



Dublin Mountain Visitor Centre Trail Upgrade Works



Outline Construction Environmental Management Plan



Client:
South Dublin County Council

Dublin Mountain Visitor Centre Trail Upgrade Works

Outline Construction Environmental Management Plan

TABLE OF CONTENTS

| | |
|---|----------|
| 1. INTRODUCTION | 1 |
| 1.1 Purpose of the OCEMP | 1 |
| 2. DESCRIPTION OF THE PROJECT | 2 |
| 2.1 Overall Project Description..... | 2 |
| 2.1.1 The Works..... | 3 |
| 2.1.2 Overview of the activities on site..... | 4 |
| 2.2 Construction Programme Sequence | 4 |
| 2.2.1 Construction Sequence and Methodology | 4 |
| 2.2.2 Working Hours..... | 4 |
| 2.2.3 Sourcing of Materials..... | 5 |
| 2.2.4 Temporary Construction Compound..... | 5 |
| 2.2.5 Construction Traffic Management..... | 5 |
| 3. CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP) | 6 |
| 3.1 The Works | 6 |
| 3.2 Environmental Policy | 6 |
| 3.3 Environmental Aspect Register | 6 |
| 3.4 Project Organisation and Responsibilities | 7 |
| 3.4.1 Project Manager | 7 |
| 3.4.2 Site Manager | 8 |
| 3.4.3 Site Environmental Manager | 8 |
| 3.4.4 Forepersons | 9 |
| 3.4.5 Employer's Representative..... | 9 |
| 3.4.6 Project Supervisor for Design Process | 9 |
| 3.4.7 Project Supervisor Construction Stage | 10 |
| 3.4.8 All Project Personnel | 10 |
| 3.4.9 Ecological Clerk of Works (ECoW) | 10 |
| 3.4.10 Project Archaeologist..... | 11 |
| 3.4.11 Other | 11 |
| 3.5 Training and Induction | 11 |
| 3.5.1 Site Induction..... | 11 |
| 3.5.2 Specific training and awareness | 12 |
| 3.6 Project communication and co-ordination | 12 |
| 3.7 Operational control | 12 |
| 3.8 Checking and corrective action | 12 |

| | | |
|-----------|---|-----------|
| 3.9 | Environmental control measures..... | 12 |
| 3.10 | Site Specific Method Statements | 14 |
| 3.11 | Complaints procedure..... | 14 |
| 4. | ENVIRONMENTAL COMMITMENTS..... | 15 |
| 4.1 | Mitigation Measures..... | 15 |
| 4.1.1 | Population and Human Health..... | 15 |
| 4.1.2 | Biodiversity..... | 15 |
| 4.1.3 | Land..... | 19 |
| 4.1.4 | Water and Hydrology..... | 19 |
| 4.1.5 | Air, Noise and Vibration..... | 20 |
| 4.1.6 | Landscape and Visual..... | 21 |
| 4.1.7 | Archaeology and Cultural Heritage..... | 21 |
| 4.1.8 | Material Assets- Forestry..... | 21 |
| 5. | TIMELINES FOR MITIGATION MEASURES..... | 23 |
| 6. | CONTRACT CONTACT LIST | 24 |
| 7. | INCIDENT RESPONSE PLAN | 25 |

1. INTRODUCTION

This Construction Environmental Management Plan (OCEMP) is prepared for the Trail Upgrade Works (“the Works”) on behalf of South Dublin County Council. This development comprises part of the overall Dublin Mountain Visitor Centre Project.

The Dublin Mountain Visitor Centre Project (“the Project”) comprises of a number of elements and given the diverse nature of each element and its associated work, it is not feasible to appoint a single Contractor for the entirety of the Project. As such, the Project has been broken into seven works contracts and an OCEMP will be provided for each Contract individually to capture the mitigation measures and details of same. Each OCEMP has been prepared in a holistic manner taking into account all other work contracts. Section 2.1 ‘Overall Project Description’ discusses this further.

1.1 Purpose of the OCEMP

This CEMP applies to all works associated with the Trail Upgrade.

It presents the general approach and application of environmental management and mitigation for the construction of the Works. It aims to ensure that adverse effects from the construction phase of the Works, on the environment and the local communities, are avoided or minimised. It does not describe mitigation measures relating to the operation of the Works or the overall project. These are provided in the Planning Report and are subject to separate planning conditions. The OCEMP provides the outline environmental management framework for the appointed Contractors and sub-contractors as they incorporate the mitigating principles into their RAMS, Site specific Environmental Management processes, and other plans to ensure that the work is carried to reduce adverse effects on the environment. This OCEMP serves as the basis for the development of the finalised Construction Environmental Management Plan (CEMP) by the Contractor. The construction management staff as well as contractors and sub-contractors’ staff must comply with the requirements and constraints set forth in the CEMP in developing the site-specific methodology. The key environmental aspects associated with the construction of the ‘Trail Upgrade’ works, the appropriate mitigation and monitoring controls, are identified in this OCEMP and its supporting documentation.

The implementation of the requirements of the CEMP will ensure that the construction phase of the Works are carried out in accordance with the commitments made by South Dublin County Council for the Works as well as the overall scheme, and as required under the planning application. Once commenced, the CEMP is considered a living document that will be updated according to changing circumstances on the project and to reflect current construction activities. The CEMP will be reviewed on an ongoing basis during the construction process and will include information on the review procedures.

2. DESCRIPTION OF THE PROJECT

2.1 Overall Project Description

The Project site consists of two large hillside woodland areas, the Hell Fire Woods (105 hectares) and Massy's Woods (42 hectares), located 2.5km to the south of Dublin's urban fringe to the west and east of the R115 road respectively.

To the north the site is bounded by the townlands of Oldcourt, Woodtown and Newtown and by the Dublin Mountains, culminating at Kippure (Co. Wicklow) in the south. The Hell Fire Woods are bounded to the west by the R114 and the Ballymorefinn Road and to the east partially by the R116, which runs into the Wicklow Way. This area is the most mountainous in Dublin and is also where the River Dodder rises, feeding into the reservoirs at Bohernabreena and giving rise to the picturesque linear parks along the Dodder Valley.

The site contains a number of protected structures including the Hell Fire Club, passage tombs, wedge tombs, standing stones and Massy's Estate walled gardens and associated ruins.

The Project will consist of:

- Improvements to existing entrance to Hell Fire Woods from the R115, with provision of pedestrian footpaths. The R115 will be a two-way road, 5-6m wide with a 1.5m wide footpath. Some isolated section will be a 3-3.5m single lane road, with traffic calming markings.
- Upgrade works to existing car park to increase parking provision from 80 no. car parking spaces to 275 no. car parking spaces and 5 no. coach parking spaces.
- Replacement of conifer trees around the parking area that is due for felling by sustainable forest planting.
- Construction of visitor centre building at the Hell Fire Woods (Gross floor area: 966 sqm) (Dublin Mountains Visitor Centre), to consist of two buildings side by side, situated parallel to the existing forest road, at a level of approx. 300m above sea level to contain basic facilities for walkers and casual visitors, a seated café for 80 no. people and an interpretation, exhibition and education facility.
- Construction of pedestrian footbridge and 'bridge house' to link Hell Fire Woods to Massy's Woods, crossing over the R115.
- Development of new trails including a circular walkway to the summit of Montpelier Hill, encircling the Hell Fire Club (protected structure) and the neolithic passage tombs. The circular walkway will incorporate information panels for visitor orientation and interpretation.
- General upgrading of existing trails and routes in correspondence with guidelines produced by Irish Trails.
- Conservation works to the Hell Fire Club building, a protected structure. To be conserved as a ruin with minimal intervention, with discreet lighting on the interior of the building as part of a long-term monitoring and management programme.
- Conservation works to Massy's Woods walled gardens, a protected structure. To be conserved as a ruin with minimal intervention through removal of overgrowth currently causing damage to the structure(s).
- Conversion of coniferous forest to northern and eastern slopes of Montpelier Hill into a permanent broadleaved/ mixed woodland landscape. Commercial forestry to the west will be retained.
- Installation of a 150mm diameter sewage pipe running under the R115 which will connect the site to the existing sewer network.
- Construction of a series of small storage ponds / wetlands across the lower areas of Montpelier Hill as part of a sustainable drainage strategy.
- Provision of discreet lighting to the car park area, along the treetop bridge and along the forest road route to the visitor centre building.

The site falls into the administrative area of South Dublin County Council.

Due to the diverse nature of the Project, it is not feasible to appoint a single Contractor to carry out all the works. Therefore, the Project will be broken in the following contracts and an OCEMP will be provided for each Contract individually to capture the mitigation measures and details of them.

Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings

Contract 2: Car Park Upgrade

Contract 3: Road Upgrade Works

Contract 4a: Conservation Works to Massey's Woods

Contract 4b: Conservation Works to the Hellfire Club Building

Contract 5: Trail Upgrade Works (this works package)

Contract 6: Treetop Walkway

Contract 7: Invasive Species Removal

It is noted that depending on the timing of various activities and programme scheduling, some of these Contracts could be combined or split further. This will be addressed in each individual case as required.

2.1.1 The Works

Currently the site has interspersed trails and steep gradients, as seen in the ground profile. This variation in ground profile allows the trails to be at varying difficulties, allowing both inexperienced and experienced hikers to have a variety challenges. Vegetation, such as shrubbery and trees are noted to be located around the site.

A summary of the necessary works are as follows:

- Upgrading of the existing trails.
 - Introduction of swales and culverts, and restoration of existing culverts
 - Resurfacing and refurbishment of paths and bridges.
 - Construction of gabion walls along Glendoo Brook to control trail erosion
 - Replacement of railing between trails and Glendoo Brook
 - Other associated upgrades such as introduction of way-markers, trailheads and informal seating
- Establishment of new trails and tying in with upgraded trails.
- Stopping up of informal paths using local fallen hardwood
- Installation of timber fences, mesh fences, stone walls and hedges as boundary treatment

This OCEMP is related to the Trails Upgrade Works only and is not intended to be applied to the other contracts/ elements of the project. As noted above, separate OCEMP documents will be produced for each Works Contract.

2.1.2 Overview of the activities on site

The construction programme for the Works is envisaged to last approximately 9 months.

- Site setup and establishment of construction compound
- Vegetation Clearance Works;
 - Clearance of vegetation including laurel, ivy and fallen trees to allow commencement of the Works. Clearance is to be limited to the areas surrounding the Works only and as specified on the works requirements. If further clearance works are required, areas must be identified by the Contractor and will require the presence on site of the landscape architect and environmental engineer to confirm the feasibility of these additional clearance works.
- Trail Upgrading Works
 - Trail Upgrading works in accordance with the Contractor's Method Statement and as approved by the Project Engineer.

2.2 Construction Programme Sequence

The construction methodology is preliminary and subject to change by the appointed Contractor. Access to the trails and associated areas will be maintained throughout the construction phase. However, there will be unavoidable restrictions to some areas during the Works for Health and Safety reasons. These are to be kept to a minimum to avoid significant impacts. These will be agreed with South Dublin County Council at contract award stage and an ongoing basis during the Works.

2.2.1 Construction Sequence and Methodology

Table 2-1 below sets out the estimated construction sequence. Due to the nature of this particular contract, there will likely be some overlap in the sequencing of the clearance works and the construction works.

Table 2-1 Construction Programme

| Construction Element | Approx. Duration of each task |
|--|-------------------------------|
| Vegetation Clearance Works* | 1 month |
| Mobilisation, compound set up | 1 week |
| Trail Upgrade Works* | Approx. 12 months |
| Total Construction Phase | Approx. 12 months |
| * These works can be carried out in parallel | |

2.2.2 Working Hours

The permitted construction working hours are as shown in Table 2-2 below, as set out in the Planning Permission. It is noted that the Contractor may choose to work fewer hours to suit their own methodology.

Table 2-2 Working Hours

| Period | Hours |
|-------------------------|--|
| Monday to Friday | 07:00 - 19:00 |
| Saturday | 08:00 - 13:00 |
| Sunday and Bank Holiday | Not permitted (requires prior written approval from Employer's Representative) |

2.2.3 Sourcing of Materials

All imported material will be sourced from the nearest possible locations where possible. Specialist works and replacement materials can be found from a number of manufacturers / quarries locally.

Only those products that conform to all necessary statutory consents will be used in the construction phase.

2.2.4 Temporary Construction Compound

The exact locations of the site compound(s) shall be agreed with Coillte and the Employer on site prior to the commencement of the Works. These facilities shall be located and sized to minimise any impact on vegetation.

2.2.5 Construction Traffic Management

Temporary traffic management arrangements are to be implemented to facilitate ongoing access to construction access points throughout the Works.

The following restrictions will be adhered to unless agreed otherwise with South Dublin County Council:

- The Contractor shall provide and maintain temporary traffic management in accordance with the Department of Transport Traffic Signs Manual to the public roads as required.
- Existing footways and cycle tracks shall be maintained at all times except where such footways and cycle tracks are at the point of being removed for the completion of the Works. In such circumstances, the Contractor shall provide temporary footpath or cycle track diversions, with sufficient advance signage informing people of the diversions.
- Fuel for vehicles will be stored in a mobile double skinned tank.
- Forestry must be protected from the construction activities, including, but not limited to the use of heavy machinery and heavy goods vehicles for construction and deliveries. The contractor shall issue a method statement detailing how these protective measures will be implemented.
- Buffer zones from Bryophytes must also be maintained, both during the construction works and permanently afterwards, during maintenance works.

Construction vehicles and site personnel will be required to adhere to the approved access routes and timing restrictions. Construction plant, equipment and vehicles will be parked onsite. No vehicles associated with construction will be parked on the public roads.

Access to the site for the construction vehicles will be off the R113, via Ballycullen Road and The Gunny Hill. This will ensure minimum disruption to public roads as this route will avoid going through small villages, as well as maintaining HGV access through the avoidance of narrow roads and bridges.

3. CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

This OCEMP will be used by the Contractor to develop the finalised CEMP and meet the requirements of ISO 14001. All site works will be undertaken in compliance with the CEMP. The CEMP will include details of the topics listed below:

- Environmental Policy;
- Environmental Aspects Register;
- Project Organisation and Responsibilities;
- Project Communication and Co-ordination;
- Training;
- Operational Control;
- Checking and Corrective Action;
- Environmental Control Measures; and
- Complaints Procedure.

The CEMP will detail all the environmental aspects and impacts associated with this contract such as waste management, pollution prevention and protection of flora and fauna with particular emphasis on the nearby Special Area of Conservation (SAC), Special Protection Area (SPA), proposed Natural Heritage Area (pNHA) and water quality. The Register of Impacts provides the framework for identifying the potential environmental impacts generated by construction and the associated works. The Environmental Operational Control Procedures and activity-specific method statements (to be submitted by the Contractor) will detail the working methods necessary for managing and mitigating these impacts, whether it is by prevention or mitigation.

3.1 The Works

It should be noted that the Works are only one element of the overall Project, and the environmental impacts needs to be considered in a holistic manner. Please refer to Appendix A which includes the mitigation measures as set out in the Environmental Impact Assessment Report (EIAR) along with timelines for implementation and ongoing monitoring.

