be relocated to the carriageway to accommodate proposed footway widening.

Foul Water

A pre-connection inquiry has been submitted to Uisce Éireann on June 5th, 2026, to confirm capacity for the Uisce Éireann infrastructure to accept discharge from the site. The application reference number is CDS26004773.

Uisce Éireann sewer network records show an existing foul water network near the vicinity of the site, but no public sewers within the site boundary. The gravity sewer in the vicinity serves the Hodson Bay area, which drains southward toward the N61 National Road to a wastewater treatment plant. An existing Uisce Éireann Wastewater Pump Station is located within the site boundary. Existing foul water infrastructure for the Hodson Bay Hotel Athlone Spa/Leisure Centre shows a connection to this Wastewater Pump Station.

Foul water generated from the proposed WSP will be collected and discharged to an existing foul water manhole MHF34, which connects to the pumping station operated by Uisce Éireann. A sewerage pump out system is proposed on the marina which will convey via a pressure network to a break chamber at the marina washroom facilities. The foul water from the marina washroom facilities will be collected and is proposed to connect to an existing foul water manhole, MHF33. A survey of the existing foul water network is required to confirm the location, condition and capacity. The proposed foul water layout plans are included in the Drainage Strategy (Appendix 4-4 of this EIAR).

4.3.7 **Electrical Substation, Generator and Control Building**

It is proposed to construct an ESB substation to accommodate the Proposed Development. The footprint of the proposed ESB substation, which includes an MV switchroom and customer switchroom measures approximately 54m². The works will consist of the construction of a ESB substation, all associated electrical plant and apparatus, underground cabling and all ancillary works. The construction and electrical components of the substation will be to ESB specifications.

4.3.8 **Other Ancillary Works**

Golf Course Boundary Treatments

Upgrades to sections of the Athlone Golf Club golf course boundary will be required as part of the Proposed Development. The Active Travel site access improvements will see a 41.5m section of the L2020 Local Road widened involving a land acquisition from Athlone Golf Club. This will result in the removal of the existing boundary ball stop safety netting on the eastern side of this section of the L2020 Local Road and the construction of new ball stop safety netting. The extension and relocation of parking provision on the site will also result in the alteration of the existing golf course boundary in the north of the Proposed Development site.

The Proposed Development will include for the construction of the following ball stop netting and fencing along the site boundary with Athlone Golf Club:

- 272m of 3m-high ball stop netting
- 449m of 10m-high ball stop netting
- 158m of 20m-high ball stop netting

1.5m- high PVC post and rail fencing will be erected along other areas of the Proposed Development site boundary with the Athlone Golf Club grounds where the boundary will be moved.

4.4 **Construction Programme**

4.4.1 **Construction Phasing and Timing**

It is estimated that the construction phase of the Proposed Development will take approximately 30 months to complete. In the interest of minimising disturbance to breeding birds, construction will not commence during the bird breeding season which runs from the 1st of March to the 31st of August inclusive.

The construction schedule for the project will primarily depend on the availability of financial resources, with the assumption that full funding will be secured for the timeframe specified by RCC. RCC and Waterways Ireland will require funding from a variety of funding sources for construction of various elements of the Proposed Development and therefore completion of the construction phase may extend beyond 30 months. Given the sensitive nature of the site and its importance as a tourist attraction, it is expected that the construction works will be undertaken in a phased approach.

The construction phase can be divided into specific work elements:

1. *Upgrade and extension of existing parking spaces and site roads- 9 months;*
2. *Pedestrian Active Travel corridor enhancements - 5 months;*
3. *Demolition of existing water sports building and construction of new Water Sports Pavilion Buildings - 21 months;*
4. *Construction of Marina Redevelopment and Extension - 6 months;*
5. *Public Realm upgrades including landscaping - 9 months.*

Note that overlap is expected between the commencement of certain phases.

Construction operations will be confined to the period 0700–1900 h Monday-Friday and 0800-1700 h Saturday.

4.4.2 Construction Sequencing

The construction phase for the Proposed Development can be broken down into two main phases, 1) enabling works, and 2) construction works. The main task items under each of the two phases are outlined below.

Enabling Works (including demolition of existing structures)

- Ensure that all pre-construction environmental measures are implemented/conducted e.g. implement Archaeological recovery works that may be needed, surface water protection measures (including installation of cofferdam and silt fencing) or any specific pre-construction planning conditions;
- Clear and hardcore areas for temporary construction compounds and site offices. Install same;
- Provide bunded area for oil tanks for refuelling;
- Set up the construction site enclosures. Protective hoarding will be erected around the perimeter;
- Removal of trees and vegetation in areas for construction. This will be carried out outside of breeding bird season from March 1st to August 31st inclusive;
- The demolition of the existing building used by Baysports and the adjacent toilet block building will be undertaken. Temporary structures such as existing marquees on site will also be removed;
- Commence site clearance and topsoil stripping;
- Regrade to foundation and road formation levels;
- Installation of utilities and services;
- The proposed surface water drainage network will be installed. Further information can be found in Section 4.3.6.
- The proposed foul water collection system will be installed. Further information can be found in Section 4.3.6.

Construction Works

- Construct road and footpath upgrades
- Construct parking areas. Removal of waterfront parking spaces, realignment of Marina car park, extension of northern car park;
- Lay foundations;
- Construction of Water Sports Pavilion buildings;
- Construction of Marina extension and Marina services block building;
- Construction of swimming changing shelter;
- Connection to public services – public water supply, sewerage system and electricity network;
- Landscaping and Public Realm upgrade areas completed including installation of lighting scheme;
- Complete all site finishes; and
- Completion of any testing and commission services within the development.

The phasing and scheduling of the main construction task items are outlined in Figure 4-1 below, where an indicative timeline for construction works has been shown. This timeline may be subject to review and changes following the receipt of planning permission.

ID	Task Name	Task Description	Year 1		Year 2				Year 3			
			Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Site Health and Safety	Ongoing health, safety, environmental and quality management throughout construction										
2	Site Compounds	Establishment of contractor compounds, welfare facilities, temporary services, site access and security measures										
3	Enabling Works and Site Preparation	Demolition, site clearance, vegetation removal, utility diversions, earthworks, and preparation for construction activities										
4	Pedestrian Active Travel Works	Footway widening, signage, and associated works for active travel route along L2020										
5	Drainage and Utilities	Installation of drainage networks, utility services, ducting and service connections.										
6	Building Foundations and Substructure	Construction of foundations, retaining structures and associated below-ground works for the pavilion.										
7	Water Sports Pavilion	Construction of Water Sports Pavilion buildings, building frames, cladding, glazing										
8	Marina Extension	In-water piling works and installation of breakwater and pontoons strictly carried out between July-September										
9	Car Parks and Site Roads	Construction of car parking areas, site roads, traffic calming measures, drainage, lighting and associated infrastructure.										
11	Public Realm and Landscaping	Site reinstatement, landscaping, lighting and tree planting, public realm installations constructed										
12	Commissioning and Testing	Preparation for Operational Readiness										

Figure 4-1 Hodson Bay Waterfront Redevelopment Indicative Construction Timeline

4.4.3 Construction Phase Monitoring and Oversight

A Construction and Environmental Management Plan (CEMP) has been prepared for the Proposed Development and is included in Appendix 4-2 of this ELAR. The CEMP includes details of waste management and outlines clearly the mitigation measures and monitoring proposals that are required to be adhered to in order to complete the works in an appropriate manner. In the event that planning permission is granted for the Proposed Development, the CEMP will be updated prior to the commencement of the development, to address the requirements of any relevant planning conditions, including any additional mitigation measures which are conditioned and will be submitted to the Planning Authority for approval.

Routine inspections of construction activities will be carried out on a daily and weekly basis by the Senior Project Manager, Senior Engineers and Foremen to ensure all controls to prevent environmental impact, relevant to the construction activities taking place at the time, are in place. Environmental inspections will ensure that the works are undertaken in compliance with this CEMP and all other planning application documents. Only suitably trained staff will undertake environmental site inspections.

4.5 Site Preparation

4.5.1 Hoarding

Hoarding will be installed around the temporary construction compound. During the various phases of construction, the construction site works areas will also be enclosed with hoarding, details of which are to be agreed with RCC. This will be comprised of Heras fencing or hoarding panels and will be a maximum of 2.4m in height including supports and appropriate anchoring (Designed by Temporary Works

Engineer). Site hoarding will include external lighting, and Health and Safety warnings at appropriate intervals, and will be maintained and kept clean for the duration of the project. Any temporary lighting will be directed away from Lough Ree to minimise disturbance on wildlife. Where deemed necessary by the Main Contractor, additional security measures such as routine security patrols and/or CCTV systems may be implemented to further enhance site security.

4.5.2 **Site Compound and Facilities**

Site staff facilities will be provided including suitable washing and dry room facilities for construction staff, canteen, sanitary facilities, first aid room, office accommodation etc. Access to the compound will be security controlled and all site visitors will be required to sign in on arrival and sign out on departure. The compound will be constructed using a clean permeable stone finish and will be enclosed with hoarding/fencing. Any wastewater will be removed by vacuum tanker using an authorized waste collector.

The primary construction compound will be located within the Proposed Development site, to the north of the Hodson Bay Hotel, for the duration of the construction phase. A secondary construction compound (also located within the Proposed Development site) will also be used at times as works progress and while the primary construction compound is set up.

4.5.3 **Pedestrian and Cyclist Safety**

At various stages during construction phase different areas of the Proposed Development site will be enclosed as construction sites. When vehicles are entering or leaving the construction site, these movements will be supervised by road marshals. The construction site gates will be kept closed when not in use and monitored by security. Traffic cones and set-back signage will be put in place to warn and safely direct pedestrians and cyclists around obstructions. A network of footpaths throughout the Proposed Development will provide a high rate of accessibility to the various visitor facilities within the area.

4.5.4 **Proposed Hours in which Vehicles will Arrive and Depart**

Working hours will be strictly in accordance with the granted planning conditions with no works on Sundays or Bank Holidays. If work is required outside of these hours, written approval will be sought by the contractor from the Local Authority (RCC).

