CS CONSULTING

GROUP

DUBLIN | LONDON | LIMERICK

Outline Construction and Environmental Management Plan

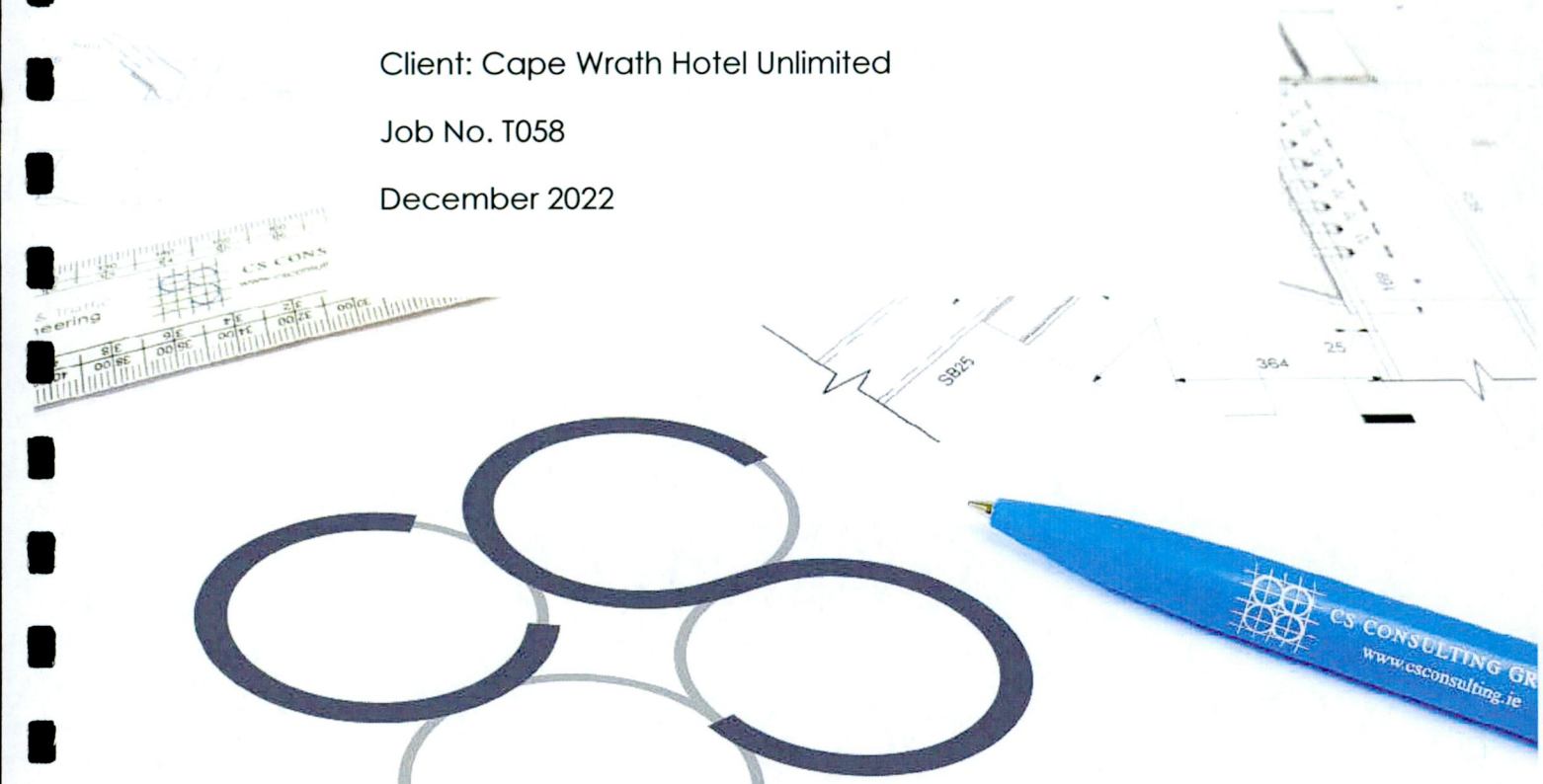
Proposed Cemetery Development at City West,

Saggart, County Dublin.

Client: Cape Wrath Hotel Unlimited

Job No. T058

December 2022



CS CONSULTING
GROUP

CS CONSULTING
GROUP

OUTLINE CONSTRUCTION AND ENVIRONMENTAL MANAGEMENT PLAN

PROPOSED CEMETERY DEVELOPMENT AT CITY WEST, SAGGART, COUNTY DUBLIN.

CONTENTS

File Location: Job-T058\B_Documents\2_Graveyard\A_CS Reports\OCMP

BS 1192 FIELD	**T058-CSC-ZZ-XX-RP-C-0003-P1**

Job Ref.	Author	Reviewed By	Authorised By	Issue Date	Rev. No.
T058	LJ	RFM	RFM	08.12.2022	P4
T058	LJ	RFM	RFM	23.11.2022	P3
T058	LJ	RFM	RFM	21.11.2022	P2
T058	LJ	RFM	RFM	14.11.2022	P1
T058	RFM	GL	GL	04.03.2021	P0

CS CONSULTING
GROUP

CS CONSULTING
GROUP

1.0 INTRODUCTION

Cronin & Sutton Consulting (CS Consulting) have been commissioned by Cape Wrath Hotel Unlimited to prepare an Outline Construction and Environmental Management Plan (OCEMP) to accompany a planning application for a proposed development at Garters Lane, Saggart, County Dublin.

The OCEMP is a preliminary plan. The aim of the OCEMP is to address issues that can arise during construction including noise and vibration, traffic management, working hours, pollutions control, dust control, road cleaning, compound/ public health facilities and staff parking, all associated with the construction works. Upon appointment, once familiar with the site and having developed a final detailed methodology for construction, the lead contractor will expand upon the OCEMP to produce a detailed Construction Management Plan (CMP). The content of the contractor's CMP will be agreed with South Dublin County Council (SDCC) prior to commencement of works.