In addition to separate OCEMPs being provided for each Contract, a single over-arching OCEMP has been prepared to ensure this holistic approach. Furthermore, it is intended that the Environmental Management Plans for each Contract will be provided in background information to subsequent Contractor's to allow the overall approach to be built upon.

3.2 Environmental Policy

All project personnel will be accountable for the environmental performance of the Project.

3.3 Environmental Aspect Register

In the case of the Trail Upgrade Works, the Employer has prepared a register of all sensitive environmental features which have the potential to be affected by the construction works, together with details of commitments and agreements made during the preparation of the Planning Report and the contract documentation, with regards mitigation of potential environmental impacts. This register was provided in the EIAR and was reviewed for the Works Contract. It is noted that no additional updates were required.

The Environmental Aspects Register provides the relevant information for the preparation of construction method statements and will be regularly updated during the works.

The Environmental Aspects Register will consider sensitive environmental features as listed below (please note this list is not exhaustive and will be amended and expanded upon as required by the Contractor in the preparation of their Risk Assessments and Method Statements (RAMS) and other documentation):

- Identification of all waterways and drainage outlets for the protection against ingress of suspended solids or any pollutant;
- Air emissions;
- Noise emissions
- Vibration emissions;
- Light emissions;
- Waste generation;
- Treatment of contaminated materials;
- Treatment of invasive species;
- Use of hazardous materials;
- Energy usage;
- Water usage;
- Discharge of wastewater;
- Traffic generation;
- Biodiversity (terrestrial and aquatic ecology);
- Landscape and Visual impacts;
- Soils, Geology and Hydrogeology;
- Hydrology; and
- Archaeology, Architectural and Cultural Heritage.

3.4 Project Organisation and Responsibilities

The CEMP defines the roles and responsibilities of the project team. The Contractor is responsible to ensure that all members of their Team, including sub-contractors, comply with the procedures set out in the CEMP. The Contractor will ensure that all persons working on site are provided with sufficient training, supervision and instruction to fulfil this requirement.

The principal environmental responsibilities for key staff can be identified in the following sections.

3.4.1 Project Manager

The Project Manager's main duties and responsibilities in relation to the CEMP include liaising with the Project Team in assigning duties and responsibilities in relation to the CEMP to individual members of the contractor's project staff. It is the responsibility of the Project Manager to approve key personnel required for employment on the project.

The Project Manager will lead the works on site. They will be responsible for the management and control of the activities and will have overall responsibility for the implementation of the CEMP.

3.4.2 Site Manager

The Site Manager's environmental management responsibilities include, but are not limited to:

- Liaising with the Project Team in assigning duties and responsibilities in relation to the CEMP, to individual members of the main contractor's project staff as needed;
- Liaising with the Project Ecologist in preparing, reviewing and updating all site-specific method statements for activities where there is a risk of pollution or adverse effects on the environment;
- Liaising with the Project Ecologist in agreeing site specific Method Statements with Third Parties;
- Ensuring that the risk assessments for control of noise and environmental risk are prepared and effectively monitored, reviewed and communicated on site;
- Liaising with the site team and Project Ecologist to ensure adequate resources are made available for implementation of the CEMP;
- Reviewing all method statements, performs regular and frequent environmental site inspections and ensure that relevant environmental protocols are incorporated; and
- Undertaking the role of site liaison officer with any members of the public who raise concerns during the course of the Works.

3.4.3 Site Environmental Manager

In order to ensure the successful development, implementation and maintenance of the Environmental Management Plan (EMP), the Contractor will be required to appoint a site Environmental Manager.

The responsibilities of the site Environmental Manager include, but are not limited to:

- Ensuring that the CEMP is finalised, implemented and maintained;
- Liaising with Project Manager in preparing, reviewing and updating all site-specific method statements for activities where there is a risk of pollution or adverse effects on the environment;
- Liaising with Project Manager in agreeing site specific Method Statements with Third Parties;
- Being familiar with the contents, environmental commitments and requirements contained within the CEMP;
- Ensuring that all relevant works are undertaken in accordance with the relevant legislation in the Republic of Ireland;
- Ensuring that any operations or activities that require certificates of registration, waste collection permits, waste permits, waste licences, etc have appropriate authorisation;
- Liaising with any sub-contractors and consultants prior to works;
- Respond to all environmental incidents in accordance with legislation, the CEMP and company policy/procedures;
- Responsible for notifying the relevant statutory authority when environmental incidents occur and producing the relevant reports as required;
- Ensuring that all relevant works have (and are being carried out in accordance with) the required permits, licenses, certificates and planning permissions; and
- Carrying out regular documented inspections of the site to ensure that work is being carried out in accordance with the Environmental Control Measures and relevant site-specific Method Statements.

3.4.4 Forepersons

The Forepersons on site are responsible for the following:

- Ensuring personnel under their control adhere to the relevant environmental control measures and relevant site-specific Method Statements; and
- Reporting immediately to the Site Manager any incidents where there has been a breach of agreed procedures e.g. spillages and discharges.

3.4.5 Employer's Representative

Name: Roughan & O'Donovan Consulting Engineers
Arena House
Arena Road
Sandyford
Dublin 18

Duties and Responsibilities

The Employer's Representative (ER) acts on behalf of the Employer during the course of a construction project. The Contractor will be audited by the Employer's Representative to ensure that the Contractor is compliant with the environmental provisions of the Contract Documents.

3.4.6 Project Supervisor for Design Process

The role of Project Supervisor for Design Process (PSDP) is to oversee the coordination of the design work. The responsibilities of the PSDP include:

- Identifying hazards arising from the design or from the technical, organisational, planning or time related aspects of the project;
- Where possible, eliminating the hazards or reducing the risks;
- Communicating necessary control measures, design assumptions or remaining risks to the PSCS so they can be dealt with in the safety and health plan;
- Ensuring that the work of designers is coordinated to ensure safety;
- Organising co-operation between designers;
- Preparing a written safety and health plan for any project where construction will take more than 500 person days or 30 working days or there is a particular risk and delivering it to the client prior to tender;
- Preparing a safety file for the completed structure and giving it to the client; and
- Notifying the Authority and the client of non-compliance with any written directions issued.

The role of PSDP is fulfilled by Roughan O'Donovan who are undertaking the design work on this contract.

3.4.7 Project Supervisor Construction Stage

The role of the Project Supervisor Construction Stage (PSCS) is to manage and co-ordinate health and safety matters during the construction stage. The PSCS will be appointed before the construction work begins and will remain in that position until all construction work on the project is completed.

It is the responsibility of the PSCS to ensure that the project:

- Is designed and is capable of being constructed to be safe and without risk to health;
- Is constructed to be safe and without risk to health;
- Can be maintained safely and without risk to health during subsequent use; and
- Complies in all respects, as appropriate, with the relevant statutory provisions.

The PSCS will maintain contact with the Project Supervisor Design Process (PSDP) throughout the construction phase to communicate any health and safety related issues. The PSDP will prepare a written safety file appropriate to the characteristics of the project, containing relevant health and safety information, to be taken into account during any subsequent construction work following completion of the project.

3.4.8 All Project Personnel

All project personnel have the following responsibilities:

- Reporting any operations and conditions that deviate from the CEMP to the Site Manager. Depending on circumstances it may be appropriate for general operatives and machinery operators to report directly to their Foreperson who will then report to the Site Manager;
- Taking an active part in site safety and environmental meetings;
- Ensuring awareness of the contents of method statements, plans, supervisors' meetings or any other meetings that concern the environmental management of the site; and
- Attending environmental training as required.

3.4.9 Ecological Clerk of Works (ECoW)

In order to ensure the successful development and implementation of the CEMP, the Employer has appointed an Ecological Clerk of Works (ECoW). The ECoW is a Senior Ecologist from Roughan and O'Donovan Design Team. The ECoW possesses the following training, experience and knowledge appropriate to the role, including:

- An NFQ Level 8 qualification or equivalent or other acceptable qualification in ecology or environmental biology; and
- Demonstrable experience in the protection of European sites.

The principal functions of the ECoW are:

- To provide ecological supervision of the construction of the Works and thereby ensure the full and proper implementation of all the mitigation measures relating to biodiversity prescribed in the planning application;
- To carry out inspections and reporting on the implementation of the Contractor's Method Statements.

In exercising their functions, the ECoW will be required to keep a monitoring file and this will be made available to South Dublin County Council at any time.

3.4.10 Project Archaeologist

The Project Archaeologist on the project is responsible for the following:

- To obtain the relevant licences to the Department of Housing, Local Government and Heritage required for the project in advance of any construction work taking place and throughout the project as required;
- To supervise works in vicinity of known archaeological sites'; and,
- To supervise any pre-construction archaeological survey works.

Section 26 of the National Monuments Act 1930 (as amended) requires that excavations for archaeological purposes must be carried out by suitably qualified and experienced archaeologists acting under an excavation licence. Inappropriate excavation of a heritage site could result in damage to, or destruction of, the integrity, setting or historical context of the site, contrary to the public interest.

3.4.11 Other

Subject to the environmental commitments / requirements, other environmental specialists will be employed as required during the construction works.

3.5 Training and Induction

3.5.1 Site Induction

All employees and subcontractors involved on site will be given a comprehensive induction prior to commencement of the works. Visitors to the site, including but not limited to Design Engineers and Architects must also be given an induction. The environmental training and awareness procedure will ensure that staff are familiar with the principles of the CEMP, the environmental aspects and impacts associated with their activities, the procedures in place to control these impacts and the consequences of departure from these procedures.

This environmental training can be run concurrently with safety awareness training.

Training will include:

- Overview of general Environmental Policy and Construction Environmental Management Plan, goals and objectives;
- Awareness in relation to risk, consequence and methods of avoiding environmental risks and with the planning conditions;
- Awareness of roles and individual environmental responsibilities and environmental constraints to specific jobs;
- Location of and sensitivity of Special Area of Conservations, Special Protection Areas, protected monuments, structures etc.
- Location of habitats and species to be protected during construction, how activities may affect them and methods necessary to avoid impacts.
- A record will be kept of a signed register on the project files of all attendees of the environmental induction.
- Toolbox talks based on specific activities being carried out will be given to personnel by the nominated project representative. These will be based on specific activities being carried out and will include environmental issues particular to the project, including the impact on bird populations and water quality namely:
 - Oil/Diesel spill prevention and safe refuelling practice;
 - Storage of materials including oil/diesels and cement;
 - Emergency response processes used to deal with spills; and
 - Minimising disturbance to wildlife.

3.5.2 Specific training and awareness

Training will be provided by Coillte to ensure that all persons working on site have a practical understanding of environmental issues and management requirements prior to commencing activities. A register of completed training is to be kept by the Contractor.

3.6 Project communication and co-ordination

Environmental issues and performance aspects will be communicated to the workforce on a regular basis. Regular project meetings, which follow a set agenda incorporating the environment, will be held.

All staff and sub-contractors involved in all phases of the project will be encouraged to report environmental issues.

3.7 Operational control

Site works will be checked against the CEMP requirements. Any mitigation measures that have been agreed with the Statutory Authorities, or are part of planning conditions, will be put into place prior to the undertaking of the works for which they are required, and all relevant staff will be briefed accordingly.

Method statements that are prepared for the works will be reviewed / approved by the Employer's Representative and the Employer's Project Team.

A Quality Management System (QMS) will also be put into operation for the project. Document control will be in accordance with this QMS and copies of all audits, consents, licences, etc will be finalised by the Site Environmental Manager and their team and kept for review at any time by the Employer's Representative.

3.8 Checking and corrective action

Regular inspections of the site and the works will be undertaken to minimise the risk of environmental damage and to ensure compliance with the CEMP by the Employer's Representative and Project Ecologist (ECoW). Any environmental incidents are to be reported immediately to the Site Manager and the Employer's Representative. The ECoW will undertake periodic inspections and complete an assessment of the project's environmental performance with regard to the relevant standards/legislation and the contents of the CEMP. Following these inspections, the ECoW will produce a report detailing the findings which will be provided to the Employer's Representative and reviewed at the regular project meeting.

3.9 Environmental control measures

Licensing requirements and Environmental Control Measures will be put in place and specific procedures to manage the key environmental aspects of the project will be developed by the contractor prior to work commencing.

The Contractor will follow the procedure outlined in Figure 3.1 below to identify the environmental control measures.

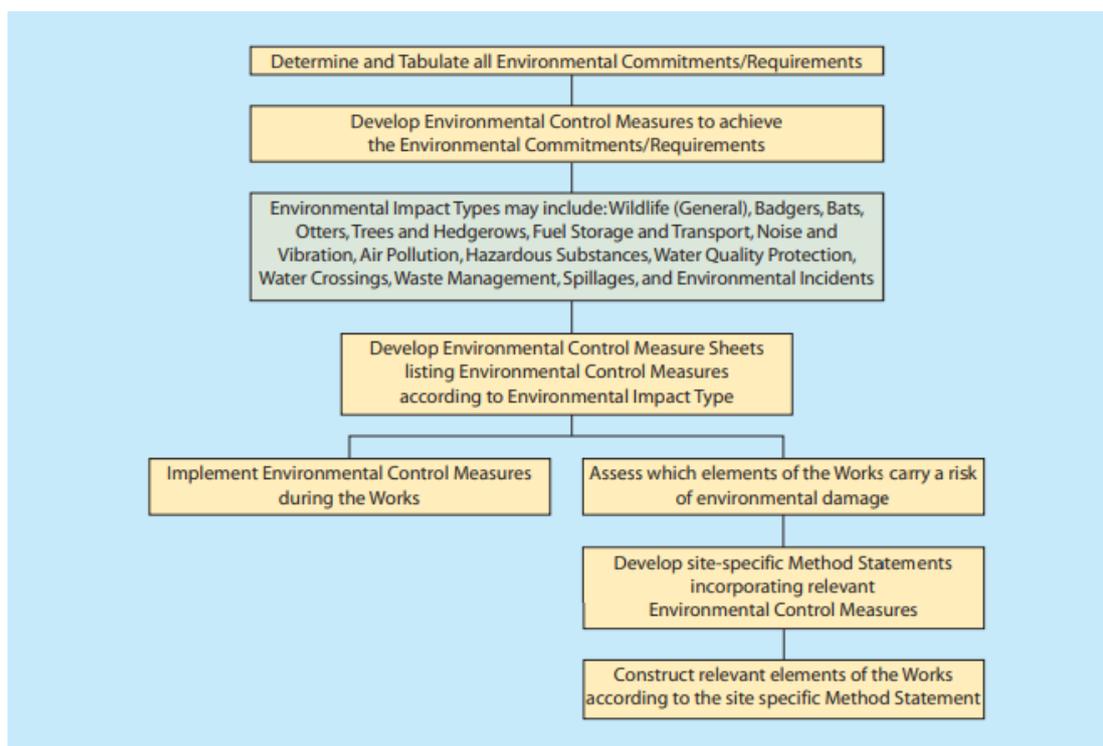


Figure 3.1 Example of Main Steps in Developing and Implementing Environmental Control Measures. Source: *TII's Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan*

As outlined in above, some environmental control measures are generally implemented across all works. However, some construction works may present a risk of environmental damage for which, relevant environmental control measures are required to be incorporated into site-specific method statements.