In general, the hours in which vehicles will arrive and depart will coincide with the expected site working hours of 0700–1900 h Monday-Friday and 0800-1700 h Saturday. The construction phase of the Proposed Development is expected to last approximately 30 months in total, and construction of the Proposed Development will proceed in a sequential manner with some overlap expected between construction phases.

4.5.5 **Access Arrangements for Vehicles**

The access arrangements will be as specified in the statutory publications “Traffic Management Guidelines” manual and the “Traffic Signs Manual” and as agreed with RCC. A Traffic and Transportation Assessment has been prepared by CIVIC Engineers for the Proposed Development.

All deliveries and vehicles into site will access the site from the L2020 Local Road. The location of the construction entrance and access will be regularly reviewed during the construction to ensure that the pedestrian and vehicular access points are located and maintained appropriately.

4.5.6 **Vehicles and Plant**

It is anticipated that there will be numerous types of vehicles and machinery used for the construction of the Proposed Development and to bring material to and from the site. The site equipment to be used

would be at the discretion of the appointed construction contractor. This is expected to include the following equipment:

- > Skip lorries
- > Ready mix concrete lorries
- > Tracked 360-degree excavator
- > Kango/demolition hammer
- > Flatbed delivery vehicles for the delivery of various materials
- > Vibrating roller
- > Cranes
- > Low loader
- > Loadall / Manitu
- > Hydraulic lifting equipment
- > Cement mixer
- > Drilling & cutting equipment
- > Welding equipment
- > Portable hand tools 110V
- > Pumps for de-watering
- > Generators
- > Dumper truck
- > Road paver
- > Bitumen sprayer
- > Mini piling rig
- > Con saws
- > Road sweeper
- > Bulldozers
- > Mobile Elevating Work Platforms (MEWPs)
- > Air compressor units
- > Pressure washers.
- > Waterways Ireland Coill an Eo and Inis Muilinn workboats
- > Pontoon with 36t excavator
- > Movax hydraulic piling hammer
- > Pioneer workboats.

4.5.7 **Parking and Loading Arrangements**

A “Just in Time” approach will be implemented for the delivery of particular building materials such as concrete formwork and large structural steels. The locations for the storage of materials will be within the site boundary, primarily within the primary construction compound. The secondary construction compound will also be used to store materials if required. Any materials with high potential to cause contamination will be stored in the primary construction compound to minimise potential for runoff or pollution to Lough Ree. Any storage of construction materials in the secondary construction compound will only occur if flood risk is minimal.

It is proposed to provide on-site car parking spaces within the site boundary for workers during the construction phase.

4.5.8 **Temporary Water Sports Facilities**

During the construction phase of the Proposed Development, a temporary water sports facility (Baysports) will be provided within the development site to ensure continuity of water sports activities and services throughout the construction works. The space available for the temporary water sports facilities covers an area of 3,510m² and a minimum buffer of 10m will be retained between temporary structures and both the lake shore and nearby alluvial woodland habitat to ensure there are no adverse effects on Lough Ree SAC/SPA during this time.

The temporary site will comprise the following elements:

- Marquees to provide temporary indoor space for equipment storage, changing facilities, and operational use;
- Perimeter fencing to secure the temporary compound and separate it from the active construction area;
- Access points to facilitate safe pedestrian and operational access to and from the temporary facility;
- A water access route to maintain safe and functional access to the water for water sports activities and craft launching during the construction period;
- A relocated footway, temporarily repositioned to maintain safe pedestrian connectivity and permeability around the site during construction, in place of the existing route which will be affected by the works.

To support the operational needs of the temporary facility, portable toilets and shower units will also be provided on site for the duration of the construction phase.

Temporary water and electrical connections to serve the Baysports facility will be required, and the specific details, capacity, and location of these connections will be subject to confirmation with Uisce Éireann (UE) and ESB Networks at post-planning / pre-construction stage. It is intended that these services will be provided in agreement with the relevant statutory undertakers to ensure the temporary facility can operate safely and effectively throughout the construction period. There will be minor excavations required to connect to the existing water supply network. These works will be undertaken in accordance with the methodologies outlined in Section 4.6.12.

Upon completion of the construction works, the temporary facility, including marquees, fencing, and associated temporary infrastructure, will be removed, and the site reinstated in accordance with the permanent scheme design.

4.6 Construction Methodologies

This section describes the construction methodologies that will be used for the Proposed Development. Further details are also provided in the CEMP included as Appendix 4-2 of this EIAR.

4.6.1 General Construction Measures

Communication with the public, local residents and businesses adjacent to the development will be an important responsibility of the Senior Project Manager and delegated persons. All parties will be always kept up to date and informed both shortly prior to, and during, the construction phase.

A Construction Traffic Management Plan (CTMP) will be issued to RCC for approval prior to works commencing on site. The approved CTMP and any revisions thereto will be set up and implemented on site. All necessary signage will be erected in the weeks prior to any works commencing along and on adjacent roads to the Proposed Development giving advance warning to traffic, pedestrians / members of the public. Every effort will be made to minimise the impact of the above works on local residences and traffic. A CTMP is included as Appendix 4-4 of this EIAR.

- All personnel will be inducted and made familiar with Risk Assessments / Method Statements (RAMS) and TMPs.
- All site-specific safety rules will be adhered to.
- All plant operators will have appropriate Construction Skills Certification Scheme (CSCS) training.
- All personnel will have SOLAS Safe Pass training
- Fire extinguishers and first aid supplies will be available in the work area.
- All adjacent roadways will be maintained in clean condition at all times.
- Helmets, high visibility clothing and safety footwear will be worn at all times.
- Secure access gates to be used to prevent unauthorized access to the site
- Competent foremen will be on site at all times.

4.6.2 Cofferdam Installation

Mitigation measures to avoid water quality impacts during construction phases will include the installation of sheet piled cofferdam around the lake edge following the boundary of the existing concrete hardstand at the Baysports facility.

However, to avoid any impacts on alluvial woodland, alternative water quality protection solutions are required in this area. Sheet piling works are not proposed in areas of alluvial woodland, and instead an earth bund structure will be installed in the vicinity of the alluvial woodland. Works will take place outside of the identified root protection zone, as advised by an arboriculturist. In order to avoid disturbance of root structures, the dam structure will be constructed above ground, with an earth bund installed on top of the existing concrete hardstand. The earth bund will connect to the sheet piling at a point outside of the identified areas of alluvial woodland. The top-level of the cofferdam will be installed to a minimum of 37.5mAOD to ensure that the cofferdam is not breached during flooding. As with the cofferdam, the top-level of the bund will be installed to a minimum of 37.5mAOD to ensure that the bund is not breached during flooding (Section 8.3.5 of Chapter 8 of the EIAR).

Concrete removal under the earth bund will be undertaken in a sensitive manner using hand tools where practical to ensure no tree roots are damaged. Concrete removal in this area will be conducted in the dry. Around the areas of concrete removal and prior to the commencement of works, a sandbag dam will be instated with an impermeable geomembrane to minimise any potential lake water penetration. Should any water penetrate the sandbag dam, water will be pumped from the area to the surface water drainage system (Section 8.5.3.2 of Chapter 8 of the EIAR). Weather and flood forecasting will be continuously monitored, with concrete removal in this area taking place only during periods of dry weather and low lake levels. Silt curtains will be installed in front of areas of reed bed within the lake, to the north of the existing Baysports facility.

Similarly, concrete pouring will be carried out during periods of dry weather and low lake levels, using water-tight shuttering and form works. Impermeable geomembrane sealing, sandbags and silt curtains will all be retained for the duration of concrete pouring and will be removed following the completion of works. Should rain be forecasted, or lake levels anticipated to rise, any concrete removal or concrete reinstatement works will cease until rain stops and lake levels return to a suitable level.

Sheet piling and concrete removal works will be undertaken in August-September (inclusive) to avoid the main breeding and winter bird seasons, and to coincide with a time when water levels are at their lowest.

Dewatering will be provided as relevant to specific requirements with dewatered discharge pumped using a pump equipped with a silt bag on the discharge outlet. The pumped water will be discharged to either the existing surface water drainage system or to a suitably vegetated area within the site boundary. Where discharge to a vegetated area is required, the area will be enclosed with silt fencing, as necessary, to prevent sediment-laden runoff and ensure compliance with best practice environmental controls.

Planning Drawing 31022-DR-CIV-CE-50001 shows the location and design of the cofferdam to be installed prior to commencement of demolition works and Water Sports Pavilion construction works. The final detailed design of the cofferdam is to be confirmed by the Contractor prior to commencement of construction works following further detailed ground investigations in the area.

4.6.3 Soil Stripping & Temporary Stockpiling

The excavation and stripping of soils and subsoils will be required across much of the site, and this soil will need to be redistributed and temporarily stockpiled around the site as the Proposed Development progresses. Approximately 2,150 m³ of soil and other overburden will require management during the construction phase. During these works, topsoil from the development area of the site will be stripped and stored in a designated storage area in the construction compounds for reuse as shown in Figure 4-2. Where these works occur, the following will apply:

- Temporary stockpile areas will be located in areas that are a minimum of 50m away from any water bodies / watercourses where possible.

- The area where excavations are planned will be surveyed and all existing services will be identified.
- All relevant bodies i.e. ESB, Bord Gáis, Eircom, RCC etc. will be contacted and all drawings for all existing services sought.
- All plant operators and general operatives will be inducted and informed as to the location of any services.
- All plant operators and general operatives will be inducted and informed as to the identification of invasive species.
- A tracked 360-degree excavator will be used to strip the topsoil, and a dumper will be used to move the excavated materials to the temporary stockpile location.
- All excavated material which is not required for future landscaping works or for backfill of excavations will be removed to an authorised waste recovery facility. This will also apply to material which is not suitable for reuse on site.
- All stockpiles will be damped down or covered in a sheet of polythene, as required, which will prevent the creation of nuisance dust, and will also prevent sediment runoff in times of heavy precipitation.
- Silt fencing will be installed around these stockpiles.
- Trenches will be backfilled as soon as possible after excavation. When practically possible, excavation depths and volumes will be kept to a minimum.