This OCEMP has been prepared to give an overview of the processes to be employed during construction of the project. Prior to the on-site activities commencing, this plan shall be revised by the appointed contractor and expanded to produce a Detailed Construction & Environmental Management Plan, which shall incorporate:

- Operational Health & Safety (OH&S) Management Plan;
- Environmental Management Plan, including a Waste Management Plan;
- Pedestrian and Traffic Management Plan.

The contractor's Construction & Environmental Management Plan shall be integrated into and implemented throughout the construction stage of the project to ensure the following:

- that all site activities are effectively managed to minimise the generation of waste and to maximise the opportunities for on-site reuse and recycling of waste materials.

- that all waste materials generated by site activities, which cannot be reused on site, are removed from site by appropriately permitted waste haulage contractors and that all wastes are disposed of at approved licensed facilities in compliance with the *Waste Management Act 1996 to 2005*.
- that any environmental impacts (noise, vibration, dust, water) of project construction work activities on receptors and properties located adjacent to the project work areas, and on the local receiving environmental, are managed and controlled.

CS CONSULTING
GROUP

2.0 SITE LOCATION AND PROPOSED DEVELOPMENT

2.1 Site Location

The proposed development site is located in City West, Saggart, County Dublin. The site is located in the administrative jurisdiction of South Dublin County Council and has a total area of circa 13.45 ha.

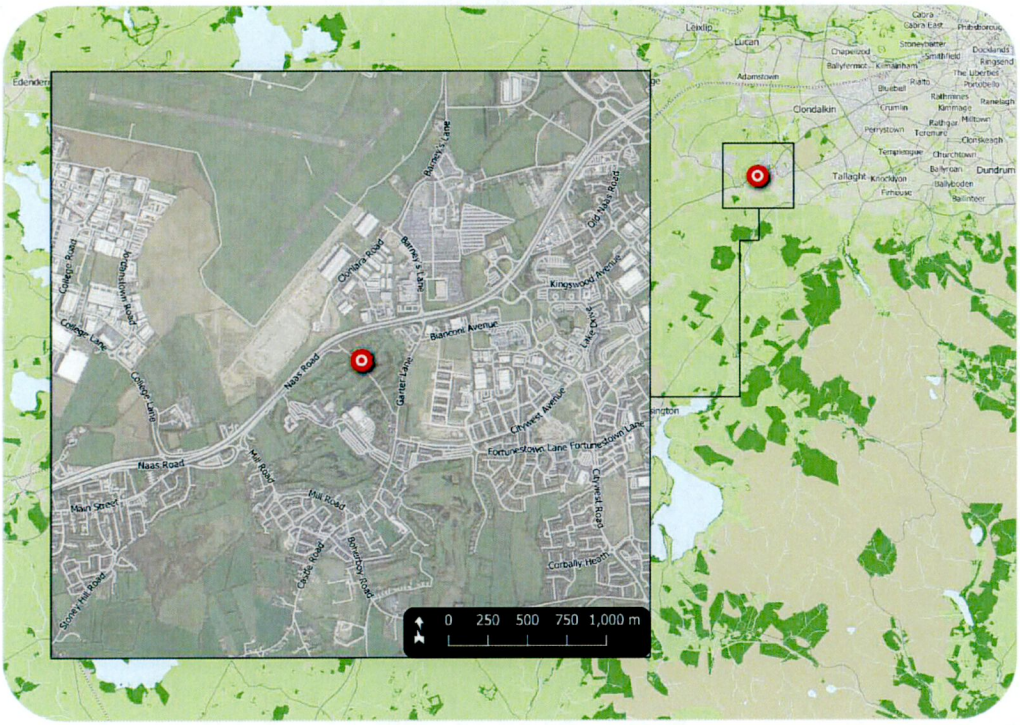


Figure 1 – Location of proposed development site
(map data and imagery: EPA, NTA, OSi, OSM Contributors, Google)

The location of the proposed development site is shown in **Figure 1** above; the indicative extents of the development site, as well as relevant elements of the surrounding road network, are shown in more detail in **Figure 2**.

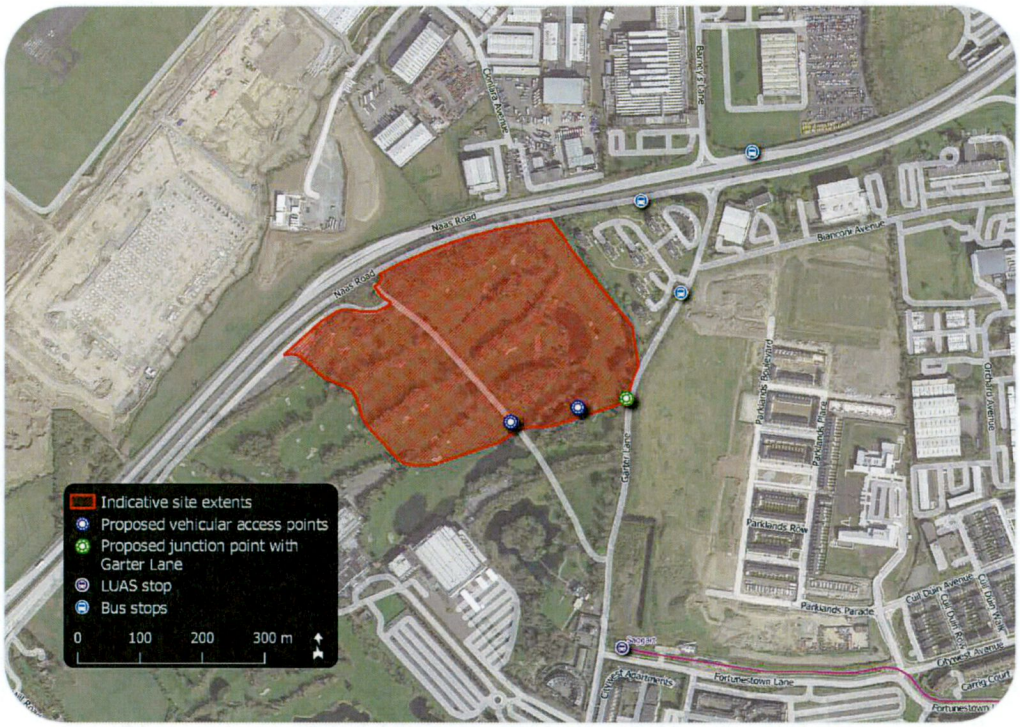


Figure 2 – Site extents and environs
(map data and imagery: NTA, OSM Contributors, Google)

The site is bounded by the N7 National Road to the north and north-west, Garters Lane to the east, and an existing City West Complex to the south and south-west.