Environmental Control Sheets shall be prepared by the Contractor where necessary, which will contain the prescribed environmental control measures according to the environmental impact (e.g., impacts on watercourses, bats, badger etc.). It will be the responsibility of the site Environmental Manager to ensure that the identified environmental control measures are sufficient to meet the environmental commitments and that they are brought to the attention of the relevant key personnel.

3.10 Site Specific Method Statements

A Method Statement may be defined as a statement of the construction methods and resources to be employed in executing construction work. Method Statements can cover numerous works activities, however where there is a risk of environmental damage, site-specific method statements must be prepared for the construction works. The Method Statement shall be prepared by the Contractor with assistance from the Site Environmental Manager who will identify which elements of the works have the potential to significantly impact the environment.

The Method Statement should refer to relevant Environmental Control Measure Sheets and incorporate relevant Environmental Control Measures. The Method Statement should include:

- The proposed method of construction and how impacts shall be mitigated;
- Contingency plans and emergency plans to limit damage caused by accidents, spills or other unforeseen events;
- Notification procedures to the relevant Authorities, Utilities and Service Providers;
- Forestry protection measures, including protection of tree roots and crowns; and
- Maintenance of buffer zones around specific Bryophytes

There may be a requirement for method statements to be reviewed and / or approved by third party consultees (where applicable) prior to their finalisation.

3.11 Complaints procedure

A liaison officer (as noted above) will be available to allow for member of the public or interested parties to make complaints about the construction works. A monitoring system will be implemented to ensure that any complaints are addressed, and satisfactory outcome is achieved for all parties. Generally, the complaints procedure is to send an email through the contact details section listed on the Project Website (<https://hellfiredublinmountains.ie/>) or the South Dublin County Council email address (econdev@sdblincoco.ie).

4. ENVIRONMENTAL COMMITMENTS

Project environmental mitigation has been set out in the application documentation, in the Planning Report and EIAR in particular, in accordance with this OCEMP. The OCEMP provides a framework for compliance auditing and inspection to ensure that best construction practices and mitigation measures are adhered to during the construction of the Works (i.e. the Trail Upgrade Works). It should be noted that Section 4.1 of this OCEMP details the key mitigation measures for the Works. It should be noted that this may not be a comprehensive list of the mitigation measures needed, and additional measures will be introduced by the Contractor to suit their methodology.

4.1 Mitigation Measures

The mitigation measures for the construction phase are detailed in the following sections and have been derived from the Planning Report and EIAR and its commitments.

4.1.1 Population and Human Health

The mitigation and monitoring measures to be implemented for population and human health during the construction phase are as follows:

- An outline Construction and Traffic Management Plan provides the outline/framework for the establishment of detailed construction management practices to be agreed by the Contractor, South Dublin County Council, Coillte and other stakeholders.

4.1.2 Biodiversity

4.1.2.1 *General Mitigation Measures*

Mitigation by Avoidance

The design has followed the basic principles outlined below to eliminate the potential for impacts on Key Ecological Receptors where possible, and to minimise such impacts where total elimination is not possible. The Works have been designed to minimise direct or indirect impacts on any habitats or species or other ecological features that were classified as being of Local Importance (Higher Value) or above. Furthermore, during both the design stage as well as prior to the commencement on site, the EcoW has undertaken surveys, and the Works have been adjusted as needed.

Mitigation by Design

The Works has been designed having regard to European and national legislation and all relevant guidelines in relation to ecology and engineering best practice for the planning and construction of developments. These guidelines and best practice provide practical measures that can be incorporated into the design to minimise the impact and protect the receiving environment. The following is an overview of the design measures that will be employed to minimise and avoid significant impacts on the ecological receptors within the zone of influence.

- An Outline Construction and Environmental Management Plan (OCEMP) and Incidence Response Plan (IRP) have been produced to ensure that the Works do not lead to any unanticipated negative impacts on the environment.
- The Contractor will appoint a Site Environmental Manager (as noted above) to carry out environmental monitoring and to ensure that the mitigation measures proposed in this OCEMP are followed.
- A Construction and Traffic Management Plan (CTMP) shall be developed by the Contractor prior to the commencement of works. It shall be developed in accordance with this outline CEMP.
- The Contractor will prepare a Construction Method Statement detailing how the Works will be carried out. The Site Foreman shall read, sign and abide by the Construction Method Statement. A copy will be submitted to the District Conservation Officer of the National Parks and Wildlife Service if requested by them.
- The Works Team will be inducted on the ecological considerations listed in the Construction Method Statement by the Site Foreman.

- An Ecological Clerk of Works (ECoW) shall be appointed by South Dublin County Council prior to the commencement of works. It shall be their responsibility to supervise and provide recommendations on the execution of any and all works which have the potential to give rise to negative effects on biodiversity/ecological integrity.
- The Contractor will appoint a Site Environmental Manager (SEM) prior to the commencement of works. This person shall be responsible for carrying out environmental monitoring of the Works and ensuring that the mitigation measures proposed in the finalised CEMP are adhered to.
- The trail upgrades and new trails have been designed as Classes 1, 2 and 3 in accordance with the National Trail Office's Classification and Grading of National Trails (2008). This will ensure that increases in footfall will not damage the existing paths which could lead to erosion outside this area.

4.1.2.2 Construction Phase

General

- Mature trees and scrub outside of the footprint of the Works will be retained. Fencing will be erected around trees which are to be retained and will include the Root Protection Area (RPA), as defined by a professionally qualified Arborist. It is recommended that an Arborist be retained as required by the contractor to monitor and advise on any works within the RPA of retained trees to ensure successful tree retention and planning compliance. All recommendations contained in the tree survey report will be followed.
- Fallen trees, standing dead trees and stumps will be retained as habitat for invertebrates, bryophytes and fungi. Similarly, any native trees that are felled to facilitate the Works will be moved to areas of the Hell Fire Club where they will provide dead wood habitat.
- The use of artificial lighting on site will be minimised in terms of the area required to be illuminated and the length of time for which any lighting is switched on. Light spillage will be prevented as far as reasonably practicable. Artificial lighting will be shut off at night when not in use or when works cease at the end of the day in order to minimise the effects of light pollution and disturbance to crepuscular and nocturnal species. Security lighting, if required, will be cowled, to prevent light spill outside the compound. The ECoW will ensure that light spill is reduced as much as possible.
- Any excavations deeper than 1m will be either covered or have ramps fitted outside of working hours, which will allow badgers and other wildlife to escape. Similarly, any temporarily exposed open pipe system will be capped to prevent species such as Otter from gaining access when contractors are off site.
- The exact route of the new trails will be agreed with the ECoW and a qualified arborist, and will be adapted to retain as many trees below the visitor centre as possible and minimise damage to tree roots
- The construction envelope associated with the works will be temporarily fenced off at the outset of the construction phase of the project and will avoid the potential for unnecessary loss of habitat outside of the construction footprint.
- Appropriately sized machinery with low pressure tyres / tracks will be used for the trail construction

Red Squirrels

- Site clearance will take place between October and January which is outside the period when Red Squirrel will be nursing young.
- Mature trees will be checked by the ECoW immediately prior to felling to ensure no red squirrels are in the area. If any red squirrels are in the trees, or in the immediate vicinity, felling will be postponed until they have left the area.
- Tree planting the Hell Fire Club will consist of at least 10% Scots Pine and shrub planting will include 20% hazel. In the context of the wider landscape and the South Dublin red squirrel population, which currently depends on monocultures of conifers that are subject to clear-felling, a permanent native woodland will be a positive impact. Broadleaved woodland can support a higher population density of red squirrels and provide a year-round food source for the species.
- A pre-construction survey will be undertaken 2-3 weeks prior to construction to ensure that Red Squirrels have not taken up residence within the construction envelope. The survey will cover the footprint of the Works and a 50m buffer. Should any dreys be found, the ECoW will seek direction from the NPWS.
- The draft Red Squirrel Management Plan will be implemented and will include measures to control grey squirrels, if required.

Bryophytes and Tufa Springs

- In order to protect the area containing *Orthotrichum stramineum* in the vicinity of the canopy bridge and the population of *Plagiothecium laetum* in the vicinity of the visitor centre, a pre-construction survey will be carried out to determine the abundance of these species.
- The populations of *Orthotrichum stramineum* will be marked by the ECoW and the populations will be protected from damage during construction.
- The paths near the proposed visitor centre will be routed locally to avoid the populations of *Plagiothecium laetum*.
- The tufa springs adjacent to the paths, including their sources, will be marked out by the ECoW and protected during the path upgrades.

Badger

- A pre-construction survey will be undertaken 2-3 weeks prior to construction to ensure that Badgers have not taken up residence within the construction envelope. The survey will cover the footprint of the Works and a 50m buffer. Should any setts be found, the ECoW will seek direction from the NPWS.

Pine Marten

- Two pine marten nest boxes will be erected. The locations will be directed by the ECoW. Suggested locations are presented in the draft Red Squirrel Management Plan.
- A pre-construction survey will be undertaken 2-3 weeks prior to construction. The survey will cover the footprint of the Works and a 50m buffer. Should any dens be found, the ECoW will seek direction from the NPWS.

Newts & Amphibians

- The three ponds identified as Key Environmental Receptors will be retained.
- The scrub and grassland habitats within 25m of the pond where newts were recorded (Pond 1) will not be disturbed.
- Prior to the construction phase the ponds will be demarcated to prevent accidental damage.
- Terrestrial refugia will be created at the pond which will consist of either log piles or clean inert material covered with topsoil.
- Permanent fencing and signage will be erected around the existing ponds to protect this habitat from disturbance. The fencing will be set back from the pond edge as far as practicable to provide a buffer of vegetation around each pond.

Birds

- Site clearance including vegetation removal will take place from October to January inclusive. This has taken early nesting birds, such as Common Crossbill, as well as late nesting birds into account and will therefore avoid direct impacts on nesting birds. Nonetheless, a pre-clearance survey will be carried out for nesting birds prior to the felling of conifers
- If any vegetation needs to be removed outside the permitted period (October-January), the area shall be checked by an experienced ecologist for nesting birds. If nesting birds are found, the Works will be postponed until the chicks have fledged.
- Where larger trees are removed and to further minimise the loss of nesting sites, 20 nest boxes will be erected. The nest boxes will be located at a sufficient distance from the construction envelope and the type and location will be directed by the ECoW.

Otters

- Prior to any works being carried out, a pre-construction survey will be undertaken 2-3 weeks prior to works to ensure no Otters have taken up residence within 150m of work.
- Any temporarily exposed open pipe system will be capped to prevent otters from gaining access when contractors are off site to avoid risk of otters becoming trapped

Bats

- No trees with features suitable for roosting bats will be felled as part of the Works.
- In order to avoid impacts on bats, a pre-construction bat suitability assessment will be undertaken. This shall be undertaken no more than 3 weeks prior to the Works to identify any new features that have been created since the surveys which informed the overarching EIAR were undertaken.
- Should any bat roost be detected during the pre-construction survey which will be disturbed or lost during construction, a derogation licence will be required from the NPWS.
- At least three crevice type bat boxes will be placed in the application site. The bat boxes will be located at a sufficient distance from the construction envelope to limit any disturbance and the type and location will be directed by the ECoW and in accordance with Kelleher & Marnell (2006).

Given the implementation of the above measures, the works are unlikely to give rise to significant impacts

4.1.2.3 Implementation

In order to give effect to the mitigation prescribed in the overarching EIAR, it should be a condition of any consent granted in respect of The Works that all of the mitigation, including monitoring and enforcement, prescribed in the overarching EIAR be binding, during the construction phase on the Contractor.

During construction, all works must comply with relevant legislation and guidelines in order to reduce and minimise environmental impacts and to protect all ecological receptors. In particular, there must be full compliance with the following:

- The finalised CEMP.
- The mitigation prescribed in the overarching EIAR and in the planning documentation.
- Any conditions which might be attached to The Works's planning consent.
- All applicable legislative requirements in relation to environmental protection.
- All relevant construction industry guidelines, including:
 - *C532 Control of water pollution from construction sites: guidance for consultants and contractors* (CIRIA, 2001).
- Any biosecurity requirements arising from the preceding points.

This list is non-exhaustive. All environmental commitments/requirements and relevant legislation and guidelines which are current at the time of construction will be followed.

4.1.3 Land

To mitigate significant impact on land during the construction stage all excavated materials will be assessed for signs of possible contamination such as staining or strong odours. Should any unusual staining or odour be noticed, samples of this soil will be analysed for the presence of possible contaminants in order to ensure that historical pollution of the soil has not occurred at the site. Should it be determined that any of the soil excavated is contaminated, this will be managed according to best practice and disposed of accordingly by a licensed waste disposal contractor. Given the implementation of these measures, the works are unlikely to give rise to significant impacts

4.1.4 Water and Hydrology

Water and hydrology impacts from the construction works will be mitigated via the following measures to be incorporated in the Works Requirements:

- An Incident Response Plan (see requirements outlined in this CEMP) will be finalised by the contractor detailing the procedures to be undertaken in the event of spillage of chemical, fuel or other hazardous wastes, non-compliance with any permit or license, or other such risks that could lead to a pollution incident, including flood risks;
- Bunded storage units for oil/fuel/hydrocarbons/chemical are to be provided on impermeable surfaces with a minimum 110% capacity and set back a minimum of 25m from watercourses;
- There will be designated refuelling points selected which will be located on hard standing areas with no pathway to the surface water drainage system. Machinery shall be refuelled off-site where possible;
- All plant and construction vehicles shall be inspected daily for oil leaks and a full service record shall be kept for all plant and machinery;
- No detergents will be discharged to interceptors. A designated vehicle wash down area will be identified with consideration to drainage arrangements and will be located away from surface water discharge point. Wash water will be collected and contained for disposal off site;

- Protection of waterbodies from silt load will be carried out through the use of gully silt/sediment filters and shallow berms in hardstanding areas to provide adequate treatment of runoff to watercourses;
- Settlement tanks/ponds, silt traps/bags and bunds will be used. Where pumping of water is to be carried out, filters will be used at intake points and discharge will be through a sediment trap;
- Construction discharge will be treated such that it will not reduce the environmental quality standard of the receiving watercourses;
- Foul drainage from all site offices and construction facilities will be contained and disposed of in an appropriate manner, off site, to prevent pollution;
- Spill kits shall be available on-site during construction; and
- All waste oils, empty oil containers and hazardous wastes shall be disposed of in accordance with the Waste Management Act, 1996 (as amended).

Construction activities will take cognisance of the following guidance documents for construction work on, over or near water.

- CIRIA C532D *Control of Water Pollution from Construction Sites Guidance for Consultants and Contractors*;
- CIRIA C648 *Control of water pollution from linear construction projects: technical guidance*;
- *Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes* (NRA, 2006);
- *Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters* (IFI, 2016);
- *Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites* (Eastern Regional Fisheries Board);
- *Central Fisheries Board Channels and Challenges – The enhancement of Salmonid Rivers*; and
- Adherence to the Construction and Traffic Management Plan.