4.6.4 Material Management

The quantity of soil and overburden, requiring management on the site of the Proposed Development has been calculated, as presented in Table 4-1 below.

Table 4-1 Summary of Soil Volumes Requiring Management.

Infrastructure Element	Soil Volume to be Excavated (m³)	Fill Volume Requirement (m³)	Soil Volume to be Imported (m³)
Water Sports Pavilion, Public Realm and Promenade	470	5,250	4,780
L2020 Upgrades	210	470	260
Car Parking	1,420	700	-720
Embankment	50	400	350
Total Cut / Fill Volumes to be Managed	2,150	6,820	4,670

4.6.5 Temporary Construction Compound

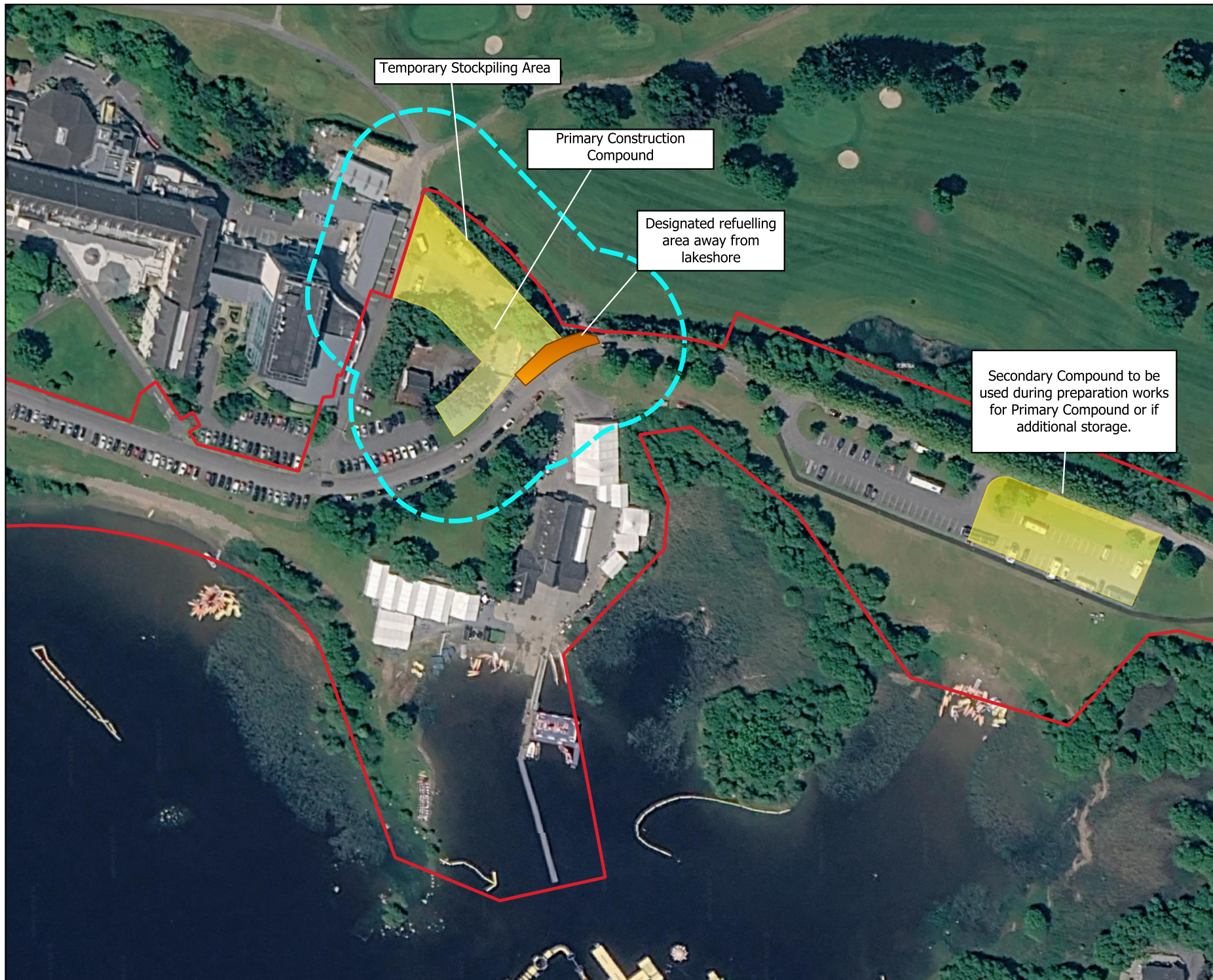
The primary construction compound area will cover an area of 1,920m² and incorporate temporary site offices, a refuelling area, staff facilities and car-parking areas and will be located within the red line boundary of the site to the north of the Hodson Bay Hotel. A secondary construction compound location will be required during the preparation of the primary construction compound and at various times throughout the construction phase as works progress. Tree and vegetation removal will be required to allow the primary construction compound to be prepared. The secondary construction compound will be located to the northeast of the site and cover an area of 1,660m².

A dedicated waste management area will be located within the primary construction compound, with waste to be sorted and collected from site by permitted collectors. Temporary lighting will be installed for the construction compounds. Lighting will not shine directly on Lough Ree to ensure disturbance to biodiversity is minimised.

Temporary port-a-loo toilets located within portacabins will be used by workers during the construction phase. Wastewater from staff toilets will be directed to a sealed storage tank, with all wastewaters being tankered off site by permitted waste collector to wastewater treatment plants. Power will be supplied by a diesel generator located within the compound. Potable water will be provided in the form of bottled water for staff use.

The construction compounds will be used for temporary storage of some construction materials, prior to their delivery to the required area of the site. Any materials with high potential to cause contamination will be stored in the primary construction compound to minimise potential for runoff or pollution to Lough Ree.

Figure 4-2 below shows the locations of the primary and secondary construction compounds.



- Map Legend
- Application Site Boundary
 - Designated Refuelling Area
 - Temporary Construction Compounds
 - 30m Buffer
 - Temporary Stockpiling Area



Drawing Title
Location of Temporary Compounds
& Refuelling Zone

Project Title
Hodson Bay Waterfront Park and Marina
Redevelopment, Co. Roscommon

Drawn By	Checked By
KM	FL
Project No. 241220	Drawing No. Figure 4-2
Scale 1:1,750	Date 14.08.2026

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4.6.6

Active Travel Improvement Works

The L2020 Local Road which provides access to the Proposed Development site will be narrowed to between 5.5m and 6m to facilitate space for a 3.0m wide shared cycle / pedestrian pathway as part of the Active Travel upgrades. The upgrades to the L2020 Local Road and pathway will involve two elements.

Southern Section of the L2020 Local Road

Involves a widening of approximately 900m of the existing footpath to at least 3m wide along the western side of the L2020 Local Road between the junction with the N61 National Road and the golf crossing at the southern end of Athlone Golf Club lands. The footpath widening in this section will be achieved by narrowing approximately 900m of the L2020 carriageway to between 5.5m and 6m.

Northern Section of the L2020

The Active Travel route crosses the L2020 Local Road at the existing golf crossing at the southern end of Athlone Golf Club lands and the existing footpath along the eastern side of the L2020 Local Road will be widened to 3m along an approximately 415m section between the golf crossing and the Hodson Bay Marina. An embankment at a 1:2 slope will be provided at the edge of the proposed 3m wide shared path, to tie back into the golf club levels.

While the active travel corridor will be continuous, it will require crossing of the L2020 Local Road at an existing pedestrian crossing which will be upgraded as part of the works. Raised tables are proposed at all pedestrian crossings along the L2020 to prioritise pedestrians. The Proposed Development will also see the implementation of traffic calming measures along the L2020 Local Road accessing the site including c. 6 no. speed humps at c. 150m spacing and 7 no. raised crossings at key pedestrian crossing locations.

The construction methodology for the works along the L2020 Local Road is outlined as follows:

Southern Section of the L2020

- Works will be undertaken under phased traffic management arrangements including lane narrowing, temporary traffic signals/stop-go control, reduced speed limits and pedestrian management measures to maintain local access throughout the works.
- Existing road markings will be removed by hydroblasting prior to commencement of pavement works.
- A new kerbline will be constructed along the revised carriageway edge, including:
 - Excavation into the existing carriageway;
 - Installation of kerbs on concrete bedding and haunching;
 - Adjustment of utility covers and ironwork where required.
- Excavation within the carriageway for the new kerbline and drainage works will be reinstated in layers to provide a strong structural tie-in with the retained pavement. Reinstatement will comprise:
 - Granular sub-base;
 - Bituminous binder/base layers;
 - Surface course surfacing;
 - Tack coat application and sealing of longitudinal joints.
- The existing footway will be widened to provide a minimum 3m shared pedestrian/cycle route, including:
 - Excavation to formation level;
 - Installation and compaction of sub-base material;
 - Construction of asphalt footway layers;
 - Resurfacing across the full footway width to provide a consistent finish tied into existing surfaces.
- A total of 21 existing gullies along the western side of the carriageway will be relocated to align with the proposed kerbline. Works will include:
 - Saw cutting and excavation of existing pavement;
 - Removal of existing gullies and pipework connections;

- Installation of new gullies and drainage connections;
- Tie-in to the existing drainage network;
- Backfilling and reinstatement using compacted granular and bituminous pavement layers.
- All driveway crossings and accesses along the route will be reconstructed with dropped/vehicle entry kerbs and strengthened pavement construction where required.
- Traffic calming measures comprising speed humps and raised pedestrian crossings will be installed at approximately 150m intervals. Works will include:
 - Saw cutting and planing of existing carriageway surfacing;
 - Localised excavation and pavement build-up;
 - Construction of asphalt raised tables and ramps;
 - Installation of tactile paving and anti-skid surfacing where required;
 - Reinstatement of associated signage and road markings.
- Following completion of the civil works, final surfacing, repainting of road markings and general reinstatement works will be completed.