2.2 Existing Land Use

The subject site is currently configured to be a golf course, with associated water courses and golf relief features.

CS CONSULTING
GROUP

2.3 Description of Proposed Description

The development will consist of a cemetery including: 8,047 No. traditional burial plots; Columbarium walls; 1 No. single storey reception building (214.7m^2 Gross Floor Area (GFA)) comprising a reception, 1 No. office, 1 No. reception store, WC, kitchenette with photovoltaic (PV) solar panels at roof level; and the provision of an ancillary maintenance shed, bin and battery storage structures.

The development includes a new vehicular access road from Garters Lane to the N7/M7 Naas Road, with 2 No. vehicular access points serving the proposed cemetery; 110 No. car parking spaces (25 No. spaces to the east of the reception building and 85 No. within overflow car park areas to the south of the development); 8 No. bicycle parking stands; and all associated hard and soft landscape and boundary treatment works including the reshaping of an existing lake and provision of a footbridge; provision of SUDS measures, associated lighting, associated signage, site services (foul and surface water drainage and water supply); and all other associated site excavation, infrastructural and site development works above and below ground.

CS CONSULTING
GROUP

3.0 SITE MANAGEMENT

3.1 Site Establishment

The contractor once appointed shall provide all necessary accommodation, material handling and secure storage for its operations.

The facilities to be provided and maintained by the contractor shall include:

- construction plant;
- hoisting equipment and cranes;
- scaffolding, platforms, access ladders, barriers, handrails;
- barricades and hoardings;
- temporary driveway, road crossovers, and construction zone;
- 24/7 emergency vehicle access to site during working hours;
- on-site hardstand areas for vehicle loading and unloading;
- storage sheds and compounds;
- rubbish sorting areas;
- site amenities with all required equipment and facilities;
- construction worker accommodation, if required;
- first aid facilities;
- site administration accommodation.

Construction plant and site amenities shall comply with the requirements of all relevant authorities and be wholly contained within the hoarded site. All construction plant and equipment shall be progressively removed when no longer required.

First Aid facilities for the use of all construction staff in the form of a fully provisioned first aid area within the site office with life-saving and safety equipment as required by relevant statues, authorities and awards shall be maintained at all times by the contractor.

The contractor shall obtain all required permits, pay the applicable fees and comply with all conditions.

Subject to a successful grant of planning, it is intended for the works to commence in Q4 2023. The proposed development is anticipated to be constructed over an 18-month period.

3.2 Hoarding and Fences

Prevention of unauthorized access to the site is a very priority and shall be vigorously managed throughout the construction period. Perimeter hoarding will be provided around the site to provide a barrier against unauthorized access from the public areas. Controlled access points to the site, in the form of gates or doors/ turnstiles, shall be kept for any time that these areas are not monitored (e.g., outside working hours).

The hoarding shall be well-maintained and shall be painted and may contain graphics portraying project information. The hoarding is of particular importance along the boundaries with public road infrastructure to prevent access by the public. The contractor shall be required to erect a single project signboard to the hoarding at the main entrance points to identify the site.

As well as appropriate fall arrest and protection measures will be fitted to the elevation facing the public footpaths and roads during the construction of the superstructure frame to prevent any falling objects onto the public areas. Simple measures such as a flared top section to the site hoarding will be erected as well as more extensive measures such as netting and full crash barriers where required.

All materials being lifted by crane will be controlled by guide ropes and will only be completed under the strict supervision of appropriately qualified and experienced banksmen. Tower cranes will be fitted with restrictors to prevent them lifting materials over existing buildings to the east and west of the site.

Nets and screens shall be used to close in work at perimeter of buildings to prevent any debris exiting the building. Method statements shall be prepared by the contractor where any plant is operating adjacent to existing buildings.

3.3 Services Relocation and Temporary Protection of Public Domain

Prior to commencement of works, detailed dilapidation reports shall be carried out for footpaths, kerbs, road pavements and utility infrastructure features of the main access routes in the immediate vicinity to the site.

The contractor shall provide protection to existing surrounding building elements potentially impacted by the works. Protection may be in the form of screened hoardings, scaffoldings and fencing, taped drop sheets and the like, all installed prior to commencement.

The type of required hoardings, scaffolding and fencing shall vary over the duration of the works, depending on how the site activities potentially impact on the adjoining public domain.

Dial-before-you-dig enquiries and detailed services location investigation shall be carried out to identify any need for temporary protection of elements of existing utility infrastructure that are not to be diverted as part of the works.

All temporary protection is to be installed and maintained during the duration of the works until they are no longer required.

3.4 Vehicular Access to Site

The site can be accessed from Garters Lane. It is anticipated that for the duration of the works all access and egress for deliveries shall be from the N7 interchange to the north via Garters Lane. It may also be beneficial to install a pedestrian only entrance to the site to segregate vehicular and pedestrian movements to and from site. It can be done off the Garters Lane Road.

Security personnel will be present at the entrance/exit of the site to ensure all egressing traffic will do so safely. A wheel wash will be installed at the exit from the site to prevent any dirt being carried out into the public road. A road sweeper will be employed as required to keep the public road around the site clean.

3.5 Site Security

The site will be secured with a hoarding. Fully enclosed scaffolding and additional netting shall be installed over the public roads to catch any debris that could fall from height.

The site hoarding shall be branded using the appointed Contractors' logos, etc. Some marketing images or information boards may also be placed on the hoarding.

Access to site will be controlled and monitored outside of site working hours. 24-hour site monitoring by on-site personnel and CCTV will be implemented (subject to the final provisions to be put in place by the contractor). During working hours, a gateman shall control traffic movements and deliveries to ensure safe access and egress to site.

All personnel working on site must have a valid Safe Pass card and be inducted by the Main Contractor with regard to site specific information.