Given the implementation of the above measures, the works are unlikely to give rise to significant impacts

4.1.5 Air, Noise and Vibration

Air and noise impacts from the construction works will be mitigated via the following measures to be incorporated in the Works Requirements:

- Best practice control measures from construction sites within *BS 5228 (2009 +A1 2014) Code of Practice for Noise and Vibration Control on Construction and Open Sites Parts 1 and 2* will be used to control noise and vibration impacts. The contractor will ensure that all best practice noise and vibration control methods will be used as necessary in order to ensure impacts to nearby residential noise sensitive locations are not significant.
- Selection of plant with low inherent potential for the generation of noise and/or vibration
- Plant will be properly maintained in order to minimise the noise produced by on site operations;
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the contract;
- Less intrusive audible warnings such as broadband vehicle reversing alarms will be used;
- Machinery that is used intermittently will be shut down or throttled back to a minimum during periods when not in use;
- Appointment of competent contractors and use of standard construction practices;
- Noise and vibration monitoring during works with potential to cause significant noise and vibration at key receptors and along neighbouring property boundaries;

- Audible warning systems should be switched to the minimum setting required by the Health & Safety Executive or the Health & Safety Authority;
- The contractors may be required to use off-site parking and provide shuttle service to the site; and
- Construction will be limited to the times previously outlined in Table 2-2.

Given the implementation of the above measures, the works are unlikely to give rise to significant impacts

4.1.6 Landscape and Visual

There are no landscape or visual mitigation measures proposed for the construction phase of the Works.

4.1.7 Archaeology and Cultural Heritage

Archaeological and cultural heritage impacts from the construction works will be mitigated via the following measures to be incorporated in the Works Requirements:

- Where archaeological features or potential archaeological features are likely to be impacted within the area of the Works, archaeological monitoring and test excavations will be carried out by a licenced archaeologist, subject to the requisite ministerial consent and permissions before or during the construction phase. Following the completion of works, reports detailing the outcome of the monitoring shall be forwarded to the NMS and other statutory authorities, as per the conditions of the archaeological licences.
- Should potential archaeology be identified during the works, then the works shall be suspended in that location and the NMS, the Project Archaeologist, the Employer's Representative and Contractor shall be notified. Minor or isolated features/deposits shall be fully excavated and recorded by the archaeological team during the course of their archaeological monitoring, subject to the agreement of the NMS, Project Archaeologist and Employers Representative.
- Where the Works required tree removals, archaeological monitoring of will also be carried out in consultation with Coillte to avoid potential impact on archaeological features due to erosion or landslides. Additionally, where other vegetation is to be removed, it must be done with care so that removal does not cause damage.

Given the implementation of the above measures, the works are unlikely to give rise to significant impacts.

4.1.8 Material Assets- Forestry

Forestry impacts from the construction works will be mitigated via the following measures to be incorporated in the Works Requirements:

- Commercial forest activities such as road maintenance, thinning and clear-felling will need to be planned well in advance and organised during winter months when visitor numbers are lower. Pedestrian diversions can be installed off paths etc. to allow forest activities as normal if necessary. Certain car parks may need to be closed during these operations also.
- For security and health and safety, barriers should be kept in place to prevent vandalism, dumping, anti-social behaviour, rallying and overnight parking. Car parks should close during the night. Discussions should commence with the Forest Service before any progress is made with felling licences. This can iron out any potential problem in the future.
- Specific types of trees shelters can be used instead of deer fencing where areas are being converted from conifer to broadleaf.

- Planting will be in accordance with the revised forestry management plan which was developed in consultation with and approved by Coillte and the NPWS will be adhered to.

Given the implementation of the above measures, the works are unlikely to give rise to significant impacts

5. TIMELINES FOR MITIGATION MEASURES

As part of the Grant of Planning Permission, Condition No. 2 indicates that a timeline in relation to the implementation and monitoring of the mitigation measures is to be prepared and maintained. Please refer to Appendix A for the proposed timeline. This document also sets out the list of mitigation measures from the overarching EIAR for all contracts to ensure that they are considered in a holistic manner as noted above. It is noted that not all mitigation measures apply to each individual contract while others apply to all contracts. The timeline presented is intended to be read in the conjunction with all contracts. Section 4 of this OCEMP sets out the mitigation measures that are specific to the Trail Upgrade.

6. CONTRACT CONTACT LIST

Due to the nature of the Works and the EIAR Mitigation measures to be undertaken, it is important that a detailed list of Contacts is provided to South Dublin County Council prior to commencement on site of each Contract. Contact details of relevant personnel employed during the construction phase of the Works are required to ensure that environmental incidents are competently reported. The contact details should be frequently reviewed to ensure that they are up to date. A Sample Contact List is contained in Appendix B to this OCEMP.

7. INCIDENT RESPONSE PLAN

The Incident Response Plan (IRP) describes the level of procedures, lines of authority and processes that will be followed to ensure that incident response efforts are prompt, efficient, and appropriate to particular circumstances. An outline IRP is contained within Appendix C to this OCEMP. This may be updated or expanded upon by the Contractor for the finalised contract CEMP as part of their method statement but shall comply with these requirements as a minimum.

APPENDIX A

Timelines for Mitigation Measures

| Topic | Phase | Operational Management | Ongoing Monitoring | Contracts Applicable | Timeline for Implementation |
|---|--|--|-----------------------------------|---|---|
| 5- Population & Human Health | | | | | |
| | Construction | | | | |
| | Construction and Traffic Management Plan | An outline Construction and Traffic Management Plan has been prepared by Roughan and O'Donovan, the project engineers, and provided under separate cover. This document provides the outline/framework for the establishment of detailed construction management practices to be agreed by the contractor, SDCC, Coillte and other stakeholders in the event of development approval. | Throughout works | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | Ongoing - based on Contract issue. Each Contract will require its own Construction and Traffic Management Plan for deliveries and work vehicles, |
| | Operational | | | | |
| | Operational Management Plan | An Operational Management Plan has been prepared and submitted under separate cover. This document sets out the envisaged structure and responsibilities for management of the proposed development during operation. The measures include the establishment of a permanent management steering group comprised of SDCC, Coillte and the DMP with responsibility for: <ul style="list-style-type: none"> • Management and maintenance of the development overall, and specifically the facilities outside of the direct responsibility of the private operator; • management of the contract, lease or license of the private operator of the facilities; • liaison with neighbouring landowners, residents and stakeholders, facilitated through the consultation forum of the Dublin Mountains Partnership; • coordination of forest operations ongoing in the western part of the Hell Fire forest property (the area largely unaffected by the proposed development), and • monitoring and management programmes for: <ul style="list-style-type: none"> - the trails network; - archaeological and architectural heritage features, and - ecology (specifically the Key Ecological Receptors identified in the EIA process). The Operational Management Plan also identifies access and parking management measures including: - car park monitoring and variable message signs to prevent queuing and overspill parking; <ul style="list-style-type: none"> - the proposed shuttle bus from Tallaght; - the proposed park and ride facility at Tallaght Stadium | Ongoing (post project completion) | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | An updated Operational Management Plan is currently being prepared and is to be finalised with Contract 5. It is noted that Contract 5 shall proceed in advance of Contracts 1, 2 or 6. |
| 6- Biodiversity & NIS | | | | | |
| | Construction | | | | |
| | Construction Method Statement | <ul style="list-style-type: none"> - Site Foreman shall read, sign and abide by the Construction Method Statement. A signed copy will be submitted to the District Conservation Officer of the National Parks and Wildlife Service. - Works Team will be inducted on the ecological considerations listed in the Construction Method Statement by the Site Foreman. | | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | |
| | Construction and Traffic Management Plan | - A Construction and Traffic Management Plan (CTMP) shall be developed by the Contractor prior to the commencement of works. It shall be developed in accordance with the description of the Outline CTMP | Throughout works | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | Ongoing - based on Contract issue. Each Contract will require its own Construction and Traffic Management Plan for deliveries and work vehicles. Contract 4a CTMP Complete and is included in the Contractor's RAMS |

| | | | | |
|---|--|-------------------------------------|--|---|
| Habitat Retention | <p>- Mature trees and scrub outside of the footprint of the proposed car park, visitor centre and canopy bridge will be retained. Fencing will be erected around trees which are to be retained and will include the Root Protection Area, as defined by a professionally qualified Arborist. It is recommended that an Arborist be retained as required by the principal contractor to monitor and advise on any works within the RPA of retained trees to ensure successful tree retention and planning compliance. All recommendations contained in the tree survey report will be followed.</p> <p>- Fallen trees, standing dead trees and stumps outside the footprint of the proposed car park, visitor centre and canopy bridge will be retained as habitat for invertebrates, bryophytes and fungi. Similarly, native trees that are felled to facilitate the proposed development will be moved to areas of the Hell Fire Club where they will provide dead wood habitat.</p> | During construction works | <p>Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 4a: Conservation Works to Massey's Woods (this development) Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway</p> | These requirements are being incorporated into the Works Requirements for each contract. |
| Ecological Clerk of Works | <p>- An Ecological Clerk of Works (ECoW) shall be appointed by SDCC prior to the commencement of works. It shall be their responsibility to supervise and provide recommendations on the execution of any and all works which have the potential to give rise to negative effects on biodiversity/ecological integrity. The ECoW will have similar professional experience of recreation based projects and be a member of the Chartered Institute for Ecology and Environmental Management (CIEEM).</p> | Ongoing | <p>Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal</p> | Complete. SDCC have included the appointment of the ECoW in the Design Team Appointment |
| | <p>- The exact route of the canopy bridge, new trail and surface water drainage in Massy's Estate will be agreed with the ECOW and a qualified arborist, and will be adapted to retain as many trees below the proposed visitor centre as possible and minimise damage to tree roots.</p> | Design Stage and Construction Stage | <p>Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway</p> | The exact route of the canopy bridge has been agreed with the ECOW and qualified arborist ensuring to retain as many trees as possible. |
| Site Environmental Manager | <p>- The Contractor will appoint a Site Environmental Manager (SEM) prior to the commencement of works. This person shall be responsible for carrying out environmental monitoring of the works and ensuring that the mitigation measures proposed in this EIAR (as well as the CTMP) are adhered to.</p> | Ongoing during construction stage | <p>Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal</p> | This requirement has been included in the CEMP. |
| Vegetation Clearance/ Invasive Species | <p>- A pre-construction survey will be undertaken 2-3 weeks prior to construction to ensure that protected species such as Red Squirrel and Badger have not taken up residence within the construction envelope. The survey will cover the footprint of the proposed development and a 50m buffer. Should any protected species shelters (e.g. dreys, setts) be found, the ECOW will seek direction from the NPWS.</p> <p>- Site clearance including vegetation removal will take place from October to January inclusive. This has taken early nesting birds, such as Common Crossbill, as well as late nesting birds into account and will therefore avoid direct impacts on nesting birds. Nonetheless, a pre-clearance survey will be carried out for nesting birds prior to the felling of conifers. No trees with features suitable for roosting bats will be felled as part of the proposed development.</p> <p>- Tree planting the Hell Fire Club will consist of at least 10% Scots Pine and shrub planting will include 20% hazel. In the context of the wider landscape and the South Dublin red squirrel population, which currently depends on monocultures of conifers that are subject to clear-felling, a permanent native woodland will be a positive impact.</p> | Ongoing during construction stage | <p>Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 4a: Conservation Works to Massey's Woods (this development) Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal</p> | <p>This work has already commenced. Prior to each contract, the ECOW and their team shall carry out an ecological survey in accordance with these requirements.</p> <p>Site clearance is planned for these periods and the ECOW will carry out a detailed survey prior to issue of tender documentation as well as prior to commencement of any clearance.</p> <p>A revised forest management plan has been agreed with NPWS.</p> |
| Ground Protection | <p>Appropriately sized machinery with low pressure tyres/ tracks will be used for the trail construction, landscaping and all works in Massy's Estate.</p> | Ongoing during construction stage | <p>Contract 4a: Conservation Works to Massey's Woods (this development) Contract 5: Trail Upgrade Works Contract 7: Invasive Species Removal</p> | These requirements have been included within the Works Requirements and contractors method statements are required to include them. |
| Boundary Treatment | <p>The construction envelope associated with the proposed development will be temporarily fenced off at the outset of the construction phase of the project and will avoid the potential for un-necessary loss of habitat outside of the construction footprint.</p> | Ongoing during construction stage | <p>Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 7: Invasive Species Removal</p> | These requirements have been included within the Works Requirements and contractors method statements are required to include them. |

| | | | | |
|-----------------------------|---|--|---|---|
| Lighting | The use of artificial lighting on site will be minimised in terms of the area required to be illuminated and the length of time for which any lighting is switched on. Light spillage will be prevented as far as reasonably practicable. Artificial lighting will be shut off at night when not in use or when works cease at the end of the day in order to minimise the effects of light pollution and disturbance to crepuscular and nocturnal species. Security lighting, if required, will be cowed, to prevent light spill outside the compound. The ECoW will ensure that light spill is reduced as much as possible. | Ongoing during construction stage | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway | These requirements have been included within the Works Requirements and contractors method statements are required to include them. |
| Excavations | Any excavations deeper than 1m will be either covered or have ramps fitted outside of working hours, which will allow badgers and other wildlife to escape. | Ongoing during construction stage | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway | These requirements have been included within the Works Requirements and contractors method statements are required to include them. |
| Red Squirrels | <ul style="list-style-type: none"> - Site clearance will take place between October and January which is outside the period when Red Squirrel will be nursing young. - Mature trees will be checked by the ECoW immediately prior to felling to ensure no red squirrels are in the area. If any red squirrel are in the trees, or in the immediate vicinity, felling will be postponed until they have left the area. - Tree planting the Hell Fire Club will consist of at least 10% Scots Pine and shrub planting will include 20% hazel. In the context of the wider landscape and the South Dublin red squirrel population, which currently depends on monocultures of conifers that are subject to clear-felling, a permanent native woodland will be a positive impact. Broadleaved woodland can support a higher population density of red squirrels and provide a year-round food source for the species. - Two rope bridges will be constructed, one on each side of the canopy bridge. The siting of the bridges will be agreed with the ecologist and the contractor, depending on ground conditions and suitable trees to link the rope bridges to. The rope bridge will be 6.25m above the road level to accommodate traffic and to match the height of the canopy bridge. The use of rope bridges to reduce road fatalities for red squirrels has been widely documented in Europe and is listed as a 'proposed action' in Section 5.3.8 of the All-Ireland Red Squirrel Species Action Plan (NPWS/ EHS, 2008). - The proposed interpretive signage at the site will include information on red squirrel ecology and notices requesting the public not to feed grey squirrels. - Two artificial dreys will be erected the Hell Fire Club. The location will be directed by the ECoW. Suggested locations are presented in the draft Red Squirrel Management Plan. - The draft Red Squirrel Management Plan will be implemented and will include measures to control grey squirrels, if required. | | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | <p>This work has already commenced and a revised Forest Management plan has been agreed with NPWS.</p> <p>The rope bridges shall be constructed at the same time as the treetop walkway and have been included in the Works Requirements for that Contract.</p> <p>The signage is currently under development through the Interpretative Consultant and will be installed at the end of Contract 5.</p> <p>The draft Red Squirrel Management Plan is currently being reviewed and is being incorporated into the Operational Management Plan.</p> |
| Bryophytes and Tufa Springs | <ul style="list-style-type: none"> - In order to protect the area containing Orthotrichum stramineum in the vicinity of the proposed canopy bridge and the population of Plagiothecium laetum in the vicinity of the proposed visitor centre, a pre-construction survey will be carried out to determine the abundance of these species. - The populations of O. stramineum will be marked by the ECoW and the populations will be protected from damage during construction. - The paths near the proposed visitor centre will be routed locally to avoid the populations of Plagiothecium laetum. - The populations will be protected during the operational phase by fencing, as directed by the ECoW. - The tufa springs adjacent to the paths, including their sources, will be marked out by the ECoW and protected during the path upgrades. - The northern link path which was proposed in the original EIAR has been removed from the design to avoid the potential for impacts on the tufa springs. | Ongoing through the construction stage | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | <p>This has already commenced.</p> <p>The ECoW has reviewed and inspected the locations and these have been noted on drawings. At present, the works will not impact on the locations noted to date.</p> <p>Further surveys will occur prior to commencement on site.</p> |
| Badger | - A pre-construction survey will be undertaken 2-3 weeks prior to construction to ensure that Badger have not taken up residence within the construction envelope. The survey will cover the footprint of the proposed development and a 50m buffer. Should any protected species shelters (e.g. dreys, setts) be found, the ECoW will seek direction from the NPWS. | Prior to commencement of each contract | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 4a: Conservation Works to Massey's Woods (this development) Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | <p>This has already commenced.</p> <p>The ECoW has reviewed and inspected the locations and these have been noted on drawings. At present, the works will not impact on the locations noted to date.</p> <p>Further surveys will occur prior to each Contract.</p> |