Northern Section of the L2020

- The existing carriageway width, kerbline and gullies will be retained throughout this section.
- Works will be undertaken under phased traffic management arrangements including lane narrowing, temporary traffic control and pedestrian management measures to maintain safe access throughout construction.
- Footway widening works will include:
 - Vegetation clearance and topsoil stripping;
 - Excavation to formation level;
 - Installation and compaction of granular sub-base;
 - Construction of asphalt pavement layers;
 - Resurfacing across the full footway width to provide a continuous and consistent finish.
- A 1:2 earth embankment will be formed along the outer edge of the widened footway to tie into existing golf course levels, including:
 - Placement and compaction of suitable fill material;
 - Grading to required slope profile;
 - Topsoiling and reinstatement of disturbed areas and trees.
- Ball stop fencing will be installed along the footway edge adjacent to the golf course, including:
 - Excavation and concreting of fence post foundations;
 - Installation of fence posts and mesh/netting systems.
- 10 no. lighting columns will be relocated to the opposite side of the proposed fence line, including:
 - Electrical isolation and disconnection;
 - Removal of existing columns;
 - Installation of new ducting, cabling and foundations;
 - Installation and commissioning of relocated lighting columns.
- Traffic calming measures comprising speed humps and raised pedestrian crossings will be installed at approximately 150m intervals. Works will include:
 - Carriageway planing and saw cutting;
 - Asphalt build-up and surfacing works;
 - Installation of tactile paving;
 - Reinstatement of signage and road markings.
- Existing road markings throughout the section will be refreshed or repainted following completion of the works, with all disturbed verges and surfaces reinstated on completion.

4.6.7 Car Parking Areas

There are three parking areas proposed as outlined in Planning Drawings 31022-DR-CIV-CE-00201 to 31022-DR-CIV-CE-00205 prepared by CIVIC Engineers.

Existing parking areas being retained will keep existing asphalt surfacing. New parking areas will be constructed using a porous asphalt to assist with site SuDS. The car parking areas will be constructed using the following methodology:

- Establish alignment of the parking areas from the construction drawings and mark out the boundaries with ranging rods or timber posts;
- All drainage measures prescribed in the detailed drainage design for the Proposed Development will be implemented around the works area;
- All excavated material will be managed on-site. Some topsoil will be temporarily stockpiled locally for reuse for landscaping purposes;
- The subsoil will be excavated down to a suitable formation layer of either firm clay or bedrock and managed on-site in the temporary stockpile areas;
- The car park will be constructed using well-graded imported granular fill, spread and compacted in layers typically of 200mm and a suitable capping layer to provide a homogeneous running surface. The thickness of layers and amount of compaction required will be subject to detailed design by Project Engineer in consultation with the Construction Manager based on the characteristics of the material and the compaction plant to be used;
- The car parking areas will be constructed with the necessary gradient to promote drainage;
- Car parking areas will be finished with porous asphalt;
- The parking lines will then be painted; and
- Any updated or new signage will be installed

Other hardstand/paved areas will be installed using the same methodology as that outlined for carparking areas with the only key difference being the paving or finished applied to each area.

4.6.8 Demolition of Existing Buildings

As part of the Proposed Development, 2 no. existing buildings on the site which are owned by RCC will be demolished. The water sports building currently used by Baysports and the adjacent toilet block building will be demolished. Temporary structures such as existing marquees on site will also be removed. The locations of these buildings are shown in Planning Drawing HB-RKD-ZZ-ZZ-DR-A-1010. The existing concreted area around the buildings will also be demolished as part of the development.

Service Disconnections

Prior to commencement of the demolition works the location of services likely to be affected by the works will be ascertained. Arrangements will be made with service providers for all services to be disconnected and/or terminated as required. The demolitions contractor will confirm terminations & disconnections in advance of works commencing liable to affect same. Services to the areas of the site where demolitions are proposed which may need to be disconnected or terminated would be electricity and water.

Soft Strip

This would consist of the removal of remaining furniture, loose rubbish from the individual buildings or rooms to provide a clear working area. The buildings/rooms would then be stripped of all built in units, doors, flooring, skirting, framework, plasterboard etc. Removal of any temporary structures such as marquees and removal water sports equipment will also take place.

Demolitions

Once the above steps have been carried out, demolition of the external structures of the 2 no. buildings for demolition will comprise using kango/demolition hammers and appropriately sized excavators to remove the structures. Waste material will be disposed off-site at an appropriate licensed recovery or waste facility.

Details on the environmental management and controls to be implemented for the demolition works are provided in Section 3 of the CEMP.

4.6.9 Water Sports Pavilion Buildings

Foundations

The WSP buildings and associated structures will be constructed on a reinforced concrete foundation which will be formed on competent strata (i.e. bedrock or subsoil of sufficient load bearing capacity) which will be determined by the Project Design Engineers. The three primary buildings will sit on a concrete plinth. Foundations will be shallow pads, expected to be founded at 1m below ground level. Ground investigation will be completed prior to final designs to confirm the depth and strength of the bearing strata.

A cofferdam will be used to create a works area for the construction works. The works area will be approximately 70m in width and 120m in length (subject to final cofferdam design confirmed by the Contractor). See Section 4.6.2 above for further details.

Overburden and material excavated to create the working area will be stripped off the foundation area to a suitable formation using a 360-degree excavator and will be stored locally for later reuse in backfilling or site reinstatement. This material will be stored in the temporary stockpile area within the primary construction compound for later reuse. The excavated material will be sealed using the back of the excavator bucket and surrounded by silt fences to ensure sediment-laden run-off does not occur further details of which are discussed in Section 4.6.3 above, Chapter 8 of this EIAR and in the CEMP.

The basement structure will be formed with concrete. The formation material will have to be approved by an engineer as meeting the design specification. If the formation level is reached at a depth greater than the depth of the foundation, the ground level will have to be raised with approved hardcore material, compacted in 250 millimetres (mm) layers, with sufficient compacted effort (i.e. compacted with seven passes using 12 tonne roller).

The formwork and reinforcing steel cage will be installed on completion of all preliminary ground works. Formwork to concrete bases will be propped/supported sufficiently to prevent failure. Concrete for bases will be poured using a concrete pump. Each base will be poured in three stages. Stage 1 will see the concrete being poured and vibrated in the centre of the anchor cage to bring the concrete up to the required level inside the cage. Stage 2 will see the centre of the steel foundation being poured and vibrated to the required level. Stage 3 will see the remaining concrete being poured around the steel foundation to bring it up to the required finished level. After a period when the concrete has set sufficiently the top surface of the concrete surface is to be finished.

Once the base has sufficient curing time it will be backfilled with suitable fill up to existing ground level and finished with the original material that was excavated.

Structural Frame

The structure of the WSP buildings and Plaza Canopy will be formed with a modular steel frame, or similar, which will be installed on the concrete foundation. The frame will be fabricated off site and imported to site in sequence and installed by an experienced erection crew using a combination of lifting equipment such as cranes and hydraulic lifting equipment. The frame will provide a series of columns and beams which will be installed as per the structural frame design. The flooring above ground level will be reinforced concrete and will be installed as the frame installation develops.

The temporary marquees will be constructed with timber-clad walls and tensile canvas roofs, or similar. The demountable marquees will be lightweight steel and fabric. They will be mounted on the concrete plaza to reinforced concrete foundations.

External Finishes

The external finishes proposed for the Water Sports Pavilion buildings and structures are presented in the HB-RKD-ZZ-ZZ-DR-A-1300 drawing series and the Architectural Design Statement.

As with the structural frame components, the cladding and glazing will be prefabricated off site and delivered to site via Heavy Goods Vehicles (HGVs) as discussed in Chapter 14 of this EIAR.

Both the cladding and glazing installation will be completed by specialist contractors using the necessary lifting and access equipment. As with the steel frame also, there is no invasive element to the installation of the external cladding and glazing finishes as all material will be installed in pre-prepared areas.

Building Services

As outlined in Section 4.3.6 above, the site is already serviced with both foul and storm sewage networks to which the Proposed Development will connect. The Engineering Drawings and Drainage Report provide details of the internal networks for both foul and storm water export to the public network. In addition, the watermain proposals are also provided in Section 4.3.6.

All utility infrastructure will be laid underground within the Proposed Development site. This will be carried out using the methodologies set out in Section 4.6.12 below.

Domestic hot and cold water, foul water and power will be provided to all buildings. Power and drainage will be provided under the Plaza Canopy for use in difference seasonal modes. In peak summer season it will function as the reception / wetsuit storage for the Water Sports providers. In winter season it will function as a canopy / bandstand. Power points will be provided in the plaza for use by the demountable changing canopies.

Solar Panels

The proposed panels will be installed on WSP building and cafe building using either ballasts, bond or will be mechanically fixed.

- Ballasted - panels sit on a frame held down by weight without penetrating the roof membrane.
- Bonded - the connection points are bonded to membrane layer without penetrating the roof membrane.
- Mechanically Fixed - panels are bolted through the roof structure into the deck below.

4.6.10 Marina Redevelopment and Extension

The marina redevelopment and extension will include the following installations;

- Approximately 42 no. steel piles driven into lake bed;
- Floating breakwater;
- Floating jetties;
- Gangways to connect to the existing marina;
- Canoe step;
- Marina service block building; and
- Provision of services including electricity, potable water and foul water pump-out throughout the marina.

The construction crew will begin by pushing a floating pontoon with 36-tonne excavator and Movax hydraulic piling hammer on board into position using the Inis Muilinn workboat for the location of the first pile to be installed (see Plate 4-3 below). Pile locations will be set out using Global Positioning System (GPS). A silt curtain will be installed around the location of where this pile will be installed and connected back to the pontoon, weights will be used to ensure the silt curtain sits on the bed of the lake. Silt curtains will be monitored regularly for effectiveness.

The 36-tonne excavator using the Movax piling hammer will then lift the steel pile and vibrate the pile into the lakebed to the required depth. The floating pontoon will then be moved to the next pile position and the process repeated until all the piles have been installed.