3.6 Material Hoisting and Movement Throughout the Site

It is envisaged that one or more tower cranes will be erected on site to assist with superstructure and exterior works. In addition to the tower crane, separate mobile crane visits may be required from time to time. These visits will be coordinated with the other site activities and crane operations to ensure all risks are correctly assessed and guarded against.

Hoists and teleporters may also be utilised within the site and around its perimeter as required during the project to facilitate material and waste movements into and out of the site.

3.7 Deliveries and Storage Facilities

All deliveries to site will be scheduled to ensure their timely arrival and avoid need for storing large quantities of materials on site. Deliveries will be scheduled outside of rush hour traffic (within the permitted site working hours) to avoid disturbance to pedestrian and vehicular traffic in the vicinity of the site.

3.8 Site Accommodation

On-site facilities will consist of:

- a materials and equipment storage area;
- a site office & meeting room;
- staff welfare facilities (e.g., toilets, drying room, canteen, etc.)

Electricity will be provided to the site via the national grid, subject to the restrictions and requirements of ESB Networks.

Water supply to the site will be provided by means of a temporary connection to the public watermain. Similarly, a temporary connection for foul water drainage will be made to the public network. The locations and sizes of these temporary connections will be determined through consultation with Irish Water and South Dublin County Council and shall be subject to any restrictions and requirements they may impose.

CS CONSULTING
GROUP

3.9 Site Parking

There shall be limited number of car parking made available for construction staff. However, construction staff shall also be encouraged to use public transport and information on local transportation should be published on site.

3.10 Site Working Hours

Construction operations on site will generally be subject to a planning permission and conditions. However, it may be necessary for some construction operations to be undertaken outside these times, for example, service diversions and connections, concrete finishing and fit-out works.

Deliveries of materials to site will generally be between the hours of 07:00 and 19:00, Monday to Friday, and 08:00 to 14:00 on Saturdays (subject to condition of planning). There may be occasions where it is necessary to make certain deliveries outside these times, for example, where large loads are limited to road usage outside peak times. Any such deliveries will be made with the advance agreement of SDCC.

3.11 Record Keeping

Records shall be kept of all accidents and spillages on site. All records shall include key information such as (date and time of accident/spillage, description of accident/spillage, and proposed remedial action where relevant). This record shall be kept for the duration of works on site and made available to SDCC upon request.

Records shall also be kept for all waste material which leaves the site, either for reuse on another site, recycling, recovery or disposal. A recording system shall be put in place to record the C&D waste arisings on site. A copy of the Waste Collection Permits, CORs, Waste Facility Permits and Waste/IED Licences shall be maintained on site at all times. Please refer to the Resource Waste

CS CONSULTING
GROUP

Management Plan prepared by CS Consulting for details of waste management during demolition and construction phases of the subject development under separate cover included with this planning application.

3.12 Complaints Procedure

A Complaints Procedure System shall also be drawn up by the contractor. Records of all complaints shall be logged (date and time, description of complaint, complainant details etc.), include actions to be carried out and finally that the complaint has been closed out by both the contractor and the respective complainant. Records shall be kept and made available to SDCC upon request.

CS CONSULTING
GROUP

4.0 ENVIRONMENTAL ISSUES

The Contractor will establish guidelines and controls for all activities that may impact on the surrounding environment for the duration of the works, including air, water, land, natural resources, flora, fauna, humans, and their interrelation.

The project is to be developed to enable to all personnel with the means to understand their responsibilities and to meet the Contractor's statutory, contractual, and procedural obligations relating to environmental management.

For each activity, the environmental aspects and associated actual and potential impacts are to be identified as they relate to the following environmental elements:

- emissions to air
- releases to water
- releases to land
- use of raw materials & natural resources
- use of energy
- waste and by-products
- community & neighbours
- flora & fauna
- heritage & cultural.

4.1 Stormwater and Wastewater Management

The purpose of these procedures is to ensure that storm water and wastewater runoff is managed and that there is no off-site environment impact caused by overland storm water flows.

The project environmental management plan will be developed in detail to include:

- silt control on the roads
- discharge water from dewatering systems
- diversion of clean water
- treatment and disposal of wastewater from general clean-up of tools and equipment
- spills control
- silt trapping and oil interception (to be considered where surface water run-off may enter watercourse)
- refuelling of machinery off-site or at a designated bunded refuelling area.

4.2 Noise and Vibrations

The Contractor shall be required to carry out their works such that the effect of noise and vibration on the adjacent buildings and surroundings is minimised, and that no damage to these results from construction activity on site.

All works on the site for the development shall strive to meet the criteria of and comply with the limits of the *'Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition'* insofar as is practical.

In general, the contractor shall implement the following mitigation measures during the proposed infrastructure works:

- Noise monitoring stations, which will be monitored daily, located on site and at recommended locations in the vicinity of the site to record background and construction noise activity.
- Avoid unnecessary revving of engines and switch off equipment when not required
- Minimise drop height of materials

- Keep internal haul roads well maintained and avoid steep gradients.
- Start-up plant sequentially rather than all together.

More specifically the Contractor shall ensure that:

- A construction noise and vibration management plan are prepared.
- In accordance with Best Practicable Means, plant and activities to be employed on site are reviewed to ensure that they are the quietest available for the required purpose.
- Hoarding to be provided and where required, improved sound reduction methods are used e.g., enclosures.
- Site equipment is located away from noise sensitive areas, as such as physically possible.
- Regular and effective maintenance by trained personnel is carried out to reduce noise and / or vibration from plant and machinery.
- Hours are limited during which site activities likely to create high levels of noise and vibration are carried out.

A site representative responsible for matters relating to noise and vibration shall be appointed prior to construction on site. **Table 1** below give Trigger level values for vibrations.

Table 1 - Trigger values for vibration

Trigger Level	Peak Particle Velocity (PPV)	
	50Hz and below	Above 50Hz
1	10 mm/s	10 mm/s
2	10 mm/s	12 mm/s
3	10 mm/s	15mm/s

A noise and vibration monitoring specialist shall be appointed to carry out independent monitoring of noise and vibration during critical periods at sensitive locations for comparison with limits mentioned in *'Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition insofar as is practical'*.