| | | | | |
|-----------------|--|--|---|---|
| Pine Marten | <ul style="list-style-type: none"> - Two pine marten nest boxes will be erected. The locations will be directed by the ECoW. Suggested locations are presented in the draft Red Squirrel Management Plan - A pre-construction survey will be undertaken 2-3 weeks prior to construction. The survey will cover the footprint of the proposed development and a 50m buffer. Should any protected species shelters (e.g. dreys, setts) be found, the ECoW will seek direction from the NPWS. | Prior to commencement of each contract | <ul style="list-style-type: none"> Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 4a: Conservation Works to Massey's Woods (this development) Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | <p>Pine Marten Boxes (as well as red squirrel and bat boxes) are to be erected in locations agreed with the ECoW during the trail upgrade contract. These have been included in the Works Requirements. The ECoW has reviewed and inspected the locations and these have been noted on drawings. At present, the works will not impact on the locations noted to date.</p> <p>Further surveys will occur prior to installation on site to ensure optimum placement.</p> |
| Birds | <ul style="list-style-type: none"> - If any vegetation needs to be removed outside the permitted period (October-January), the area shall be checked by an experienced ecologist for nesting birds. If nesting birds are found, the works will be postponed until the chicks have fledged. - Where larger trees are removed and to further minimise the loss of nesting sites, 20 nest boxes will be erected. The nest boxes will be located at a sufficient distance from the construction envelope and the type and location will be directed by the ECoW. - Bird-friendly glass (e.g. www.omilux.com or equivalent) or retrofitted measures such as tape and film, which will reduce the reflectivity of glass facades and windows, will be used on all buildings. This will not prevent all bird collisions but will reduce the risk of collisions significantly. These measures will be approved by the ECoW and will follow the guidance published by the American Birds Conservancy (ABC, undated) | Prior to commencement of each contract | <ul style="list-style-type: none"> Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | <p>It is not intended that all vegetation measures will occur in the permitted period. Any works outside these times will require the ECoW to inspect the zones and prepare a report prior to removal.</p> <p>The use of bird friendly glass is being incorporated into the Works Requirements.</p> |
| Otters | <ul style="list-style-type: none"> - Prior to any works being carried out, a pre-construction survey will be undertaken 2-3 weeks prior to works to ensure no Otters have taken up residence within 150m of works. - Any temporarily exposed open pipe system will be capped to prevent otters from gaining access when contractors are off site to avoid risk of otters becoming trapped. | Prior to commencement of each contract | <ul style="list-style-type: none"> Contract 4a: Conservation Works to Massey's Woods (this development) Contract 5: Trail Upgrade Works Contract 7: Invasive Species Removal | <p>This has already commenced.</p> <p>The ECoW has reviewed and inspected the works locations and no otters have yet been noted.</p> <p>Further surveys will occur prior to commencement on site.</p> |
| Bats | <ul style="list-style-type: none"> - In order to avoid impacts on bats, a pre-construction bat suitability assessment will be undertaken. This shall be undertaken no more than 3 weeks prior to the works to identify any new features that have been created since the surveys which informed this EIA were undertaken. - The construction of the canopy bridge may require some pruning of branches or felling of immature trees. The trees in this area have low bat potential and as such, shall be left on the ground for 24 hours once felled. - Should any bat roost be detected during the pre-construction survey which will be disturbed or lost during construction, a derogation licence will be required from the NPWS. - Following an assessment by a conservation architect, any proposed works to the structures will be reviewed by the ECoW and bat surveys shall be undertaken, if required. - The chimney flues in the Hell Fire Club building will be sealed using a single iron bar or similar. This will be off centre so as to prevent people climbing up the chimney while leaving as much of an open gap as possible. Signs of recent fire lighting mean the flues are likely unsuitable bat roosting habitat. - Three crevice type bat boxes will be placed in the application site. The bat boxes will be located at a sufficient distance from the construction envelope to limit any disturbance and the type and location will be directed by the ECoW and in accordance with Kelleher & Marnell (2006). | Prior to commencement of each contract | <ul style="list-style-type: none"> Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | <p>This has already commenced.</p> <p>The ECoW has reviewed and inspected the works locations and no otters have yet been noted.</p> <p>Further surveys will occur prior to commencement on site.</p> <p>Bat Boxes (as well as red squirrel and pine marten boxes) are to be erected in locations agreed with the ECoW during the trail upgrade contract. These have been included in the Works Requirements.</p> |
| Upland habitats | <ul style="list-style-type: none"> - Information boards will be provided at the proposed visitor centre, in the car park, at the entrances to Massey's Estate and at the southern end of Massey's Estate. The boards shall be aesthetically engaging to encourage buy-in from visitors. - The information boards will communicate the following to visitors: <ul style="list-style-type: none"> - The presence of Natura 2000 sites. - The presence of ground nesting birds and other sensitive wildlife. - The presence of sensitive heath habitats. - A request to remain on the paths and to keep dogs on the lead. - A map showing the waymarked trails in Massey's Estate, the Hell Fire Club and the Dublin Mountains Way but not the trails leading into the SAC or SPA. - A number of looped, waymarked walking routes will be established in Massey's Estate and at the Hell Fire Club. These will be on the existing trails, with some sections improved and a small section of new trail forming a new link path. The establishment of these walks shall involve: <ul style="list-style-type: none"> - The placement of suitably spaced colour-coded way marker posts at appropriate locations along the trails; and, - The erection of a sign at the outset of the routes displaying a map of the routes with approximate length (km), duration (hours/minutes) and a conservative estimate of difficulty level (i.e. easy/moderate/strenuous). | Upon completion. | Contract 5: Trail Upgrade Works | <p>Already commenced.</p> <p>The interpretative consultant is currently preparing trail and information signage designs for review. It is intended these will be installed at the end of Contract 5.</p> |

| | | | | |
|--------------------|---|--|---|---|
| Invasive Species | <p>- During the construction phase, to prevent/minimise potential negative effects as a result of the introduction and/or spread of invasive during the operation of the proposed development, SDCC will adopt an invasive species management plan, a draft of which is presented in Appendix S10.</p> <p>- The invasive species management plan adopted by SDCC will seek to eradicate invasive species in Massy's Estate and at the Hell Fire Club and promote the regeneration of native species.</p> <p>- Herbicides will be used in accordance with the European Communities (Plant Protection Products) Regulations, 2012 (S.I. No. 159 of 2012) and the (Sustainable Use of Pesticides) Regulations, 2012, (S.I. No. 155 of 2012) (as amended).</p> <p>- Landscaping of the proposed development shall use native species of plants of national provenance only and, insofar as possible, soil reused from on-site excavations. If soil/substrate needs to be imported to the site for the purposes of the proposed development, the Contractor shall ensure that the imported soil/substrate is free from invasive species.</p> | Annually after completion of the works | Contract 7: Invasive Species Removal | This has already commenced. A separate invasive species plan is currently being prepared and a separate invasive species will be released due to the specialist nature of these works. |
| Operational | | | | |
| Trail Design | The proposed trail improvement and new trails have been designed as Classes 1, 2 and 3 in accordance with the National Trail Office's Classification and Grading of National Trails (2008). This will ensure that proposed increase in footfall will not damage the existing paths which could lead to erosion outside this area. | None required. | Contract 5: Trail Upgrade Works | Already incorporated into Works Requirements |
| Oversight | A Strategic Oversight Group comprised of representatives at Senior Management / Director Level from SDCC and Coillte will be established to provide formal high-level governance in relation to the proposed Dublin Mountains Visitor Centre. This group will meet at least every two months in the initial year following opening of the centre in order to address strategic and governance issues in relation to the proposed visitor centre as well as responding to issues arising from the Management Steering Committee. It is proposed that the Strategic Oversight Group will be responsible for carrying out an annual inspection of the site trails during the operational phase of the development. The inspections will be carried out by the Dublin Mountains Partnership (DMP) and Coillte. The annual inspections will establish the condition of all trails with reference to National Trails Office standards. If necessary, the trails will be closed and/or repair works will be specified, and implementation will be supervised by the DMP and Coillte. The trails inspection and specification of works will be informed by the results of the annual ecological surveys, in order that any necessary protection measures for heritage resources are incorporated. This may include temporarily restricting or prohibiting access to areas where erosion is a problem. | Post Completion and annually | None | to be in place prior to completion of the first package from Contract, 1, 2, 5 or 6 as these will impact on the operation of the site |
| Information Boards | Information boards will be provided at the proposed visitor centre, in the car park, at the entrances to Massy's Estate and at the southern end of Massy's Estate. The boards shall be aesthetically engaging to encourage buy-in from visitors. Signage has been demonstrated to effectively manage the negative impacts of recreation on wildlife. Herstine et al. (2006) concluded that signage can be an effective approach for passively managing human behaviour and tourism in natural resource settings. A study from Iceland (Marschall et al., 2017) on the impact of signage on visitor behaviour around seals showed that signage was effective, but in particular, 'teleological' signage which provided an explanation as well as a command was more effective. The information boards will provide information on the ecology of the site and include a request for visitors to remain on the trails and to keep dogs on leads. | Upon completion. | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 5: Trail Upgrade Works | Already commenced. The interpretative consultant is currently preparing trail and information signage designs for review. It is intended these will be installed at the end of Contract 5. |
| Quiet Zones | The series of improved trails will maintain 'quiet zones' (areas away from trails) which will reduce the impact of noise and visual disturbance on species such as Red Squirrel and birds. The quiet zones include blocks of woodland and edge woodland edge habitat away from the trails. | Upon completion. | Contract 5: Trail Upgrade Works | Already commenced with the revised Forest Management plan agreed with NPWS as well as the trail design package |
| Opening hours | The opening hours of the visitor centre are 8am-8pm from April to September and 9am-5pm from October to March. This will limit the presence of light spill from the visitor centre and outside lighting after dark. For a short period, light spill from the visitor centre will be felt over a small area. However, this will be significantly less after the vegetation matures and during the summer months when the trees are in leaf and artificial lighting is not required as much. | None required. | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 6: Treetop Walkway | Lighting requirements are being incorporated into the design of the scheme. |
| Drainage | The construction and operation of the proposed development will maintain a drainage neutral situation i.e. there will be no increase or decrease in the flow discharge rate from the application site. The drainage design includes a hydrocarbon interceptor and the construction of ponds and swales to attenuate surface water, which will also provide additional wetland habitat. | Upon completion. | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 5: Trail Upgrade Works | These requirements have already been included into the Works Requirements for all contracts. |

| | | | | | |
|----------------|-------------------------|--|-----------------------------------|---|--|
| | Native Planting | The landscaping plan includes the widespread planting of native Irish species of trees and shrubs. The eastern slopes of the Hell Fire Club will be planted before construction work begins so as to enhance the existing habitat and reduce the impacts during construction. The biodiversity value of the woodlands will be low at first but will improve with time as the trees grow and a diverse field layer becomes established. The conversion of the conifer plantations to native woodland will take place after the construction phase and will involve the felling of a maximum of 10% of mature conifers per annum. | Annually during trail maintenance | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | Already commenced. The Eastern slopes of the hellfire club are currently being naturally rewilded as required by NPWS. |
| | Ecological Regeneration | There will be no seeding carried out as part of the proposed development, with the exception of the wildflower meadow in the walled garden. The disturbed habitats, including areas where invasive species have been removed, will be allowed to regenerate naturally with locally occurring native species | None required. | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | No action to be taken. |
| | Perimeter Fencing | Perimeter fencing will allow wildlife such as badger and hedgehog to pass through it. Crossing points will be located a minimum of every 50m along new perimeter fences and will be at least 30cm x 20cm. | During construction works | Contract 5: Trail Upgrade Works | These requirements have already been included into the Works Requirements. |
| | Ongoing Surveys | Inspections will establish the condition/prevalence of each habitat or species on the site. If necessary (caused by deterioration of habitat, reduction of species, increase in the spread of an Invasive Alien Plant Species (IAPS) are identified), management measures will be prescribed by the ecologist. | Ongoing | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | Already commenced. The Project ecologist is undertaking surveys in advance of each contract being issued for tender and undertaking a review of the Works Requirements. |
| 7- Land | | | | | |
| | Construction | | | | |
| | Chemical Storage | Bunded storage units for oil/fuel/hydrocarbons/chemicals are to be provided on impermeable surfaces with a minimum 110% capacity. | Throughout construction periods | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway | These requirements have already been included into the Works Requirements for all contracts. |
| | Refueling | There will be designated refuelling points selected which will be located on hard standing areas with no pathway to the surface water drainage system. | Throughout construction periods | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway | These requirements have already been included into the Works Requirements for all contracts. |
| | Interceptors | Oil interceptors will be provided in order to prevent runoff of pollutants to the soils and sub soils. The use of interceptors will be in compliance with Pollution Prevention Guidelines (PPG) 3. | Throughout construction periods | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 6: Treetop Walkway | These requirements have already been included into the Works Requirements for all contracts. |
| | Vehicle Wash | No detergents will be discharged to interceptors. A designated vehicle wash down area will be identified with consideration to drainage arrangements and will be located away from surface water discharge point. Wash water will be collected and contained for disposal off site. Concrete washout will not be permitted to enter the surface water system. | Throughout construction periods | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | These requirements have already been included into the Works Requirements for all contracts. |
| | Drainage Testing | All new drainage systems will require pressure testing by the contractor and a CCTV survey to discover any possible defects. | None needed | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works | Prior to completion of the works |