It will take approximately 4-6 weeks to install all the steel piles. Once the piles have been installed, the contractor supplying the jetties and breakwater will lift the floating jetties and breakwater into the water, push them into position using workboats and connect them to the relevant steel piles and other section of jetties/breakwater. The canoe step will then be pushed into place and connected.

The gangways will then be lifted into place using the 36-tonne excavator on the floating pontoon and bolted to concrete on the existing breakwater.

As outlined in Figure 4-1, whilst the entire marina redevelopment may take up to approximately 6 months, the in-water construction elements of the marina and breakwater extension (including piling) will be undertaken between the months of August to September as per Section 4 of the 2016 Inland Fisheries Ireland guidance document *Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters*¹.

The marina service block building will be constructed with concrete and steel and finished with concrete terracotta tiles similar to the Water Sports Pavilion buildings. Please refer to Section 4.6.9 for the construction methodology.

Services including electricity, potable water and foul water pump-out will then be installed on the new sections of jetties.



Plate 4-2 Coill an Eo, Inis Muilinn workboats and Pontoon Raft with 36-tonne excavator

4.6.11 Public Realm Upgrade Works

Prior to completion of works on the development site, the Public Realm Upgrade works will be carried out. The finishes include areas of amenity grassland, a wellness meadow, nature trails, footpaths, playground, changing shelter for wild swimmers, several benches, tree planting. These works will involve the use of plant and machinery in order to carry out tasks such as earth moving. Materials which have been stockpiled for the task will be used as much as possible, and material will only be imported where it is required. Where topsoil is stripped prior to excavation, this material will be retained on site for use in

¹ Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters (IFI, 2016) Available at <https://www.fisheriesireland.ie/sites/default/files/migrated/docman/2016/Guidelines%20Report%202016.pdf>

landscaping. Hoarding will be erected around the construction site boundary for the duration of the Public Realm Upgrade construction works.

A detailed Tree Replanting Scheme will comprise a key element of the Public Realm Upgrade works (see Drawing HBWP-ZZ-ZZ-DR-OKR-LA-001201). 240 no. trees and shrubs will be replanted across the site, all of which will be native species. The Tree Replanting Scheme incorporates a significant number of mature trees (10 years or older) to compensate for the removal of a number of mature trees for the construction of the Proposed Development.

The proposed Public Realm Upgrades will also include upgrades to the lighting scheme throughout the site. Lighting design and specification throughout the Proposed Development site has been carefully considered to ensure minimisation of ecological disturbance is balanced with ensuring the safety of those visiting the Hodson Bay area is not compromised. See Planning Drawing No. P752-2995-E and the External Lighting Report included in this planning application for the proposed Lighting Plan for the site.

The Northern Swimming Changing Canopy will be constructed of in-situ concrete on a reinforced concrete foundation.

OKRA Landscape Architects have prepared detailed landscape drawings which accompany this application (see HBWP-ZZ-ZZ-DR-OKR-LA-001000 Planning Drawing series included in this application planning pack).

4.6.12 Excavation and Services Installation

Where excavations and installations of any new services are required on the Proposed Development site, the following will apply:

- The area where excavations are planned will be surveyed and all existing services will be identified.
- All relevant bodies i.e. ESB, Bord Gáis, Eircom, Uisce Éireann, RCC etc. will be contacted and all drawings for all existing services sought.
- A Construction Traffic Management Plan will be produced by CIVIC Engineers as required for connection works to the existing service network.
- A road opening licence will be obtained as required for connection to existing services.
- All plant operators and general operatives will be inducted and informed as to the location of any services.
- A tracked 360-degree excavator or similar will be used to excavate the trench to the required dimensions.
- All excavated material will be removed to an authorised waste recovery facility or, if suitable, stockpiled and reused for backfilling and landscaping where appropriate.
- Once the trench has been excavated the ducting/pipework will then be placed in the trench as per specification.
- Once the service ducts/pipework has been installed couplers will be fitted as required and capped to prevent any dirt etc. entering the ducts/pipes.
- The as-built location of the ducting/pipework will be surveyed using a total station/GPS.
- Backfill material will be carefully placed so as not to displace the ducting/pipework within the trench.
- The appropriate warning/marker tape will be installed above the ducts/pipes at the appropriate depths.
- The surface will be reinstated as per original specification or to the requirements of the site layout/Local Authority as appropriate.

4.6.12.1 Existing Underground Services

Any underground services encountered during the works will be surveyed for level and where possible will be left in place. If there is a requirement to move the service, then the appropriate body (ESB, Gas Networks Ireland, etc.) will be contacted, and the appropriate procedure put in place. Back fill around

any utility services will be with dead sand/pea shingle where appropriate. All works will be in compliance with required specifications.

4.6.13 **Electrical Substation**

The proposed substation will be constructed by the following methodology:

- The area of the onsite substation will be marked out using ranging rods or wooden posts and the soil and overburden stripped and removed to nearby temporary storage area for later use in landscaping. Any excess material will be disposed/recovered offsite at an appropriately licensed facility;
- The dimensions of the substation area have been designed to meet the current requirements of the ESB;
- The required level platform will be established and finished with well-graded imported granular fill, compacted in layers and finished with a suitable capping layer to the desired level;
- The ESB substation will have oil-less equipment within.
- The foundations will be excavated down to the level indicated by the designer and appropriately shuttered reinforced concrete will be laid over it.;
- The block work walls will be built up from the footings to damp proof course level and the floor slab constructed, having first located any ducts or trenches required by the follow on mechanical and electrical contractors;
- The block work will then be raised to wall plate level and the gables & internal partition walls formed. Scaffold will be erected around the outside of the buildings for this operation;
- Concrete roof slabs will be used over the ESB Substation section only and will be lifted into position using an adequately sized mobile crane;
- The timber roof trusses over the complete substation will then be lifted into position using a telescopic load all or mobile crane depending on site conditions. The roof trusses will then be felted, battened, tiled and sealed against the weather;
- The substation plinths will be shuttered and poured with reinforced concrete.;
- The electrical equipment will be installed on the concrete plinths and commissioned.

4.6.14 **Ball Stop Fencing**

Ball stop fencing will be installed along the footway edge adjacent to the golf course, and will be constructed as follows:

- Excavation and concreting of fence post foundations;
- Installation of fence posts and mesh/netting systems.

4.7 **Management of Construction Phase Activities**

4.7.1 **Environmental Management**

All proposed construction activities on the site of the Proposed Development are outlined in the CEMP. The CEMP includes details of drainage, overburden management and waste management. In the event planning permission is granted for the Proposed Development, the CEMP will be updated prior to the commencement of the development, to address the requirements of any relevant planning conditions, including any additional mitigation measures which are conditioned and developed through the detailed design to be submitted to the Planning Authority for approval.

4.7.2 **Protecting Water Quality**

Prior to the commencement of any subsequent construction activities, the necessary mitigation measures will be put in place to ensure that no silt laden water runoff generated at the site will flow to nearby

waterbodies, with particular emphasis on the Lough Ree SAC / Lough Ree SPA located immediately adjacent to the site, thus ensuring the protection of surface water during the works. This will involve confirming the location of all existing services and delineating between drainage systems. Surface waters will be managed to ensure the prevention of run off from areas where excavation occur does not result in silt laden water entering the existing storm water network.

Particular emphasis will also be placed on hazardous materials management and prevention of spills or leaks of fuel oils to ensure watercourses and groundwater are not impacted. Section 5 of the CEMP provides an Emergency Response Plan for dealing with spillages which may result in adverse environmental effects

Excavation works have the potential to encounter sub-surface waters and ground water. In the event of encountering groundwaters during excavation, the excavation will be de-watered using a pump equipped with a silt bag on the discharge outlet. The pumped water will be discharged to either the existing surface water drainage system or to a suitably vegetated area within the site boundary. Where discharge to a vegetated area is required, the area will be enclosed with silt fencing, as necessary, to prevent sediment-laden runoff and ensure compliance with best practice environmental controls. In order to avoid hydrocarbons encountering groundwaters onsite, Section 3.3 of the CEMP presents mitigation measures to avoid the release of hydrocarbons onsite.

The Construction Industry Research and Information Association (CIRIA) provide guidance on the control and management of water pollution from construction sites ('Control of Water Pollution from Construction Sites, guidance for consultants and contractors', CIRIA, 2001). The construction phase of the Proposed Development will adhere to this guidance and will ensure that surface water arising during the course of construction activities will contain minimal sediment. The methods and best practice measures outlined in the section below will ensure that sediment release and potential for pollution during the construction phase is minimised and reduced to insignificant.