All vehicles and mechanical plant used for the purpose of the works shall be fitted with effective exhaust silencers and shall be maintained in good and efficient working order.

In addition, all diesel engine powered plant shall be fitted with effective air intake silencers. All compressors shall be "sound reduced" models fitted with properly lined and sealed acoustic covers which shall be kept closed whenever the machines are in use. All ancillary pneumatic percussive tools shall be fitted with mufflers or silences of the type recommended by the manufacturers, and where commercially available, dampened tools and accessories shall be used.

All ancillary plant, such as generators and pumps, shall be positioned so as to cause minimum noise disturbance. If operating outside the normal working week acoustic enclosures shall be provided.

Local screening should be provided for stationary plant such as generators and compressors.

An acoustically screened area should be provided on the site specifically for noisy operations such as grinding and cutting metal.

A noise liaison officer should be appointed and charged with the responsibility of keeping people informed of progress and by setting down procedures for dealing with complaints.

4.3 Air Quality Monitoring

All works on the site for the development shall strive to meet the criteria of and comply with the limits of the *'Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition'* insofar as is practical.

An air quality monitoring (Air Quality and Dust monitoring) specialist shall be appointed to carry out independent monitoring during critical periods at sensitive locations for comparison with limits mentioned in *'Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition'*.

Dust prevention measures shall be included for control of any site airborne particulate pollution. The Contractor shall continuously monitor levels of dust and airborne particulate matter (PM_{10} and $PM_{2.5}$) in the vicinity of the site throughout demolition and construction works, in accordance with planning conditions, and records shall be kept of such monitoring for review by the Planning Authority.

4.4 Migrating Dust and Dirt Pollution

The Contractor will ensure that all construction vehicles that exit the site onto the public roads will not transport dust and dirt to pollute the external roadways. This will be achieved through a combination of the following measures:

- Hard surface roads be swept to remove mud and aggregate materials from their surface while any unsurfaced roads shall be restricted to essential site traffic.
- Ensuring an appropriate wheel or road washing facility is provided as and when required throughout the various stages of construction on site.
- Ensuring all construction vehicles are inspected by the gateman for cleanliness prior to exiting the site.

- Vehicles using site roads shall have their speed restricted, and this speed restriction must be enforced rigidly. On any unsurfaced site road, this shall be 20kph, and on hard surfaced roads as site management dictates.
- Vehicles delivering material with dust potential (soil, aggregates) shall be enclosed or covered with tarpaulin at all times to restrict the escape of dust.
- Public roads outside the site shall be regularly inspected for cleanliness and cleaned as necessary.
- Material handling systems and site stockpiling of materials shall be designed and laid out to minimise exposure to wind. Water misting or sprays shall be used as required if particularly dusty activities are necessary during dry or windy periods.
- During movement of materials both on and off-site, trucks shall be stringently covered with tarpaulin at all times. Before entrance onto public roads, trucks shall be adequately inspected to ensure no potential for dust emissions.
- Restrict un-surfaced roads to essential site traffic.
- Construction techniques shall minimise dust release into the air.
- The use of appropriate water-based dust suppression systems to reduce the amount of dust and windborne particulates as a result of the construction process. This system will be closely monitored by site management personnel particularly during extended dry periods and in accordance with site management methods.

4.5 Harmful Materials

Harmful material will be stored on site for use in connection with the construction works only. These materials will be stored in a controlled manner. Where on-site storage facilities are used, there will be a bunded filling area using double bunded steel tank at a minimum.

4.5.1 Contaminated soil

If any contaminated material is encountered, it will need to be segregated from clean/inert material, tested and classified as either non-hazardous or hazardous in accordance with the EPA publication entitled 'Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous' using the HazWasteOnline application (or similar approved classification method). The material will then need to be classified as clean, inert, nonhazardous or hazardous in accordance with the EC Council Decision 2003/33/EC, which establishes the criteria for the acceptance of waste at landfills.

4.5.2 Fuels/oils

As fuels and oils are classed as hazardous materials, any on-site storage of fuel/oil, all storage tanks and all draw-off points will be bunded and located in a dedicated, secure area of the site. Provided that these requirements are adhered to, and site crew are trained in the appropriate refuelling techniques, it is not expected that there will be any fuel/oil wastage at the site.

4.5.3 Other known hazardous substances

Paints, glues, adhesives and other known hazardous substances will be stored in designated areas. They will generally be present in small volumes only and associated waste volumes generated will be kept to a minimum. Wastes will be stored in appropriate receptacles pending collection by an authorised waste contractor. In addition, WEEE (containing Construction and Demolition Waste Management Plan 11 hazardous components), printer toner/cartridges, batteries (Lead, Ni-Cd or Mercury) and/or fluorescent tubes and other mercury containing waste may be generated during construction activities. These wastes (if encountered)

will be stored in appropriate receptacles in designated areas of the site pending collection by an authorised waste contractor.

In the event that hazardous soil, or historically deposited hazardous waste is encountered during the work, the Contractor must notify the South Dublin County Council and provide a Hazardous/Contaminated Soil Management Plan, to include estimated tonnages, description of location, any relevant control measures, destination for authorised disposal/treatment, in addition to information on the authorised waste collectors.

4.6 Asbestos

A Refurbishment/Demolition Asbestos Survey shall be carried out prior to the commencement of the demolition works. All extant buildings on site will be surveyed for the purpose of detecting and recording incidences of asbestos containing materials (ACMs). A report shall then be prepared which will contain a register showing the location and type of asbestos, if encountered, and the risks and recommendations in relation to the material identified.

ACMs identified by the Asbestos survey will be required to be removed by suitably trained and competent persons, removed from site by a suitably permitted waste contractor, and transported to a suitably licenced disposal facility. The Contractor shall handle ACMs in accordance with the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006, as amended and associated approved Codes of Practice. The Contractor shall be responsible for preparing specified Risk Assessment and Method Statements for the identification and removal of all ACMs on site.

CS CONSULTING
GROUP

5.0 WASTE MANAGEMENT

A Resource Waste Management Plan (RWMP) has been prepared by CS Consulting as part of this application. Refer to this report for details of waste management during the construction of the proposed development.