| | | | | | |
|-------------------------------|-----------------------|---|---------------------------------|---|--|
| | Excavated Materials | All excavated materials will be assessed for signs of possible contamination such as staining or strong odours. Should any unusual staining or odour be noticed, samples of this soil will be analysed for the presence of possible contaminants in order to ensure that historical pollution of the soil has not occurred at the proposed development site. Should it be determined that any of the soil excavated is contaminated, this will be managed according to best practice and disposed of accordingly by a licensed waste disposal contractor. | Throughout construction periods | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | These requirements have already been included into the Works Requirements for all contracts. |
| | Construction Guidance | Construction operation will be required to take cognisance of the following guidance documents for construction work on, over or near water. CIRIA C532D Control of Water Pollution from Construction Sites Guidance for Consultants and Contractors | Throughout construction periods | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | These requirements have already been included into the Works Requirements for all contracts. |
| Operational | | | | | |
| | Drainage | All new drainage on site will be pressure tested and have a CCTV survey carried out prior to being made operational. All fuel tanks will be required to be double banded and leak detection measures to be put in place to prevent any accidental discharge. A petrol interceptor will be used to capture any pollutants arising from vehicles in the car park | None needed | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works | Prior to completion of the works |
| 8- Water and Hydrology | | | | | |
| Construction | | | | | |
| | Chemical Storage | Bunded storage units for oil/fuel/hydrocarbons/chemicals are to be provided on impermeable surfaces with a minimum 110% capacity. | Throughout construction periods | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway | These requirements have already been included into the Works Requirements for all contracts. |
| | Refueling | There will be designated refuelling points selected which will be located on hard standing areas with no pathway to the surface water drainage system. | Throughout construction periods | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway | These requirements have already been included into the Works Requirements for all contracts. |
| | Interceptors | Oil interceptors will be provided in order to prevent runoff of pollutants to the soils and sub soils. The use of interceptors will be in compliance with Pollution Prevention Guidelines (PPG) 3. | Throughout construction periods | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works | These requirements have already been included into the Works Requirements for all contracts. |
| | Vehicle Wash | No detergents will be discharged to interceptors. A designated vehicle wash down area will be identified with consideration to drainage arrangements and will be located away from surface water discharge point. Wash water will be collected and contained for disposal off site. Concrete washout will not be permitted to enter the surface water system. | Throughout construction periods | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 6: Treetop Walkway | These requirements have already been included into the Works Requirements for all contracts. |
| | Drainage Testing | All new drainage systems will require pressure testing by the contractor and a CCTV survey to discover any possible defects. | None needed | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works | Prior to completion of the works |
| | Surface Water Storage | The surface water drainage system will be developed as part of the works with sufficient storage capacity for any additional runoff. A new surface water drainage system has been designed to cater for the new hardstanding areas additional surface water runoff of 792 cu. m in the 1 in 100 year event. Runoff will be stored on site with an allowable outflow of 2 l/s/ha and to limit the flow into the open stream in the Massy Estate. The existing site has a low permeability and runoff from the non-hardstanding areas currently flows into the stream. | Throughout construction periods | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 5: Trail Upgrade Works | These requirements have already been included into the Works Requirements for all contracts. |
| Operational | | | | | |
| | Drainage | All new drainage on site will be pressure tested and have a CCTV survey carried out prior to being made operational. All fuel tanks will be required to be double banded and leak detection measures to be put in place to prevent any accidental discharge. A petrol interceptor will be used to capture any pollutants arising from vehicles in the car park. | None needed | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works | Prior to completion of the works |

| | | | | | |
|---|---------------------------|---|---|---|--|
| | Discharge Control | A range of mitigation measures have been proposed for the operational phases of the project. These measures, as detailed on the drawings DMVC-ROD-C-DR-XX-ZO-0030-32, seek to ensure that all discharges from the development are controlled to prevent impacts to receiving systems. | None needed | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works | Prior to completion of the works |
| 9- Air Noise and Vibration | | | | | |
| Construction | | | | | |
| | Construction management | Air and noise impacts from the construction works will be mitigated via the following measures to be incorporated in the Works Requirements - Appointment of competent contractor and use of standard construction practices; - Noise and vibration monitoring at key receptors and along neighbouring property boundaries; - The contractor will be required to use off-site parking and provide shuttle service to the site; - Construction will be limited to 07:00- 19:00 Monday to Friday and 08:00- 13:00 on Saturday. No works will be allowed to take place on Sundays and bank holiday weekends which are the busiest times at the Hellfire Club. | Throughout construction periods | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 3: Road Upgrade Works Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | These requirements have already been included into the Works Requirements for all contracts. |
| Operational | | | | | |
| | | None | | | |
| 10- Landscape and Visual | | | | | |
| Construction | | | | | |
| | | None | N/A | N/A | N/A |
| Operational | | | | | |
| | Hell Fire Forest Property | - Planting and development, on Montpelier Hill, of a mixed predominantly broadleaved forest landscape over a 10 year period to enhance landscape capacity, compose a new sustainable landscape, and maximise biodiversity and habitat whilst facilitating access and trails to the new woodland park; - The retention, where feasible, of existing mature broadleaved specimen trees currently within the forest canopy and setting a precedent for the new woodland landscape; - Management of woodland to enhance panoramic views; - Management including removal of woodland / forest to enhance views towards Montpelier Hill including the restoration of the legibility of the Hell Fire Club on the summit in distant views; - Planting to screen site infrastructure and integrate built development; - Use of materials appropriate to location and place; - Sensitive and simple presentation of site heritage and culture – the idea of conserved ruins retaining mystery and romantic character; - Trails and walkways will generally follow existing routes and be surfaced in traditional quarry dust / rolled gravel, or simple grassed / earthen tracks; - Existing uses will be maintained and enhanced. | On an annual basis upon completion of the works | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway Contract 7: Invasive Species Removal | Already Commenced at design stage. Required details have been incorporated into the design requirements and are to be included in the Works Requirements. A revised and updated Forest Management plan has been agreed with NPWS. |
| | Massy's Wood | Existing management of the area as an amenity woodland and habitat will be enhanced and invasive species programmes accelerated to improve habitat further. Existing trails will be improved, and new trails provided to manage access through the site – away from more sensitive ecological features with rest points provided with suitable surfacing and seating. | Ongoing (post project completion) | Contract 5: Trail Upgrade Works | Incorporated into Works Requirements and shall be constructed as per the plans. |
| 11 & 12- Cultural Heritage and Archaeology | | | | | |
| Construction | | | | | |
| | Design | The circular walk, though located close perimeters of the passage tombs (DU025-001001 and DU025-001002) has been designed and set back from the monuments so that it will not directly impact on the underlying archaeology | | Contract 5: Trail Upgrade Works | Incorporated into Works Requirements and shall be constructed as per the plans. |
| | | - Where archaeological features or potential archaeological features are likely to be impacted, a licensed archaeologist shall be appointed to carry out the recommended walkover survey, archaeological monitoring, and subsequent archaeological excavations in fulfilment of the DOCHGs recommendations and subject to ministerial consent and permissions under Section 26 of the National Monuments Act 1930 and Section 14 (2) (a) of the National Monuments Act 2004, particularly in the areas of the proposed car park, visitors centre and where service runs and trails are to be routed before or during the construction phase - All information recovered from advance archaeological investigations (subject to the project's approval) will be incorporated into the exhibition along with information on the archaeology of the wider Dublin Mountains Region and how they fit in to a the regional, national and international context. | Throughout construction stage | Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works Contract 6: Treetop Walkway | Already commenced. SDCC have employed a licensed archaeologist as part of the design team who is reviewing all packages as they are prepared as well as works on the ground. Interpretation Consultant is currently preparing initial proposals for review utilising information gathered to date. |

| | | | | | |
|------------------------------|---------------------|--|---|--|--|
| | Conservation Works | <p>Subject to the necessary permissions and ministerial consent, small areas on the lower ground and first floors of the Hell Fire Club will be investigated to determine their nature. The proposed stone floor is intended to protect any underlying archaeological features that may be found.</p> <ul style="list-style-type: none"> - The instalment of discreet lighting in the Hell Fire Club will not involve the chasing of walls. Where possible, wires will be hidden by the proposed stone flooring. - Most of the other works to the Hell Fire Club and the various structures in Massy's Wood involve closer inspection and repairs. - Where vegetation is being removed it must be done with care so that removal does not cause damage. - The widening of the R115 will result in the realignment of a small part of the boundary wall to Massey's Woods. It is proposed to rebuild the wall, using the same materials, along the newly aligned boundary. This is intended to ensure a retention of character along the Boundary to Massy's Wood. - Although no works are currently proposed for the Gothic Gate lodge in Massy's Woods, the realigned boundary wall will be built very close to the rear wall of the lodge. Measures will therefore be taken to ensure that the lodge is protected from damage during the demolition and construction works. - The lodge is currently hidden by the boundary wall. The proposal will reveal the lodge more fully. - The blocking of the chimney flues in the Hell Fire Club is intended to curb people from climbing up on the roof. It will not prevent it altogether however as it is possible to climb up the building via the lean-to wings. | Throughout construction stage | <p>Contract 3: Road Upgrade Works Contract 4a: Conservation Works to Massey's Woods (this development) Contract 4b: Conservation Works to the Hellfire Club Building</p> | <p>Already commenced.</p> <p>Investigation works to the hellfire building have already been undertaken and overseen by a licenced archaeologist. Reports are currently being prepared to inform the design of the conservation Works.</p> <p>A licenced Conservation architect has designed the works to the structures in Massey's Woods and these formed the basis of the Works Requirements package for that contract.</p> <p>the Works to the boundary wall along the R115 as well as the Gothic Gate lodge protection have been incorporated into the Works Requirements. The widening works have been reduced where possible also.</p> |
| | Roads | Careful road widening, including a small buried retaining wall to accommodate the level difference between the road and the ground level at the Gothic gate lodge (Massey's Wood), will ensure no damage to the building, and the western elevation of the gate lodge will become the boundary at this point, revealed to public view (the lodge is currently hidden from view). | | Contract 3: Road Upgrade Works | <p>Already commenced.</p> <p>The Works to the boundary wall along the R115 as well as the Gothic Gate lodge protection have been incorporated into the Works Requirements. The widening works have been reduced where possible also.</p> |
| | Operational | | | | |
| | | <ul style="list-style-type: none"> - During operation, the circular path on Montpelier Hill will encourage pedestrians to use this route, reducing wear and tear elsewhere on the summit and protecting the two tombs. - The blocking of the chimney flues in the Hell Fire Club during the construction phase is intended to curb people from climbing up on the roof during the operational phase. It will not prevent it altogether however as it is possible to climb up the building via the lean-to wings. | Annually during trail maintenance | <p>Contract 4b: Conservation Works to the Hellfire Club Building Contract 5: Trail Upgrade Works</p> | Annual Trail maintenance to be undertaken |
| 13- Forestry | | | | | |
| | Construction | | | | |
| | None | | N/A | | |
| | Operational | | | | |
| | Forest Activities | Commercial forest activities such as road maintenance, thinning and clear-felling will be planned well in advance and organised during winter months when visitor numbers are lower. Pedestrian diversions will be installed off paths etc. to allow forest activities as normal if necessary. Certain car parks may need to be closed during these operations also. | As works are undertaken | None | This is part of Coillite Standard practice for felling operations under health and Safety regulations |
| | Barriers | For security and health and safety, barriers shall be kept in place to prevent vandalism, dumping, anti-social behaviour, rallying and overnight parking. Car parks shall close during the night. | Following opening of the car park, SDCC will need to monitor operations of the gates. | Contract 2: Car Park Upgrade | Car park design to incorporate barriers than can be opened and closed remotely as well as manually. To be included in Works Requirements for Car Park Upgrades |
| | Tree Shelters | Specific types of trees shelters shall be used instead of deer fencing where areas are being converted from conifer to broadleaf. | To be reviewed on an annual basis as re-wilding takes place. | None | This has been agreed as part of the updated forestry management plan with NPWS. Already underway through rewilding |
| 14- Traffic and Roads | | | | | |
| | Construction | | | | |
| | Car Parking | Management of extended carpark | During car park works and building works. | <p>Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade</p> | <p>Separate car park management plans will need to be produced prior to the car park contract being issued setting out the requirements clearly. In addition, the building contract may also need management of the car park as this access with through this zone. To be reviewed prior to issue of Contracts.</p> |
| | VMS | Installation and use of a Variable Message Sign (VMS) on M50 with live updates on parking at Hell Fire Woods. | During car park works and building works. | <p>Contract 1: Dublin Mountain Visitor Centre Café and Interpretation buildings Contract 2: Car Park Upgrade</p> | <p>It has been agreed that TII are to be notified prior to commencement of construction works. Live website monitoring with email to be arranged to Motorway Operations Control Centre in Dublin Port to allow operators to warn motorists</p> |
| | Operational | | | | |

| | | | | | |
|--|-------------|---|--|--------------------------------|--|
| | Footpaths | - Provision of 1.8 -1.5m width (dependant on road width) footpath on one side of Gunny Hill Road, Stocking Lane and Killakee Road/Old Military Road. Provision of footpaths will also act as a traffic calming measure. | | Contract 3: Road Upgrade Works | Incoporated into designs already and shall be included in the Works Requirements |
| | Cycle Lane | - Provision of an advisory slow-moving uphill cycle lane by the removal of the existing centre line and the addition of a cycle lane marking during road resurfacing - Provision of cycle lane will also act as a traffic calming measure. | | Contract 3: Road Upgrade Works | Incoporated into designs already and shall be included in the Works Requirements |
| | Shuttle Bus | Shuttle Bus (midi-coach) from Tallaght Stadium at 15-30min intervals, thereby minimising the volume of single car users on Stocking Lane and Killakee Road/Old Military Road. | | Contract 3: Road Upgrade Works | SDCC have started converstions with NTA on bus service. To be resolved prior to opening of the new car park and visitor centre |
| | Roads | Proposed one-way systems at notated Pinch Points in EIAR will act as a traffic calming measure. | | Contract 3: Road Upgrade Works | Incoporated into designs already and shall be included in the Works Requirements |

APPENDIX B

SAMPLE CONTACT LIST

Table B-1 Main Contractor Contacts (Example)

| Position Title | Name | Phone Number | Email Address |
|------------------------|------|--------------|---------------|
| Project Manager | | | |
| Site Manager* | | | |
| Environmental Manager* | | | |
| Site Agents | | | |
| Forepersons | | | |
| Safety Officers* | | | |
| Site Emergency Number* | | | |
| Other, as appropriate | | | |

* 24hr contact details are required for persons with this position.