4.7.2.1 Prevention Pollution Control Measures

The following measures will be put in place to prevent the transportation of silt laden water or pollutants from entering any of the wider environments including watercourses/drains within or near the site:

- The site boundary will be fenced off with Heras fencing (or similar) prior to works commencing to protect adjacent habitats and to prevent any egress of machinery outside of the site during construction activities.
- Run-off generated on-site will undergo the necessary filtration process as previously outlined.
- The works will be managed to ensure there will be no silt-laden run-off beyond the site boundary. This will be achieved through the use of appropriate excavation techniques during the initial construction works. Where necessary, silt fencing will be installed downslope of the construction areas, particularly where drains or drainage pathways are present. These measures will serve as a protective measure to contain silt material within the site.
- Any requirement for temporary fills or stockpiles will be damped down or covered with polyethylene sheeting as required to avoid sediment release associated with heavy rainfall.
- Excavations will be carried out using a suitably sized excavator and, in all circumstances, excavation depths and volumes will be minimised.
- Excavated spoil will be stockpiled and contained entirely within the confines of the site boundaries. Material stockpiles will be kept at least 10m from any manholes. Depending on the nature of the excavated material, the stockpiles of excavated materials will be sealed with a digger bucket to reduce the potential for sediment runoff. These areas will be surrounded with silt fencing, if deemed necessary to prevent runoff.
- The minimum number of soil/subsoils and bedrock material should be removed from site. Soil may be reused for landscaping elsewhere on the site. However, any excess construction material shall be removed from the area and sent to an authorized waste recovery facility

- Works shall not take place at periods of high rainfall and shall be scaled back if or suspended if heavy rain is forecast during excavation works.
- High rainfall' is defined as follows:
 - >10 mm/hr (i.e. high intensity local rainfall events);
 - >25 mm in a 24-hour period (heavy frontal rainfall lasting most of the day);
 - Rainfall total greater than monthly average recorded in 7 consecutive days (prolonged heavy rainfall over a week).
- Stockpiles will also be covered with plastic sheeting during high rainfall to prevent runoff.
- In the event of encountering groundwaters during excavation, groundwater will be pumped out of the excavation using a pump equipped with a silt bag on the discharge pipe, if necessary, to capture any silty material prior to subsequent natural percolation to ground. The area surrounding the silt bag will be surrounded by silt fencing if deemed necessary.
- As construction advances there may be a small requirement to collect and treat surface water within the site. This will be completed using perimeter swales at low points around the construction areas, and if required water will be pumped from the swales into silt bags prior to overland discharge allowing water to percolate naturally to ground. Overland discharge, if required, will be located within the confines of the site boundary.
- No wastewater will be discharged on-site during the construction phase.
- Good construction practices will be implemented at the site. This will ensure minimal risk. The Construction Industry Research and Information Association (CIRIA) provides guidance on the control and management of water pollution from construction sites, as outlined in *Control of Water Pollution from Construction Sites, guidance for consultants and contractors* (CIRIA, 2001). This guidance will be adhered to throughout the construction phase to ensure that surface water generated on site contains minimum sediment.

Details of control measures which will be implemented at the site, if required are included in the Plates below. All water quality mitigation measures to be implemented during the construction of the Proposed Development are further detailed in Section 8.5.3 of the Hydrology and Hydrogeology chapter of this EIAR.



Plate 4-3. Silt Bag with water being pumped through.



Plate 4-4. Silt Bag under inspection.

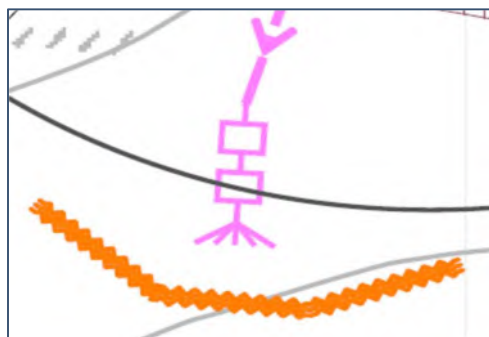


Plate 4-5. Silt Fence surrounding the discharge from Silt Bag.



Plate 4-6. Embedded Silt Fence

4.7.3 Refuelling, Fuel and Hazardous Materials Management

4.7.3.1 On-site Refuelling and Management

On site re-fuelling of machinery will be carried out in a dedicated refuelling area. Please refer to Figure 4-2 above which shows the proposed location of the vehicle refuelling area. The fuel storage area required will be bunded appropriately for the fuel storage volume for the time period of the construction and fitted with a storm drainage system and an appropriate oil interceptor. On-site refuelling will only take place at distances greater than 30m from nearest water courses or site drainage infrastructure. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations. Only designated trained and competent operatives will be authorised to refuel plant. No storage of hydrocarbons will occur within 30m of watercourses or surface water features. Diesel or fuel oils stored on site will be bunded to 110% of the capacity of the storage tank.

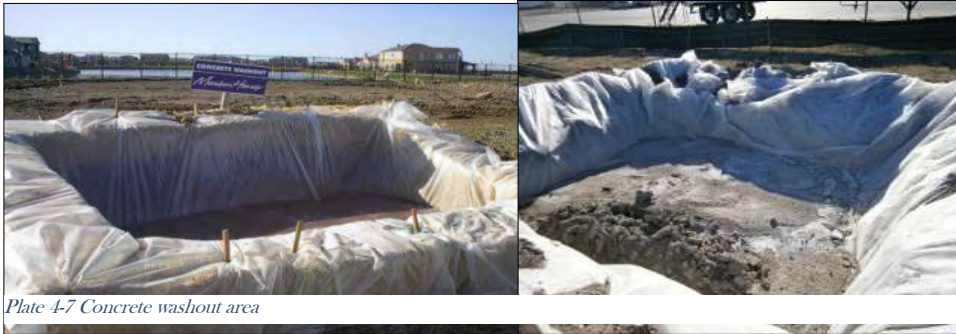
All plant and machinery will be serviced before being mobilised to site, and regular leak inspections will be completed during the site operations. No plant maintenance will be completed on site; any broken-down plant will be removed from site to be fixed.

4.7.4 Concrete Deliveries

Only ready-mixed concrete will be used during the construction phase, with all concrete being delivered from local batching plants in sealed concrete delivery trucks. The use of ready-mixed concrete deliveries will eliminate any potential environmental risks of on-site batching. When concrete is delivered to Site, only the chute of the delivery truck will be cleaned, using the smallest volume of water necessary, before leaving the Site. Concrete trucks will be washed out fully at the batching plant, where facilities are already in place.

The small volume of water that will be generated from washing of the concrete lorry's chute will be directed into a temporary lined impermeable containment area. Where temporary lined impermeable containment areas are used, such containment areas are typically built using straw bales and lined with an impermeable membrane. Two examples are shown in Plate 4-7 below.

The areas are generally covered when not in use to prevent rainwater collecting. In periods of dry weather, the areas can be uncovered to allow much of the water to be lost to evaporation. At the end of the concrete pours, any of the remaining liquid contents will be tankered off-site. Any solid contents that will have been cleaned down from the chute will have solidified and can be broken up and disposed of along with other construction waste.



Alternatively, a Siltbuster-type concrete wash unit or equivalent (https://www.siltbuster.co.uk/sb_prod/siltbuster-roadside-concrete-washout-rcw/) may be used. This type of Siltbuster unit catches the solid concrete and filters and holds wash liquid for pH adjustment and further solids separation. The residual liquids and solids can be disposed of off-site at an appropriate waste facility.

The risks of pollution arising from concrete deliveries will be further reduced by the following:

- Concrete trucks will not be washed out on the site but will be directed back to their batching plant for washout.
- Site roads will initially be constructed with a subgrade and compacted with the use of a roller to allow concrete delivery trucks access all areas where the concrete will be needed. No concrete will be transported around the site in open trailers or dumpers so as to avoid spillage while in transport. All concrete used in the construction of foundations will be pumped directly into the shuttered formwork from the delivery truck. If this is not practical, the concrete will be pumped from the delivery truck into a hydraulic concrete pump or into the bucket of an excavator, which will transfer the concrete to the location where it is needed.
- The arrangements for concrete deliveries to the site will be discussed with suppliers before work starts, agreeing routes, prohibiting on-site washout and discussing emergency procedures.
- Clearly visible signage will be placed in prominent locations close to concrete pour areas specifically stating washout of concrete lorries is not permitted on the Site.

4.7.4.1 Concrete Pouring

The following procedures will be adopted in advance of and during all concrete pours to minimise the risk of pollution to Lough Ree. These may include:

- Using weather forecasting to assist in planning large concrete pours and avoiding large pours where prolonged periods of heavy rain is forecast.
- Restricting concrete pumps and machine buckets from slewing over watercourses while placing concrete.
- Ensuring that excavations are sufficiently dewatered before concreting begins and that dewatering continues while concrete sets.
- Ensuring that covers are available for freshly placed concrete to avoid the surface washing away in heavy rain.
- The small volume of water that will be generated from washing of the concrete lorry's chute will be directed into a temporary lined impermeable containment area, or a Siltbuster-type concrete wash unit (https://www.siltbuster.co.uk/sb_prod/siltbuster-roadside-concrete-washout-rcw/) or equivalent.
- Disposing of surplus concrete after completion of a pour in agreed suitable locations away from any watercourse or sensitive habitats.

4.7.5 Dust Control

Construction dust can be generated from many on-site activities such as excavation and backfilling. The extent of dust generation will depend on the type of activity undertaken, the location, the nature of the dust, i.e. soil, sand, etc and the weather. In addition, dust dispersion is influenced by external factors such as wind speed and direction and/or periods of dry weather. Construction traffic movements also have the potential to generate dust as they travel along the approach road. The measures below will also prevent construction debris arising on the public road network.

Proposed means to control dust include:

- Any site roads with the potential to give rise to dust will be regularly watered, as required, during dry and/or windy conditions.
- The designated public roads outside the site and along the main transport routes to the site will be regularly inspected by Site Management for cleanliness, and cleaned as necessary.
- Material handling systems and material storage areas will be designed and laid out to minimise exposure to wind.
- Water misting or bowsers will operate on-site as required to mitigate dust in dry weather conditions.
- The transport of soils, demolition material, aggregates or other material, which has significant potential to generate dust, will be undertaken in tarpaulin-covered vehicles where necessary.
- All vehicles leaving the construction areas of the site will rinse their wheels at a designated wheel wash area prior to entering the local road network.
- All construction related traffic will have speed restrictions on un-surfaced roads to 15 kph.
- Daily inspection of construction sites to examine dust measures and their effectiveness.
- When necessary, sections of the approach road will be swept using a truck mounted vacuum sweeper.

4.7.6 Noise Control

The operation of plant and machinery, including construction vehicles, is a source of potential noise impacts. Construction phase noise is typically assessed in light of guidance set out in British Standards Institution (BSI) (2014) *BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites - Part 1: Noise*², as well as the National Roads Authority (NRA) (now TII) (2014) *Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes*³. Although the NRA document is not directly relevant to the Proposed Development, it has seen increasing application to non-road projects in recent years in the absence of any specific Irish guidance.

All construction plant used on-site will be required to comply with maximum sound power levels set out in *Directive 2000/14/EC of the European Parliament and of the Council of 8 May 2000*⁴ on the approximation of the laws of the Member States relating to the noise emission in the environment by equipment for use outdoors, implemented in Ireland by the *European Communities (Noise Emission by Equipment For Use Outdoors) Regulations, 2001* (S.I. 632 of 2001)⁵, as amended by the *European Communities (Noise Emission by Equipment for Use Outdoors) (Amendment) Regulations, 2006* (S.I. 241 of 2006)⁶.