CS CONSULTING
GROUP

6.0 TRAFFIC MANAGEMENT

6.1 Site Traffic, Traffic and Pedestrian Management

The anticipated truck movements from and to the site in relation to the preliminary programme for the works will be specified in the construction methodology by the main contractor.

The construction site will be delineated by means of hoardings and lockable gates with screened fencing at the entry and exit points. The Contractor will pay particular attention to pedestrian traffic and safety at the entrances. All vehicles will enter and exit the site in a forward direction.

Pedestrians will have right of way. If required, alternate pedestrian routes around the site will be created and clearly signed. Depending on the progress of the works and temporary constraints imposed by the construction methodology, the location of access and exit points to the site may vary.

6.2 Vehicular Access to Site

Construction traffic shall access the site from the adjoining street network to Garters Lane. Garters Lane can accommodate the traffic volumes and the vehicles can head north to join the N7. This entrance off Garters Lane shall provide access for deliveries and extraction to and from the site.

Security personnel will be present at the entrance/exit of the site to ensure all exiting traffic will do so safely. A self-contained wheel wash system will be installed at the exit from the site, to minimise dirt being carried out into the public road, and a road sweeper will be employed as required to keep public roads around the site clean.

The vehicular access to the construction site shall include the following design elements:

- Sufficient entrance width to permit two rigid body vehicles to pass one another (i.e. one can enter while another waits to leave).
- An entrance gate set back a minimum of 18m from the public road edge, to ensure that vehicles may leave the road completely before having to stop.
- Appropriate sight lines for vehicles exiting onto the public road, to be ensured by removing existing visual obstructions and by appropriate design of perimeter hoarding.
- Directional signage for site traffic and advance warning signage for all other road users.

Revised access measures may be developed further as part of the final Construction Traffic Management Plan (CTMP) to be prepared by the Contractor.

6.3 Vehicle Movements During Construction

The major construction items include excavation, construction and fit out. It is anticipated that the peak of HGV movements to and from the site shall be during excavation works and construction of the building foundations. The peak LGV movements to and from the site shall be during the building construction and fit out. It is anticipated that the construction traffic impact on the surrounding local road network shall be minimal.

The contractor must submit a Construction Traffic Management plan to the Local Authority for approval. Haulage vehicle movements should be fully coordinated to comply with the requirements of the layout and requirements herein:

- At no time will construction associated vehicles be stopped or parked along haulage routes.

- Haulage vehicles will not travel in convoys of greater than two vehicles at any time.
- Haulage vehicles will be spaced by a minimum of 250m at all times.
- At no time will haulage vehicles be parked or stopped at the entrance to the site.
- All loading of excess material will occur within the site boundary.
- All off-loading of deliveries will take place within the site, away from the public road and will access via the construction site access.

The routes to and from the site shall depend on where the excavated material shall be taken to and from where construction material shall be brought into the site. The above locations shall be identified by the contractor at a later stage and appropriate routes shall be agreed with South Dublin County Council as part of the contractors more detailed construction management plan.

6.4 Minimisation of Construction Vehicle Movements

Construction vehicle movements will be minimised through:

- 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.
- 'Cut' material generated by the construction works will be re-used on site, where possible, through various accommodation works.
- Provision of adequate storage space on site.
- Development of a strategy to minimise construction material quantities as much as possible.

Construction staff vehicle movements to and from the site shall be minimised by promoting more sustainable means of transport among construction personnel.

The following headings identify some of the measures to be adopted in this regard.

6.4.1 Cycling

Cycle parking spaces will be provided on the site for construction staff. In addition, lockers will be provided to allow cyclists to store their clothes.

6.4.2 Public Transport

Construction staff will be encouraged to use public transport for travel to and from the site. An information leaflet will be provided to all staff as part of their induction on site highlighting the location of the various public transport services in the vicinity of the construction site.

6.4.3 Car Sharing

The Contractor will provide organisational support and encouragement for car sharing amongst staff (if permitted by public health guidelines), particularly those for whom end-to-end public transport journeys are impractical. To the extent possible, the Contractor will endeavour to arrange staff shift patterns to facilitate shared journeys by staff who would drive similar routes.

6.5 Monitoring and Maintenance of Public Roads

A Visual Condition Survey (VCS) will be carried out of all surrounding streets prior to any site works commencing. The lead Contractor will liaise with DCC to agree any changes to load restrictions and construction access routes for the site. Measures will be put in place as required to facilitate construction traffic whilst simultaneously protecting the built environment.

All site entrances and temporary roads will be continuously maintained for emergency vehicle access.

The following measures will be taken to ensure that the site, public roads, and surroundings are kept clean and tidy:

- A regular program of site tidying will be established to ensure a safe and orderly site.
- Scaffolding will have debris netting attached to prevent materials and equipment being scattered by the wind.
- Food waste will be strictly controlled on all parts of the site.
- Mud spillages on roads and footpaths outside the site will be cleaned regularly and will not be allowed to accumulate.
- Wheel wash facilities will be provided for vehicles exiting the site.
- In the event of any waste escaping the site, it shall be collected immediately and removed by the contractor.

CS CONSULTING
GROUP

7.0 PROVISIONS FOR CONSTRUCTION

7.1 Hoarding, Set-up of Site, and Access/Egress Points

The site area will be enclosed with hoarding, details of which are to be agreed with SDCC. Hoarding panels will be maintained and kept clean for the duration of the project.

7.2 Removal of Services

Prior to any works a utility survey will be carried out to identify existing services. All services on site will be disconnected, diverted or removed as agreed with service providers.

7.3 Excavation

This development will involve excavation and removal of material from site. It is not envisaged that rock will be encountered during the excavation works.

The appointed Contractor will engage with the project archaeologist prior to the commencement of excavation on site. Excavation will be carried out under the supervision of the project archaeologist.

The Contractor must prepare a Construction Waste Management Plan in accordance with the *Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects* (Department of Environment, Heritage and Local Government, 2006). The Contractor must also outline detailed proposals within the Construction & Environmental Management Plan to accommodate construction traffic.

