140 High Street
Holywood
Co Down
BT18 9HS

Telephone
028 9042 3333
Fax
028 9042 6161

Email
info@hobartheron.com
Web
www.hobartheron.com

OLD HOUSE POINT

STENA TERMINAL, LOCH RYAN, SCOTLAND

Architectural Design Statement for Buildings

Background Information

The new Stena Terminal building including the site development layout has been designed to scheme design stage ready for submission for HEO approval. Hobart & Heron Architects have been appointed by Stena to provide Architectural Services to develop the approved scheme design drawings for the Buildings to detail design, tender action, provide specifications, production information, and co-ordination of the consultants information to enable delivery of the completed building on site in the timescale indicated.

Location

The proposed location of the new Stena Terminal Development will be on partly reclaimed land along the eastern shores of Loch Ryan, at Old House Point, which is approximately 1.5 miles north of Cairnryan. It has an exposed location on Loch Ryan, with the building envelope and other structures, having to be designed to withstand the environment of this exposed marine location. The main A77 road passes along the eastern boundary of the site. The topography then rises steeply beyond this road and the land is used for sheep grazing along with a mixture of gorse and groups of pine trees. Previous uses of this site, along with other landscape features some of historic value has been discussed in other areas of the Environmental Statement.

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A.Brian Gordon Dip Arch RIBA
Consultant: G. Brian Hobart

Reg No. NI. 44176

Hobart Heron

Proposed Use

The Architectural and Civil Engineering design drawing for the development of the site prepared for the HEO submission indicate the configuration of Ferry Berths and proposals for arriving and departing vehicle movement through the site. Also shown are the main Terminal Building, Security buildings, Check-in areas, Maintenance Workshops, and Signage gantries. The design layout of the development has been carefully developed over a period of time through numerous client and design team workshops. This will ensure that this Port facility when fully operational functions efficiently. It has also been designed to be flexible, to change over time, as vessels capacities and efficiencies improve. The key to the success of the operation of the Terminal is linked to a number of factors: the turn around and travel times of the vessels being used, along with the movement of vehicles and passengers either by car or on foot onto the ferries. Loading and disembarking times for vehicles have therefore to be kept to a minimum. This has been achieved by the design and configuration of internal and external road network.

The buildings are provided to facilitate the comfort of passengers and vehicles travelling by ferry to Ireland. The architectural drawings indicate the spaces, facilities, and movement routes of passengers along with office staff in and around the building. Passengers using the terminal building may be travelling as foot passengers, by car, or by coach. The building also accommodates drivers of HGV vehicles and drivers of other large vehicles. The building operates 24 hours a day for ferry operations, and normal working hours for administration staff. It provides a check-in and boarding point for the ferry along with facilities for passengers arriving into Scotland from Ireland. Tickets are presented or bought at the main entrance point of the building and passengers then proceed through security and baggage check-in area to the ground floor departure lounge.

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Segregation is provided between departing and arriving passengers similar to an airport building. Lifts are provided on both sides of the building for disabled people use. On the first floor of the building, are located Stena's administration offices along with security personnel offices, plant rooms, staff areas and washrooms.

The architectural design of the main Terminal Building is very much in keeping with a modern industrial vernacular style used in other Stena terminals throughout the UK. The roof houses mechanical plant in a concealed open well. This mitigates the visual impact of exposed rooftop plant. The scale of the building with ground and one upper floor accommodates all the various facilities needed in close proximity to operate the Terminal efficiently. Safe passenger access from the Terminal Building to the Ferries is provided by bus transfer. The main public seating areas on the ground floor have been configured to afford passengers views of either Loch Ryan to the west, or the rolling Scottish hillside to the east. Vertical circulation by lift and stairs is provided on both the north and south elevations of the building for Stena and Security personnel moving up and down from ground to first floor. Glazing in these areas will offer views looking northwards up Loch Ryan towards the Irish Sea, or south towards Stranraer. Solar shading is provided on elevations to reduce the impact of solar heat gain, but configured to ensure that views over the unique landscape and Loch Ryan are preserved.

In combination with the recently completed new Belfast Terminal, we believe that these facilities when completed will ensure both a higher efficiency in travel, in quality service and in passenger comfort crossings the Irish Sea.

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Structure

Due to the nature of the ground conditions the building will be built off piled foundations, ground beams and floor slab. A steel frame will provide the main structural element for the building off which the floors, external walls, cladding, curtain wall, glazing systems and roof structure will be supported off. The high thermal insulation for all the external elements in the building envelope complies with the current Scottish Building Regulations. The floors will be a composite construction of metal deck and power floated concrete slab to received floor finishes.

Fire Strategy

The numbers of passengers at ground floor level plus staff on the 1st floor area necessitates a carefully detailed fire strategy to be developed during the detail design stage. This strategy will cover the protection of escape routes along with the compartmentation of floors within the building. Fire venting of the stairways to extract smoke in the event of a fire may also be required. In addition signage, alarms, both audible and visual methods of warning of a fire will be included under the electrical works packages. Consultation will be made with the local Building Control office at an early stage to ensure the building meets with safety requirements in the event of a fire. The provision of two main escape stairs within the building will provide the necessary alternative means of escape in the event of a fire.

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Low Carbon Design

The nature of the operation of the building means that passenger areas are vacant during times the ferries are at sea. Passengers must arrive for check in one hour before the ferries are due in port.

This sudden influx of people will require a heating/cooling system that responds quickly to the rapidly changing internal thermal conditions. In the winter it will be a heating requirement to bring the building up to a comfortable level. In the height of summer when the holiday season peaks and the terminal is full a rapid cooling level will be required. The tender submission for mechanical and electrical works has been designed to cope with these conditions.

The large amount of glass on most elevations affords views for passengers watching for the ferry arriving. The orientation of the glazing will mean solar gains in the areas directly behind the glass. We have proposed external solar shading over these facades to reduce this thermal gain, whilst still offering views of the sea and the scenery around.

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