Proposed measures to control noise include:

² British Standards Institution (BSI). (2014) *BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites - Part 1: Noise*. London: BSI.

³ National Roads Authority (NRA) (now TII) (2014) *Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes*.

⁴ Directive 2000/14/EC of the European Parliament and of the Council of 8 May 2000

⁵ European Communities (Noise Emission by Equipment For Use Outdoors) Regulations, 2001 (S.I. 632 of 2001)

⁶ European Communities (Noise Emission by Equipment for Use Outdoors) (Amendment) Regulations, 2006 (S.I. 241 of 2006)

- Construction equipment for use outdoors shall comply with the European Communities Regulations- Noise Emission by Equipment for Use Outdoors - SI 241 - 2006.
- Diesel generators will be enclosed in sound proofed containers to minimise the potential for noise impacts.
- Where practical, separation distances to any locations of frequent human use where noise would have the potential to interfere with typical activities will be maximised through appropriate on-site positioning of plant. Plant will also be sited so as to maximise potential screening provided by intervening topographical features, structures, and barriers
- Plant with the potential of generating noise or vibration will be placed as far away from sensitive properties as permitted by site constraints.
- Plant and machinery with low inherent potential for generation of noise and/or vibration will be selected. All construction plant and equipment to be used on-site will be modern equipment and will comply with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations;
- Regular maintenance of plant will be carried out in order to minimise noise emissions. Particular attention will be paid to the lubrication of bearings and the integrity of silencers;
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the works;
- Compressors will be of the “sound reduced” models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers;
- Machines which are used intermittently will be shut down during those periods when they are not in use;
- Training will be provided by the Site Management to drivers to ensure smooth machinery operation/driving, and to minimise unnecessary noise generation.
- Local areas of the access route will be condition monitored and maintained if necessary.
- It is recommended that drivers of heavy goods vehicles (HGVs) associated with the development extend due care and courtesy to other road users. Excessive use of and unnecessary engine racing will be avoided.

The proposed construction working hours are as follows:

- 07:00 - 19:00 Monday to Friday
- 08:00 to 17:00 on Saturday.
- Closed Sundays or Public Holidays.

Deviation from these times will only be allowed in exceptional circumstances where written approval has been received from the planning authority.

There is no published statutory Irish guidance relating to the maximum permissible noise level that may be generated during the construction phase of a project. Local authorities normally control construction activities by imposing limits on the hours of operation and consider noise and vibration limits at their discretion. However, there are several publications commonly used in Ireland to set appropriate construction criteria.

The Transport Infrastructure Ireland (TII) *Guidelines for the Treatment of Noise and Vibration in National Road Schemes* (2014)⁷ provides detailed information on the permissible construction noise levels for various hours of operation. The maximum allowable construction noise level limits, as per the TII publication, are listed below:

- Monday to Friday 07:00 to 19:00hrs 80 dB
- Monday to Friday 19:00 to 22:00hrs 65 dB
- Saturdays 08:00 to 16:30hrs 75 dB

⁷*Transport Infrastructure Ireland (TII), 2014. Guidelines for the Treatment of Noise and Vibration in National Road Schemes. Dublin: Transport Infrastructure Ireland*

- Sundays & Bank Holidays 08:00 to 16:30hrs 65 dB

All complaints of noise received during the construction phase will be logged in a register and investigated immediately. Details of follow-up action will be included in the register.

4.7.7 Vibration Control

Vibration standards can be considered in two varieties: those dealing with human comfort and those dealing with cosmetic or structural damage to buildings. For example, vibration is perceptible at around 0.5mm/s in the case of road traffic, however at higher magnitudes, this vibration may become an annoyance. Guidance relevant to the protection of building structures is contained in the following documents:

- **British Standards Institution (BSI). (1993) BS 7385-2:1993 Evaluation and Measurement for Vibration in Buildings – Part 2: Guide to Damage Levels from Ground Borne Vibration. London: BSI⁴.**
- **British Standards Institution (BSI). (2014) BS 5228-2:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 2: Vibration. London: BSI⁵.**

Vibration can be more difficult to control than noise, and there are few generalisations which can be made about its control. It should be borne in mind that vibration can cause disturbance by causing structures to vibrate and radiate noise in addition to perceptible movement. The following mitigation measures will be implemented at the site during the demolition and construction phases to control vibration levels:

- The hours of working should be planned, and account should be taken of the effects of vibration upon persons in areas surrounding site operations and upon persons working on site, taking into account the nature of land use in the areas concerned and the duration of work.
- Where reasonably practicable, low vibration working methods should be employed. Consideration should be given to use of the most suitable plant, reasonable hours of working for operations which might give rise to perceptible vibrations, and economy and speed of operations.
- Vibration should be controlled at source and the spread of vibration should be limited.
- Where reasonably practicable, plant and/or methods of work causing significant levels of vibration at sensitive premises should be replaced by other less intrusive plant and/or methods of working.
- Vibration from stationary plant (e.g. generators, pumps, compressors) can, in some instances, prove disturbing when located close to sensitive premises or when operating on connected structures. In these instances, equipment should be relocated or isolated using resilient mountings.
- Where processes could potentially give rise to significant levels of vibration, on-site vibration levels should be monitored regularly by a suitably qualified person appointed specifically for the purpose, particularly if changes in machinery or project designs are introduced. A method of vibration measurement should be agreed prior to commencement of site works.
- On those parts of a site where high levels of vibration are likely to be a hazard to persons working on the site, prominent warning notices should be displayed.
- Offsite fabrication - In method statement/risk assessment the contractor will highlight any activity that may cause significant vibration levels and include measures in helping to mitigate these emission levels.
- Equipment is to be task specific.
- Best practice vibration control measures will be employed by the contractor.

⁴ **British Standards Institution (BSI). (1993) BS 7385-2:1993 Evaluation and Measurement for Vibration in Buildings – Part 2: Guide to Damage Levels from Ground Borne Vibration. London: BSI**

⁵ **British Standards Institution (BSI). (2014) BS 5228-2:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 2: Vibration. London: BSI**

- A designated member of staff will be appointed as the point of contact for any queries or complaints from nearby local residents.

4.7.8 Waste Management

The CEMP, Appendix 4-2 of this EIAR, includes a Resource Waste Management Plan (RWMP) which outlines the best practice procedures during the construction phase of the Proposed Development. The RWMP outlines the methods of waste prevention and minimisation by recycling, recovery and reuse at each stage of construction of the Proposed Development. Disposal of waste will be a last resort.

The Waste Management Act 1996 (Act) and its subsequent amendments provide for measures to improve performance in relation to waste management, recycling and recovery. The Act also provides a regulatory framework for meeting higher environmental standards set out by other national and EU legislation.

The Act requires that any waste related activity must have all necessary licenses and authorisations. Prior to the commencement of the construction phase, a Construction Waste Manager will be appointed by the Contractor. The Construction Waste Manager will be in charge of the implementation of the objectives of the RWMP, ensuring that all hired waste contractors have the necessary authorisations and that the waste management hierarchy is adhered to. The person nominated must have sufficient authority so that they can ensure everyone working on the development adheres to the management plan.

The RWMP will provide systems that will enable all arisings, movements and treatments of construction waste to be recorded. This system will enable the Contractor to measure and record the quantity of waste being generated. It will highlight the areas from which most waste occurs and allows the measurement of arisings against performance targets. The RWMP can then be adapted with changes that are seen through record keeping.

4.7.8.1 Invasive Species

During the ecological site walkover surveys and aquatic drone surveys, which were carried out throughout 2025 and 2026, several invasive species were encountered within the Proposed Development site.

Non-native invasive species were encountered primarily within the lake itself, along the shore of Lough Ree, and at the Marina. These included the below:

- Nuttall's Waterweed (*Elodea nuttallii*) (Third and first schedule invasive species).
- Canadian Waterweed (*Elodea canadensis*) (Removed from third and first schedules but still considered a non-native invasive species of minor impact).
- Starry Stonewort (*Nitellopsis obtusa*) (Not listed on third or first schedules but a known non-native invasive charophyte (native to mainland Europe) and present in Lough Ree).
- Quagga Mussel (*Dreissena rostriformis*) (Third and first schedule invasive species).
- Zebra Mussel (*Dreissena polymorpha*) (Third and First schedule invasive species).

Appropriate control measures will be incorporated into the design and construction phase of the development to ensure that the relevant measures (outlined in Chapter 6 Biodiversity of this EIAR) will be implemented.

4.7.9 Traffic Management

As part of the Construction Stage Safety Plan for the works a Construction Traffic Management Plan will be prepared by CIVIC Engineers in accordance with the principles outlined below and held on site. It will comply at all times with the requirements of;

- Chapter 8 of the Department of the Environment Traffic Signs Manual, current edition, published by The Stationery Office, and available from the Government Publications Office, Sun Alliance House, Molesworth Street, Dublin 2;

- Guidance for the Control and Management of Traffic at Road Works (June 2010)¹⁰ prepared by the Local Government Management Services Board;
- Any additional requirements detailed in the Design Manual for Roads and Bridges & Design Manual for Urban Roads & Streets (DMURS).

Construction traffic will consist of the following categories:

- Private vehicles owned and driven by site construction and supervisory staff.
- Excavation plant, dumper trucks and materials delivery vehicles involved in site development works.