7.4 Site Service Installations

Drainage, power, and water service connections will be installed to serve the proposed development.

CS CONSULTING
GROUP

8.0 TRAFFIC MANAGEMENT

8.1 Site Traffic, Traffic and Pedestrian Management

The anticipated truck movements from and to the site in relation to the preliminary programme for the works will be specified in the construction methodology by the main contractor.

The construction site will be delineated by means of hoardings and lockable gates with screened fencing at the entry and exit points. The Contractor will pay particular attention to pedestrian traffic and safety at the entrances. All vehicles will enter and exit the site in a forward direction.

Pedestrians will have priority. If required, alternate pedestrian routes around the site will be created and clearly signed.

Security personnel will be present at the entrance/exit of the site to ensure all exiting traffic will do so safely. A self-contained wheel wash system will be installed at the exit from the site, to minimise dirt being carried out into the public road, and a road sweeper will be employed as required to keep public roads around the site clean.

8.2 Minimization of Construction Vehicle Movements

Construction-related vehicle movements will be minimized through:

1. consolidation of delivery loads to/from the site and scheduling of large deliveries to occur outside of peak periods;
2. use of precast/prefabricated materials where possible;
3. reuse of 'cut' material generated by the construction works on site where possible, through various accommodation works;
4. provision of adequate storage space on site;

5. development of a strategy to minimise construction material quantities as much as possible;
6. promotion of public transport use by construction personnel, in order to minimise staff vehicle movements.

The following headings identify some of the measures to be encouraged.

8.2.1 Cycling

Cycle parking spaces will be provided on the site for construction personnel. In addition, lockers will be provided to allow cyclists to store their cycling clothes.

8.2.2 Car Sharing

Car sharing among construction personnel will be encouraged, especially from areas where construction personnel may be clustered. The contractor shall aim to organize shifts in accordance with personnel origins, hence enabling higher levels of car sharing. Such a measure offers a significant opportunity to reduce the proportion of construction personnel driving to the site and will minimise the potential traffic impact on the surrounding road network.

8.2.3 Public Transport

Construction personnel will be encouraged to use public transport as means to travel to and from the site. An information leaflet shall be provided to all personnel as part of their induction on site, highlighting the location of the various public transport services in the vicinity of the construction site.

CS CONSULTING
GROUP

10.0 SENSITIVITY RECEPTORS / IMPACTS AND MITIGATION MEASURES

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
Camac River	• Habitat degradation • Dust deposition • Pollution • Silt ingress from site runoff • Downstream impacts • Negative impacts on aquatic and bird fauna	• A project ecologist will be appointed to oversee works on site. • Staging of project will be carried out to the approval of the project ecologist, to reduce risks to watercourses from contamination. • Draining of the pond on site (if required) will be outside the bird nesting season and associated works will be overseen and carried out to the satisfaction of the project ecologist. • Mitigation including silt barriers will be in place. • Local watercourses must be protected from dust, silt and surface water throughout the works. • Local silt traps established throughout site. • Mitigation measures on site include dust control, stockpiling away from watercourse and drains • Stockpiling of loose materials (if required) will be kept to a minimum of 20m from watercourses and drains. • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses. • Fuel, oil and chemical storage will be sited within a bunded area. The bund will be at least 50m away from drains, ditches or the watercourse, excavations and other locations where it may cause pollution. • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. Any water-filled excavations, including the attenuation tank during construction, that require pumping will not directly discharge to the stream. Prior to discharge of water from excavations adequate filtration will be provided to ensure no deterioration of water quality. • Staging of project to initially stabilise, isolate, fence off watercourse • Mitigation measures on site include dust control, stockpiling away from watercourses and drains • Stockpiling of loose materials will be kept away from watercourses and drains. A risk based approach will be taken.

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		• Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses. • Fuel, oil and chemical storage will be sited within a bunded area. • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. • During the construction works silt traps will be put in place in the vicinity of all runoff channels the stream to prevent sediment entering the watercourse. • Petrochemical interception and bunds in refuelling area • On-site inspections to be carried out by project ecologist. • Maintenance of any drainage structures (e.g. de-silting operations) must not result in the release of contaminated water to the surface water network. • No entry of solids to the associated stream or drainage network during the connection of pipework to the public water system • No discharges will be to the watercourse during works • Silt traps established throughout site including a double silt fence between the site and the watercourse. • Sufficient onsite cleaning of vehicles prior to leaving the site and on nearby roads, will be carried out, particularly during groundworks. • The Site Manager will be responsible for the pollution prevention programme and will ensure that at least daily checks are carried out to ensure compliance. A record of these checks will be maintained. • The site compound will include a dedicated bund for the storage of dangerous substances including fuels, oils etc. Refuelling of vehicles/machinery will only be carried out within the bunded area. • A project ecologist will be appointed and be consulted in relation to all onsite drainage during construction works. Consultation with the project ecologist will not involve the formulation of new mitigation measures for the purposes of protecting any European Site, and relate only to the implementation of those mitigation measures already stated in the submission or the formulation of mitigation for other purposes.

CS CONSULTING
GROUP

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		• Dewatering of excavations may be necessary. Appropriate monitoring of groundwater levels during site works will be undertaken. Standard construction phase filtering of surface water for suspended solids will be carried out. Unfiltered surface water discharges or runoff are not permitted from the site into the watercourse during the works. Trenched double silt fencing shall be put in place along boundary of the proposed development site and the stream. This fencing must be in place as one of the first stages on site and prior to the full site clearance. The silt fencing will act as a temporary sediment control device to protect the watercourse from sediment and potential site water runoff. The fencing will be inspected twice daily, based on site and weather conditions, for any signs of contamination or excessive silt deposits. • Concrete trucks, cement mixers or drums/bins are only permitted to wash out in designated wash out area greater than 50m from sensitive receptors including drains and drainage ditches. • Abstraction of water from watercourses is not to be permitted. • Spill containment equipment shall be available for use in the event of an emergency. The spill containment equipment shall be replenished if used and shall be checked on a scheduled basis. • All site personnel will be trained in the importance of good environmental practices including reporting to the site manager when pollution, or the potential for pollution, is suspected. All persons working on-site will receive work specific induction in relation to surface water management and run off controls. **Air & Dust** Dust may enter the watercourse via air or surface water with potential downstream impacts. Mitigation measures will be carried out reduce dust emissions to a level that avoids the possibility of adverse effects on the stream. The main activities that may give rise to dust emissions during construction include the following: • Excavation of material; • Materials handling and storage; • Movement of vehicles (particularly HGV's) and mobile plant.