Table B-2 Employer Contacts (Example)

| Organisation | Position Title | Name | Phone Number | Email Address |
|------------------------------------|----------------|------|--------------|---------------|
| Employer's Representative's Office | | | | |
| CEMP Liaison Officer | | | | |
| Other, as appropriate | | | | |
| Other, as appropriate | | | | |

Table B-3 Third-Party Contacts (Example)

| Organisation | Position Title | Name | Phone Number | Email Address |
|-------------------------------------|----------------|------|--------------|---------------|
| South Dublin County Council | | | | |
| Inland Fisheries Ireland | | | | |
| National Parks and Wildlife Service | | | | |
| Environmental Protection Agency | | | | |
| Health and Safety Authority | | | | |
| Emergency Services | | | | |
| Other, as appropriate | | | | |

APPENDIX C

Outline Incident Response Plan



Dublin Mountain Visitor Centre Incident Response Plan



Client:
South Dublin County Council

Dublin Mountain Visitor Centre

Incident Response Plan

TABLE OF CONTENTS

| | |
|---|-----------|
| 1.0 INTRODUCTION | 1 |
| 2.0 OBJECTIVE OF PLAN..... | 2 |
| 3.0 RESPONSIBILITY..... | 3 |
| 4.0 OTHER PLANS | 4 |
| 5.0 RESPONSE PLANNING | 5 |
| 5.1 Incident Response Plan | 5 |
| 5.2 Monitoring..... | 5 |
| 6.0 OUTLINE INCIDENT RESPONSE PLAN..... | 6 |
| 7.0 EXTERNAL CONTACTS..... | 9 |
| 8.0 INTERNAL (CONTRACTORS) CONTACTS..... | 10 |

1.0 INTRODUCTION

This Incident Response Plan (IRP) describes the procedures, lines of authority and processes that will be followed to ensure that incident response efforts are prompt, efficient, and appropriate to particular circumstances. It has been developed to provide the information that each employee may need in order to respond to an emergency and to handle it effectively. The Contractor may update or amend this plan as required subject to approval.

2.0 OBJECTIVE OF PLAN

The primary objective of this document is to:

- Ensure the health and safety of workers and visitors at and in proximity to the site.
- Minimise any impacts to the environment.
- Establish procedures that enable personnel to respond to incidents with an integrated multi-departmental effort and in a manner that minimises the possibility of loss and reduces the potential.

3.0 RESPONSIBILITY

It is the responsibility of the Site Environmental Manager to maintain and update this IRP as required.

This IRP will be reviewed on an ongoing basis and amended, as necessary, when one or more of the following occur:

- Applicable regulations are revised.
- The Plan fails in an emergency.
- The project changes in its design, construction, operation, maintenance, or other circumstance in a way that materially increases the potential for impacts on the environment, workers or visitors to the site; and/or.
- Amendments are required by a regulatory authority.

4.0 OTHER PLANS

In 2019, Health Service Executive (HSE) prepared an Emergency Plan for the Dublin Area Region in accordance with the Government's Major Emergency Management Framework which include counties of Dublin South East, Dún Laoghaire and Wicklow. This plan is available ONLINE at:

<https://www.hse.ie/eng/services/list/3/emergencymanagement/area-mep/hse-emergency-management-area-6-emergency-plan.pdf>

It details the initial contact that should be made in case of an emergency incident as well as those responsible for following up once an emergency event is declared. This plan may be referred to during both the construction and operation phases.

5.0 RESPONSE PLANNING

5.1 Incident Response Plan

The Incident Response Plan will include the following, as appropriate:

- Reference to the Method Statements and Management Plans for other construction activities, insofar as they are relevant for the purposes of mitigating against health and safety and pollution incidents.
- Procedures to be adopted to contain, limit and mitigate any adverse effects, as far as reasonably practicable, in the event of a health and safety or pollution incident.
- Details of spill clean-up companies appropriate to deal with pollution incidents associated with the materials being used or stored on site.
- Procedures to be followed and appropriate information to be provided in the event of any incident, such as a spillage or release of a potentially hazardous material.
- Procedures for notifying appropriate emergency services, authorities, the Employer's Representative and personnel on the construction site.
- Procedures for notifying relevant statutory bodies, environmental regulatory bodies, local authorities and local water and sewer providers of pollution incidents, where required.
- Maps showing the locations, together with address and contact details, of local emergency services facilities such as police stations, fire authorities, medical facilities and other relevant authorities.
- Contact details for the persons responsible on the construction site and within the Contractor's organisation for pollution incident response.

5.2 Monitoring

The Contractor will investigate and provide reports on any health and safety or pollution incidents to the Employer's Representative, including, as appropriate:

- A description of the incident;
- Contributory causes;
- Adverse effects;
- Measures implemented to mitigate adverse effects; and,
- Effectiveness of measures implemented to prevent pollution.

The Contractor will undertake appropriate monitoring of the procedures and measures set out in the management plans for construction activities required to prevent health and safety or pollution incidents to ensure they are being adequately implemented.

The Contractor will monitor the effectiveness of the procedures and measures implemented in the event of an incident and the effectiveness of the response procedures set out in the Incident Response Plan to identify any areas where improvement is required.

6.0 OUTLINE INCIDENT RESPONSE PLAN

Name and address of the Client:

South Dublin County Council
County Hall Tallaght,
Dublin 24,
D24 A3XC

Site Location: Dublin Mountain Visitor Centre, Massey's Woods**Overview of the activities on site:**

The Project site consists of two large hillside woodland areas, the Hell Fire Woods (105 hectares) and Massy's Woods (42 hectares), located 2.5km to the south of Dublin's urban fringe to the west and east of the R115 road respectively.

To the north the site is bounded by the townlands of Oldcourt, Woodtown and Newtown and by the Dublin Mountains, culminating at Kippure (Co. Wicklow) in the south. The Hell Fire Woods are bounded to the west by the R114 and the Ballymorefinn Road and to the east partially by the R116, which runs into the Wicklow Way. This area is the most mountainous in Dublin and is also where the River Dodder rises, feeding into the reservoirs at Bohernabreena and giving rise to the picturesque linear parks along the Dodder Valley.

The site contains a number of protected structures including the Hell Fire Club, passage tombs, wedge tombs, standing stones and Massy's Estate walled gardens and associated ruins.

The Project will consist of:

- Improvements to existing entrance to Hell Fire Woods from the R115, with provision of pedestrian footpaths. The R115 will be a two-way road, 5-6m wide with a 1.5m wide footpath. Some isolated section will be a 3-3.5m single lane road, with traffic calming markings.
- Upgrade works to existing car park to increase parking provision from 80 no. car parking spaces to 275 no. car parking spaces and 5 no. coach parking spaces.
- Replacement of conifer trees around the parking area that is due for felling by sustainable forest planting.
- Construction of visitor centre building at the Hell Fire Woods (Gross floor area: 966 sqm) (Dublin Mountains Visitor Centre), to consist of two buildings side by side, situated parallel to the existing forest road, at a level of approx. 300m above sea level to contain basic facilities for walkers and casual visitors, a seated café for 80 no. people and an interpretation, exhibition and education facility.
- Construction of pedestrian footbridge and 'bridge house' to link Hell Fire Woods to Massy's Woods, crossing over the R115.
- Development of new trails including a circular walkway to the summit of Montpelier Hill, encircling the Hell Fire Club (protected structure) and the neolithic passage tombs. The circular walkway will incorporate information panels for visitor orientation and interpretation.
- General upgrading of existing trails and routes in correspondence with guidelines produced by Irish Trails.
- Conservation works to the Hell Fire Club building, a protected structure. To be conserved as a ruin with minimal intervention, with discreet lighting on the interior of the building as part of a long-term monitoring and management programme.
- Conservation works to Massy's Woods walled gardens, a protected structure. To be conserved as a ruin with minimal intervention through removal of overgrowth currently causing damage to the structure(s).

- Conversion of coniferous forest to northern and eastern slopes of Montpelier Hill into a permanent broadleaved/ mixed woodland landscape. Commercial forestry to the west will be retained.
- Installation of a 150mm diameter sewage pipe running under the R115 which will connect the site to the existing sewer network.
- Construction of a series of small storage ponds / wetlands across the lower areas of Montpelier Hill as part of a sustainable drainage strategy.
- Provision of discreet lighting to the car park area, along the treetop bridge and along the forest road route to the visitor centre building.

Description of the proposed development and surrounding area:

Currently the site has interspersed trails and steep gradients, as seen in the ground profile. This variation in ground profile allows the trails to be at varying difficulties, allowing both inexperienced and experienced hikers to have a variety challenges. Vegetation, such as shrubbery and trees are noted to be located around the site.

A summary of the necessary works are as follows:

- Upgrading of the existing trails.
 - Introduction of swales and culverts, and restoration of existing culverts
 - Resurfacing and refurbishment of paths and bridges.
 - Construction of gabion walls along Glendoo Brook to control trail erosion
 - Replacement of railing between trails and Glendoo Brook
 - Other associated upgrades such as introduction of way-markers, trailheads and informal seating
- Establishment of new trails and tying in with upgraded trails.
- Stopping up of informal paths using local fallen hardwood
- Installation of timber fences, mesh fences, stone walls and hedges as boundary treatment

This IRP is related to the Trails Upgrades only and is not intended to be applied to the other contracts/ elements of the project. As noted above, separate documents will be produced for each Works Contract.

Potential Incidents:

Potential incidents requiring emergency response procedures:

- Fuel and oil spills;
- Extreme rainfall events
- Activities resulting in noise and vibration, air pollution, hazardous substances or impacts on water;
- Waste management; and,
- Discharge of effluent.
- Discharge of chemicals to areas not intended.

The Contractor will update the list of potential incidents based on their proposed construction methods and programme for the Conservation Works to the Walled Garden in Massey's Woods and include, as a minimum, the following:

- The measures to be taken to reduce the risk potential;
- Procedures to be put in place to deal with the risk;
- Person responsible for dealing with incidents;
- Procedures for alerting key staff;
- Standby/rota systems;

| <ul style="list-style-type: none"> Clearly defined roles and responsibilities; Names of staff and contractors trained in incident response; The types and location of emergency response equipment available and appropriate personal protective equipment to be worn; A system of response coordination; Off-site support; and, Particular emergency service or persons to be notified in case of incident. | | |
|--|---------------|---|
| Date and version of the plan: | | Name or position of person responsible for compiling/approving the plan: |
| Review Date: | | Date of next review: |
| <p>Objectives of the IRP: To ensure works are carried out in such a way as to avoid injury, health hazards or pollution incidents, however, should any such incident occur, procedures and measures will be implemented to contain, limit and mitigate the effects as far as reasonably practicable.</p> | | |
| <p>List of external organisations consulted in the preparation of the IRP: TBC by Contractor when preparing IRP</p> | | |
| Distribution of the IRP | | |
| Recipient | No. of copies | Version |
| | | |
| | | |
| | | |

7.0 EXTERNAL CONTACTS

| External Contacts | | |
|-----------------------------------|---------------------|------------------------|
| Contact | Office Hours | Out of Hours |
| Tallaght Fire Station | (01) 222 4000 | (01) 222 4000 |
| Gardaí: Emergency | 999 / 112 | 999 / 112 |
| Gardaí: Tallaght Garda Station | (01) 666 6000 | (01) 666 6000 |
| Tallaght Hospital | (01) 414 2000 | (01) 414 2000 |
| EPA Headquarters, Co. Wexford | (053) 916 0600 | - |
| Waste Management Contractor | TBC | |
| Specialist Advice | TBC | - |
| Specialist Clean up Contractor | TBC | - |
| Inland Fisheries Ireland | (01) 884 2600 | To be agreed with IFI |
| National Parks & Wildlife Service | (01) 888 3200 | To be agreed with NPWS |

8.0 INTERNAL (CONTRACTORS) CONTACTS

| Internal Contacts | | |
|---|--------------|--------------|
| Contact | Office Hours | Out of Hours |
| Names and positions of staff authorised / trained to activate and coordinate the IRP | TBC | |
| Other Staff | TBC | |
| Site Manager | TBC | |
| Health & Safety Manager | TBC | |
| Site Environmental Manager | TBC | |

Construction Stage Safety, Health & Environmental Management Plan

Project Name: *Coillte Massey Wood Trail*

Client: *South Dublin County Council*



Table of Contents

| | | |
|------------|--|-----------|
| 1.0 | Overview | 6 |
| 1.0 | Health and Safety Policy Statement | 6 |
| 1.1 | Project Description and Scope of Works | 6 |
| 1.2 | Location of the Project..... | 7 |
| 1.3 | Project Directory..... | 8 |
| 1.4 | Existing & Surrounding Environment..... | 9 |
| 1.5 | Project Programmes & Works Sequence | 9 |
| 1.6 | Health and Safety Principles for the Project..... | 9 |
| 1.7 | Restrictions Affecting the Project | 10 |
| 1.7.2 | Restrictions on Work Site | 10 |
| 1.7.3 | Working Hours | 11 |
| 1.7.4 | Control of Traffic Management & Access to the Site | 11 |
| 1.7.5 | Liaison with the Client..... | 12 |
| 1.7.6 | Liaison with Contractors..... | 12 |
| 1.8 | Known Existing Services | 12 |
| 1.9 | Drawings..... | 13 |
| 2 | Organisation and Management | 14 |
| 2.1 | Key Management Structure & Responsibilities | 14 |
| 2.2 | Duties of Subcontractors | 14 |
| 2.3 | List of Subcontractors | 15 |
| 2.4 | Pre-commencement of Works Checklist | 15 |
| 2.5 | Informing Subcontractors of Hazards & Risks involved | 16 |
| 2.6 | Dealing with Emergencies..... | 16 |
| 2.6.1 | Emergency Response Procedures | 16 |
| 2.6.2 | First Aid..... | 17 |
| 2.6.3 | Fire Points & Procedures | 17 |
| 2.6.4 | Reporting of Accidents & Dangerous Occurrence | 17 |
| 2.7 | Liaison / Site Auditing / Review of Project..... | 17 |
| 2.7.1 | Liaison..... | 17 |
| 2.7.2 | Site Health & Safety Monitoring | 18 |
| 2.7.3 | Review | 18 |
| 3.0 | Communication and Co-operation | 19 |

| | | |
|------------|--|-----------|
| 3.1 | Client Liaison Meetings | 19 |
| 3.2 | Subcontractor Coordination Meetings | 19 |
| 3.3 | Health and Safety Meetings & Monthly Reporting..... | 20 |
| 3.4 | Site Monitoring | 20 |
| 3.5 | Information / Training on Health and Safety | 21 |
| 3.6 | Toolbox Talks | 21 |
| 3.7 | Display of Statutory Notices | 21 |
| 3.8 | Welfare Arrangements | 21 |
| 3.9 | Site Specific Induction..... | 22 |
| 3.10 | Record Keeping / Statutory Forms..... | 22 |
| 3.10.1 | GA1 Report of Thorough Examination and Testing of Lifting Equipment..... | 22 |
| 3.10.2 | GA2 Report of Weekly Examination - Lifting Equipment | 23 |
| 3.10.3 | GA3 Report of Results of Inspections of: Work Equipment for Work at a Height..... | 23 |
| 3.10.4 | AF3 Thorough Examination of Excavations..... | 24 |
| 3.10.5 | AF4 Results of Inspections & Through Examination of Personal Floatation Devices..... | 25 |
| 3.10.6 | Record Keeping | 25 |
| 3.10.7 | Temporary Works Design Process..... | 25 |
| 4.0 | Environmental Management Plan | 26 |
| 4.1 | Acts and Regulations..... | 26 |
| 4.2 | Project Responsibilities..... | 27 |
| 4.2.1 | Project Manager | 27 |
| 4.2.2 | Site Manager/Site Supervisor | 27 |
| 4.2.3 | Site Environmental Manager | 27 |
| 4.2.4 | All Personnel | 27 |
| 4.3 | Noise Management & Mitigation Measures..... | 27 |
| 4.4 | Control of Substances Hazardous to Health (COSHH)..... | 28 |
| 4.5 | Waste Management | 28 |
| 4.6 | Dust Management | 29 |
| 4.7 | Fuel and Oils Management..... | 30 |
| 4.8 | Concrete Management..... | 31 |
| 4.9 | Surface Water Runoff Management..... | 32 |
| 4.10 | Environmental Emergency Response Planning..... | 33 |
| 4.11 | Site Environmental Training Awareness | 35 |
| 4.12 | Monitoring and Auditing..... | 36 |
| 4.13 | Environmental Accident, Incident and Corrective Actions | 36 |

| | | |
|---|--|-----------|
| 4.14 | Environmental Complaints..... | 37 |
| 4.15 | Calendar for Works..... | 37 |
| 5.0 | Particular Activities with Hazards and Risks to Health and Safety | 38 |
| Appendices | | 55 |
| Appendix 1 – Notification to HSA - AF1..... | | 56 |
| Appendix 2 - AF2 | | 57 |
| Appendix 3 – Site Plan..... | | 58 |
| Appendix 4 – Emergency Response & Preparedness..... | | 59 |
| In The Event of a Medical Emergency | | 59 |
| In The Event of a Fire..... | | 62 |
| Falling into Water..... | | 63 |
| Appendix 5 – Site Rules / Induction Talk Details..... | | 65 |

1.0 Overview

This document is produced to comply with the requirements of the Safety, Health and Welfare at Work (Construction) Regulations 2013, hereafter referred to as the Construction Regulations.