The following mitigation measures will be implemented, as required in order to minimise movement and potential impacts associated with construction phase traffic:

- The aggregates required for the construction of the Proposed Development will be sourced, as much as is possible and practicable, from quarries and suppliers located as near as possible to the Proposed Development. This will reduce the potential for any negative impacts associated with the haulage of the materials to the site of the Proposed Development. Existing soils and subsoils located on the site will be used where possible to reduce the amount of such materials required for import onto the site. Aggregates will be transported to the site in tarpaulin covered trucks.
- Warning signs / Advanced warning signs will be installed at appropriate locations in advance of the construction access locations.
- Construction and delivery vehicles will be instructed to use only the approved and agreed means of access; and movement of construction vehicles will be restricted to these designated routes.
- Speed limits of construction vehicles to be managed by appropriate signage, to promote low vehicular speeds.
- Parking of site vehicles will be managed and will not be permitted on public road, unless proposed within a designated area that is subject to traffic management measures and agreed with RCC.
- Consolidation of delivery loads to / from the site and management of large deliveries on site to occur outside of peak periods,
- Use of precast/prefabricated materials where possible,
- Adequate storage space on site to be provided where possible,
- Scheduling of movements to outside peak traffic times and school pick-up/drop off times.
- All vehicles to switch off engines when not in use,
- No idling of vehicles at the site,
- Vehicle cleaning and wheel washing to take place on leaving the site,
- On-road vehicles to comply to set emission standards,
- All Non-Road Mobile Machinery (NRMM) to be fitted with appropriate exhaust systems and to be regularly serviced,
- Haul routes to be hard surfaced and cleaned and appropriate speed limits applied around the site.
- All vehicles will be suitably serviced and maintained to avoid any leaks or spillage of oil, petrol or diesel.
- Safe and secure pedestrian facilities provided where construction works obscure any existing pedestrian footways. Alternative pedestrian facilities will be provided in these instances, supported by physical barriers to segregate traffic and pedestrian movements, and to be identified by appropriate signage. Pedestrian facilities will cater for vulnerable users including mobility impaired persons.

¹⁰Local Government Management Services Board, *Guidance for the Control and Management of Traffic at Road Works (June 2010)*

4.7.9.1 **Staff and Parking**

On-site employees will generally arrive before 07:00, thus avoiding the morning peak hour traffic. Construction employees will generally depart after 17:00. It should be noted that a large proportion of construction workers may arrive in shared transport.

Construction traffic will not be permitted to park on the public roads or within the general area outside the main site. Restricted parking facilities will be provided by the contractor. Parking of site vehicles will be managed and will not be permitted on public road, unless proposed within a designated area that is subject to traffic management measures and agreed with RCC.

4.7.9.2 **Road Cleaning and Wheel Washing**

Provision shall be made for the cleaning by road sweeper etc. of all access routes to and from the site during the course of the works as required. It is intended that cleaning will be undertaken regularly and not allowed to accumulate. A wheel wash facility will be provided on site to clean site traffic leaving the site. Wastewater generated at this washing facility will be directed to on-site settlement tanks/ponds. Debris and sediment captured by vehicle washes will be disposed off-site at an appropriately licensed facility.

4.7.10 **Other site Details**

4.7.10.1 **Water Supply**

Water will be supplied on site by water tankers for general use during the construction phase. Potable water will be provided in the form of bottled water for staff use.

4.7.10.2 **Aggregates**

The aggregates required for the construction of the Proposed Development will be sourced, as much as is possible and practicable, from quarries and suppliers located as near as possible to the Proposed Development. This will reduce the potential for any negative impacts associated with the haulage of the materials to the site of the Proposed Development. Existing soils and subsoils located on the site will be used where possible to reduce the amount of such materials required for import onto the site. Aggregates will be transported to the site in tarpaulin covered trucks.

4.8 **Operation and Maintenance of the Proposed Development**

4.8.1 **Water Sports Pavilion**

It is proposed that RCC will lease the WSP to an appointed operator. The appointed operator will be responsible for the day-to-day operation, management and maintenance of the building and associated facilities. This will include the management of public access (where applicable), cleaning, routine building maintenance, servicing of mechanical and electrical systems, health and safety compliance, security and the maintenance of all internal facilities to an appropriate operational standard. The Operational Management Plan, Appendix 4-3 of this EIAR sets out the description and frequency of maintenance tasks required for the WSP.

4.8.2 **Café Building**

It is proposed that RCC will lease the café building to an appointed operator. The appointed operator will be responsible for the day-to-day operation, management and maintenance of the café building and associated facilities.

It is also proposed to install 9 no. of solar panels on the café building. The proposed solar panels will be erected at a 30-degree angle and orientated south facing to maximise generation. Maintenance requirement for the panels will be minor and will be the responsibility of RCC. The main requirement for maintenance consists of periodic cleaning of the panels. The maintenance schedule for the Café Building, including the solar panels, is set out in the Operational Management Plan, Appendix 4-3 of this EIAR. The waste generation and waste management proposals during the operation of the café is detailed in the Operational Management Plan.

4.8.3 Waterways Ireland Marina

Operation and maintenance of the marina at Hodson Bay will continue to be the responsibility of Waterways Ireland. Waterways Ireland will ensure provision of all facilities for marina users including the cleaning of bathrooms and shower facilities in the marina services block building. Waterways Ireland will also ensure the functioning and adequate capacity of services provided for boat users of the marina including water, electricity and waste pump-out facilities. The Operational Management Plan, Appendix 4-3 of this EIAR sets out the description and frequency of maintenance tasks required for the marina. The Operational Management Plan also sets out the operational waste management procedures which will be implemented for the marina.

4.8.4 Public Recreation Areas

The Public Realm Upgrades will provide a flexible public space at the centre of the site, providing a space for programmed activity and events while serving as a functional amenity for marina activities.

The following is proposed as elements of the Public Realm Upgrades:

- Amenities including;
 - A playground,
 - Nature observation space,
 - Picnic areas,
 - Benches,
 - Wellness meadow,
 - Bike storage and service areas,
 - Changing shelter and
 - Events space including the development of a continuous promenade along the lakeshore.
- Provision of extensive natural landscaping including;
 - Sustainable Drainage Systems (SuDS) planting zones,
 - Integrated planter boxes with public seating,
 - Open grassed areas including the wellness meadow in the north of the site and green lake shore areas.
- Site lighting scheme.

RCC (or an RCC-appointed operator) will be responsible for the maintenance of the Public Recreation Areas at Hodson Bay. This will include regular maintenance of landscaping and meadow areas and maintenance and upkeep of the playground area and public realm facilities including benches. RCC will be responsible for the monitoring and maintenance of SuDS features throughout the Proposed Development site, with any issues to drainage features being repaired as soon as possible. RCC will also be responsible for emptying bins in the area and litter removal during operation. The Public Realm maintenance schedule is set out the Operational Management Plan, Appendix 4-3 of this EIAR.

4.8.5 Parking and Road Maintenance

It is proposed to provide additional electric vehicle (EV) charging spaces, car parking spaces, accessible parking spaces bicycle parking spaces, bus parking bays, boat trailer parking bays, and a 3 m wide shared cycle/pedestrian pathway along the length of the L2020 Local Road from the N61 National Road junction to the Hodson Bay Marina. RCC (or an RCC-appointed operator) will be responsible for the maintenance of car and bicycle parking spaces, and road maintenance including the cycle/pedestrian

pathway. The parking and road maintenance schedule is set out in the Operational Management Plan, Appendix 4-3 of this EIAR.

4.8.6 Operational Waste Management

The typical non-hazardous and hazardous wastes that will be generated at the Proposed Development will include the following:

- Mixed Residual Waste;
- Dry Mixed Recycling – includes wastepaper (including newspapers, magazines, brochures, catalogues, leaflets), cardboard and plastic packaging, metal cans, plastic bottles, aluminium cans, tins and Tetra Pak cartons;
- Organic Waste;
- Glass and;
- Foul Water

In addition to the typical waste materials that will be generated at the development on a daily basis, there will be some additional waste types generated in small quantities/ less frequently which will be managed separately including batteries and waste electric and electronic equipment (WEEE).

Wastes will be generated by operations of the café building with a weekly estimated waste of 3,750 litres. Wastes will also be generated by operations at the WSP building with a weekly estimate of 3,415 litres. The Proposed Development Wastes from

The redevelopment of the marina includes for an extension consisting of a floating breakwater and jetty extension connecting to the existing marina structure. The marina redevelopment will include provisions of services for boat users including foul water pump out-facilities. Waterways Ireland will ensure the functioning and adequate capacity of these services. Foul water from the redeveloped marina will connect to the existing Uisce Éireann operated on-site pumping station.

4.8.7 Resource Efficiency

It is proposed that the Proposed Development will be designed to minimise operational energy demand through a fabric-first approach, the use of energy-efficient building services and the integration of appropriate renewable energy technologies.

The Proposed Development will propose replacement of the existing water sports building with all-electric buildings. Space heating and cooling will be provided by air-source heat pump driven variable refrigerant flow (VRF) systems serving fan coil units, with limited direct electric panel heating in selected back-of-house areas. Mechanical ventilation with heat recovery will be provided, with the final centralised or local arrangement confirmed at detailed design. Central air-source heat pumps and insulated hot-water storage tanks will serve the significant shower and domestic hot water demand. A maximised roof-mounted solar photovoltaic (PV) array will generate renewable electricity; no battery storage is proposed.

The proposed WSP building has been designed to comply with the requirements of Building Regulations Part L (Buildings Other Than Dwellings) and achieve the Nearly Zero Energy Building (NZEB) standard.

Key commitments for the Proposed Development include:

- All-electric development; no direct fossil-fuel heating.
- High-performance fabric and $3.0 \text{ m}^3/(\text{h}\cdot\text{m}^2)$ @ 50 Pascal airtightness target.
- Air-source heat pump /VRF heating and cooling, heat recovery ventilation and air-source heat pump domestic hot water.
- Light Emitting Diode (LED) lighting with occupancy and daylight controls.
- Low-flow water fittings and resilient pressurised cold-water storage.
- Maximised roof-mounted PV array, with no battery storage proposed.
- A detailed Non-Domestic Energy Assessment Procedure (NEAP) assessment and Building Energy Rating (BER) certification and commissioning evidence will be completed at detailed design and prior to operation.

An Energy Statement has been prepared by CIVIC Engineers which provides further detail on resource efficiency with regard to the Proposed Development (Planning Document reference no. 71589-CIV-XX-XX-R-J-50001).