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		• Contaminated surface runoff *Mitigation measures to be in place:* • Consultation will be carried with an ecologist throughout the construction phase; • Trucks leaving the site with excavated material will be covered so as to avoid dust emissions along the haulage routes. • Speed limits on site (15kmh) to reduce dust generation and mobilisation. • The stream is to be protected from dust on site. This may require additional measures in the vicinity of the building during demolition e.g. placing of terram/protective material over the stream. *Site Management* • Regular inspections of the site and boundary should be carried out to monitor dust, records and notes on these inspections should be logged. • Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. • Make the complaints log available to the local authority when asked. • Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book. *Monitoring* • Undertake daily on-site and off-site inspection, where receptors are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces within 100 m of site boundary, integrity of the silt control measures, with cleaning and / or repair to be provided if necessary.

CS CONSULTING
GROUP

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		Preparing and Maintaining the Site • Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible. • Fully enclose specific operations where there is a high potential for dust production and the site is active for an extensive period. • Avoid site runoff of water or mud. • Keep site fencing, barriers and scaffolding clean using wet methods. • Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below. • Cover, seed or fence stockpiles to prevent wind whipping. • Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic. • Any road that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and/or windy conditions. • Maintain a vegetated strip and vehicle exclusion zone between the works and the stream in consultation with the project ecologist. *Operations* • Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems. • Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate. • Use enclosed chutes and conveyors and covered skips. • Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		• Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods. *Waste* • Avoid bonfires and burning of waste materials. *Measures Specific to Earthworks* • Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable. • Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable. • Only remove the cover in small areas during work and not all at once. • During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate to ensure moisture content is high enough to increase the stability of the soil and thus suppress dust. • Due to the proximity of the watercourse an ecologist will oversee works in particular the excavation of material from the perimeter of the site. • The Contractor will be required to consult with an ecologist prior to the beginning of works to identify any additional measures that may be appropriate and/or required. *Storage/Use of Materials, Plant & Equipment* • Materials, plant and equipment shall be stored in the proposed site compound location; • Plant and equipment will not be parked within 50m of the watercourse at the end of the working day; • Hazardous liquid materials or materials with potential to generate run-off shall not be stored within 50m of the watercourse.

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		• All oils, fuels and other hazardous liquid materials shall be clearly labelled and stored in an upright position in an enclosed bunded area within the proposed development site compound. The capacity of the bunded area shall conform with EPA Guidelines – hold 110% of the contents or 110% of the largest container whichever is greater; • Fuel may be stored in the designated bunded area or in fuel bowsers located in the proposed compound location. Fuel bowsers shall be double skinned and equipped with certificates of conformity or integrity tested, in good condition and have no signs of leaks or spillages; • Smaller quantities of fuel may be carried/stored in clearly labelled metal Jeri cans. Green for diesel and red for petrol and mixes. The Jeri cans shall be in good condition and have secure lockable lids. The Jeri cans shall be stored in a drip tray when not in use. They will not be stored within 50m of the watercourse; • Drip trays will be turned upside down if not in use to prevent the collection of rainwater; • Waters collected in drip trays must be assessed prior to discharge. If classified as contaminated, they shall be disposed by a permitted waste contractor in accordance with current waste management legal and regulatory requirements; • Plant and equipment to be used during works, will be in good working order, fit for purpose, regularly serviced/maintained and have no evidence of leaks or drips; • No plant used shall cause a public nuisance due to fumes, noise, and leakage or by causing an obstruction; • Re-fuelling of machinery, plant or equipment will be carried out in the site compound as per the appointed Construction Contractor re-fuelling controls; • The appointed Construction Contractor EERP will be implemented in the event of a material spillage; • All persons working will receive work specific induction in relation to material storage arrangements and actions to be taken in the event of an accidental spillage. Daily environmental toolbox talks / briefing sessions will be conducted for all persons working to outline the relevant environmental control measures and to identify any environment risk areas/works.

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
Birds **(National Protection)**	• Removal nesting habitat. • Removal foraging habitat. • Destruction and/or disturbance to nests (injury/death). • Predation .	• Tree protection measures will be in place the protect retained trees. This will be inspected by an arborist prior to construction/clearance commencing on site. • "Relevant guidelines and legislation (Section 40 of the Wildlife Acts, 1976 to 2012) Should this not be possible, a pre-works check by a qualified ecologist should be undertaken to ensure nesting birds are absent. This would include nesting gulls on buildings if present. • Removal of/impacts on potential nesting habitats (including ponds) will be outside of bird breeding season (March to August inclusive). Should this not be possible, a pre-works check by a qualified ecologist should be undertaken to ensure nesting birds are absent. • Ecological supervision will be on site.
Bats **(international Protection)**	• Removal roosting/foraging habitat. • Lighting Impacts	• Pre Construction survey for bats of trees to be felled and in particular tree 772, including acquisition of derogation licences if required. • Retain hedgerows and ivy cover on trees where possible. • Lighting at all stages should be done sensitively on site with no direct lighting of hedgerows and treelines. • Lighting of the site will be as per bat lighting guidance and approves by SDCC heritage officer and project ecologist. • Revised landscaping will introduce unlit foraging corridors on to the site. As an enhancement measure 8 x 1FF Schwegler Bat Box will be placed on site as directed by the project ecologist.

CS CONSULTING
GROUP

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
Woodland **(Local importance)**	• Loss of commuting habitat.	• Tree protection measures will be in place the protect retained trees. This will be inspected by an arborist prior to construction/clearance commencing on site.
Ponds	• Loss of frog habitat	• A pre-construction amphibian assessment will be carried out. The pond will be fenced off to allow for biodiversity to be undisturbed. Fencing will allow the movement of mammals to and from the pond habitat.