It covers the arrangements for the implementation and compliance with, The Safety, Health & Welfare at Work Act 2005 and The Safety, Health & Welfare at Work (Construction) Regulations 2013 to 2020, and The Safety, Health and Welfare at Work (General Applications) Regulations 2007 to 2020.

This document will be reviewed at regular intervals and will be revised as required to take account of the progress of the work and any significant changes that may occur.

1.0 Health and Safety Policy Statement

It is the policy of Cunningham Civil and Marine Ltd to comply fully with the Safety, Health and Welfare at Work Act 2005.

Consistent with its overall Safety Statement Cunningham Civil and Marine Ltd sets out to provide an environment and conditions which are safe and without risk to health, safety and welfare, to eliminate accidents at and connected with our activities and to maintain and improve the Health, Safety and Welfare of all employees. Our company is committed to fulfilling our statutory obligations to manage and co-ordinate workplace safety and health and ensuring, so as far as is reasonably practicable. Cunningham Civil and Marine Ltd are appointed PSCS on projects from time to time and will comply with all relevant duties listed in the 2013 Construction regulations for such appointment.

The company will ensure continuous improvement in health and safety management, and to ensure so far as is reasonably practicable the safety, health and welfare of all employees, contractors and the general public that could be affected by our operations. We commit to provide such information, training and supervision as may be needed for this purpose, in a form and manner understood by all. Cunningham Civil and Marine Ltd safety statement is a plan to eliminate or minimise the risk of injury and ill-health at our workplace.

In pursuance of this general statement of safety policy, the company will provide and maintain a safe place of work, safe plant and machinery, safe systems of work and competent employees.

We shall carry out a detailed hazard identification exercise, risk assessment and implement control measures as required on all operations. Resources shall be made available as necessary.

1.1 Project Description and Scope of Works

The project includes upgrading the 2300m trail. The scope of the works includes

- Upgrading and construction of paths;
- Installation of featured stone paving;
- Refurbishment of culverts;

Construction Stage Safety, Health & Environmental Plan
Project Name: Coillte Massey Wood Trail

- Cellweb geotextile trail formation;
- Informal seating;
- Estate railings,
- Gabion baskets;
- Military road restoration with swale details;
- Bridge resurfacing;
- Maintenance stone stockpiles

1.2 Location of the Project

The works are located in the Massy's Wood site which is located in the Dublin Mountains area of South Dublin.

The site has a single access point to the forest road and existing visitor's car park adjacent to the forest entrance, which has a capacity of 80 spaces. Mountpelier Hill is used intensively for recreation use by walkers ascending to the Hellfire Club.

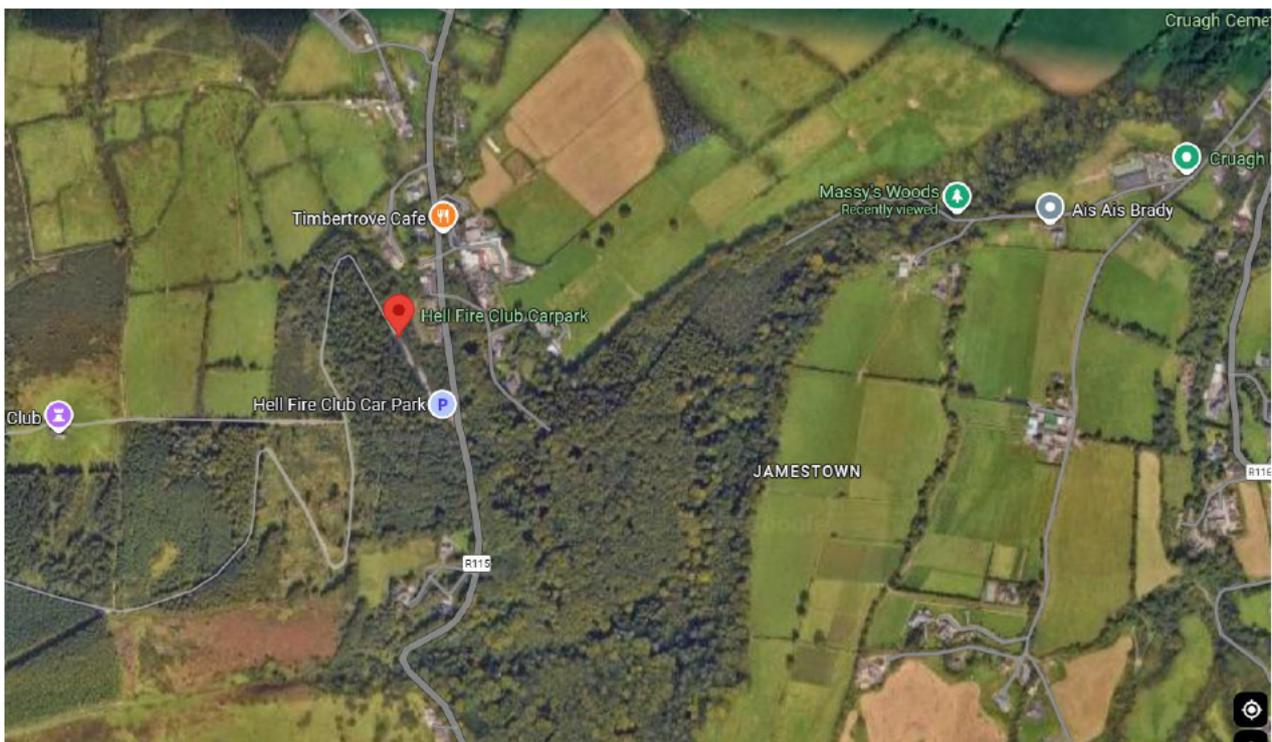


Figure 1: Site Location

1.3 Project Directory

Client – Coillte

Contact: [REDACTED]

Address: 1st Floor, Block B, Marlinstown Office Park, Mullingar, Co Westmeath, Ireland

Number: [REDACTED]

Email: [REDACTED]@coillte.ie

Contract Manager (CCM)

Contact: [REDACTED]

Address: 4 Cedar Hill, Deerpark East, Westport, Co. Mayo

Contact Number: [REDACTED]

Email: [REDACTED]@civilmarine.ie

PSDP/Designer – Roughan & O'Donovan Consulting Engineers

Contact: [REDACTED]

Address: The Chase, Arkle Road, Sandyford, Dublin, D18 Y3X2

Contact Number: [REDACTED]

Email: [REDACTED]@rod.ie

Main Contractor & PSCS – Cunningham Civil and Marine Ltd

Address: Unit 4, Cedar Park, Westport, Co. Mayo

Contact Number: [REDACTED]

Email: info@civilmarine.ie

1.4 Existing & Surrounding Environment

Massy's Woods is covered in broadleaved woodland of beech, oak, ash, fir, larch and spruce. The lands are used extensively for walking and to a lesser extent, cycling and horse riding.

The Massy's Wood site is on the east side of the R115. It slopes gradually in a northeasterly direction as far as the River Cruagh or Glendoo Brook, a tributary of the Owendoher River.

Massy's Wood contains within it a number of cultural heritage features, including a walled garden, gate lodge, icehouse, ruined cottage and numerous bridges, which are designated collectively as a protected structure in the current South Dublin County Council Development Plan.

1.5 Project Programmes & Works Sequence

The proposed construction programme has been issued separate to this document and is ca. 20 weeks

1.6 Health and Safety Principles for the Project

All work on this project will be carried out in accordance with:

- The Safety, Health and Welfare at Work Act, 2005
- The Safety, Health and Welfare at Work (General Application) Regulations 2007 to 2020
- The Safety, Health and Welfare at Work (Construction) Regulations, 2013 and any other associated regulations.

It is intended that the project will be carried out in such a manner to avoid or control all foreseeable Hazards & Risks to the health and safety of those involved in the construction work and third parties who may be affected by such work.

The nine general principles of prevention as laid out in Schedule 3 of the 2005 Act will be adhered to at all times. The General Principles of Prevention are contained in Schedule 3 of the Safety, Health and Welfare at Work Act 2005. They set out a key hierarchy regarding the prevention of accidents and ill-health. In the context of the Construction Regulations 2013, the General Principles of Prevention apply to construction work and its associated preparation. The General Principles of Prevention are set out in descending order of preference as follows:

1. Avoidance of risk.
2. Evaluation of unavoidable risk.
3. Combating of risks at source. If risks cannot be avoided, they should be combated at source as far as is reasonably practicable.
4. Adaptation of work to the individual, especially as regards the design of places of work, the choice of work equipment and the choice of systems of work.

5. Adaptation of the place of work to technical progress.
6. Replacement of dangerous articles/systems with safer ones.
7. Use of an adequate prevention policy (use of new technology, social and human factors, organisation of work etc).
8. Favouring collective protective measures over individual protection.
9. Providing appropriate training and instructions to employees.

1.7 Restrictions Affecting the Project

- Narrow access in and around Massey Wood for plant and vehicles.
- Massey Wood to remain open to the public during construction.
- Dealing with the public
- Restrictions on site parking and storage.
- The entrance and internal road to be kept clear at all times.
- Deliveries carried out at a time that eliminates or reduces the exposure of workers and the public to risk.
- Securing site compound and plant against unauthorised access and vandalism.

1.7.2 Restrictions on Work Site

Cunningham Civil and Marine Ltd shall confine its activities to the work included in the contract. Cunningham Civil and Marine Ltd or sub-contractors' staff are not permitted to smoke in any part of the work site, offices, canteen, drying rooms or toilets at any time.

- * Abusive or insulting language is not to be used on the construction site in any way shape or form. CCM personnel and its subcontract personnel shall be made aware of CCM anti bullying policy at site inductions. Incidence of bullying in the workplace shall be investigated with disciplinary actions being applied where bullying has been identified.
- * Cunningham Civil and Marine Ltd will ensure that no damage is caused to the adjacent public road, internal roads or footpaths due to the delivery of materials, the execution of works, or the removal of rubbish. All vehicles entering or leaving the site carrying loads which constitute a potential dirt or dust nuisance such as aggregate, sand, gravel, soil or the like shall be secured so that no materials shall leave the vehicle.
- * Cunningham Civil and Marnie Ltd will make due allowance for deliveries to areas where there is a high interface with the public, by making sure a Banksman is present at all times to direct traffic. (See traffic management plan and the delivery protocol for all deliveries)
- * Proper road signage/protection etc. will be provided at all times.
- * Noise will be maintained to an absolute minimum. Everything will be done where possible to minimise disruption, disturbance, noise, dust, vibration etc. arising from construction activities.

Construction Stage Safety, Health & Environmental Plan
Project Name: Coillte Massey Wood Trail

Where work is expected to exceed certain noise and disruption levels the times for carrying out such work will be agreed with the Employer's Representative in advance;

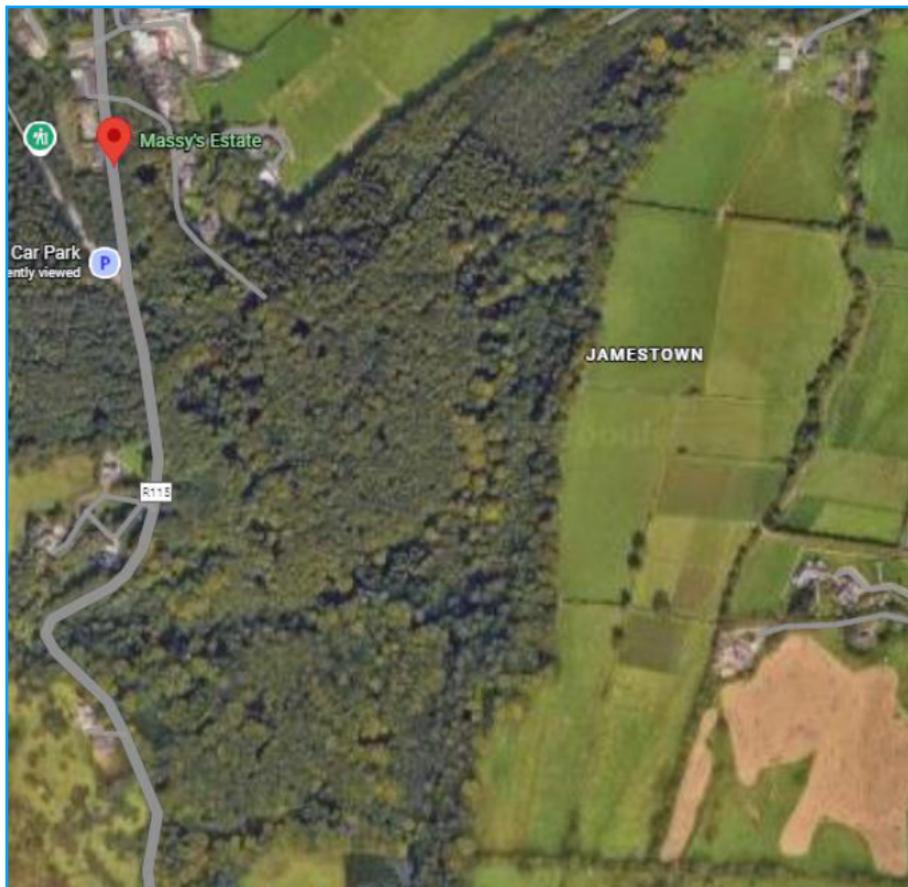
- * Where excessive dust is liable to be created on site by vehicles, construction plant and machinery, dust suppression systems will be used to prevent the rise of nuisance dust.

1.7.3 Working Hours

Hours of operation are proposed to be typically from 07.00 – 19.00 Monday to Friday and 08.00 to 13.00 on Saturday only. Any request to operate outside these hours (such as Sundays and Bank Holidays) must be agreed in advance with South Dublin County Council (SDCC) and cannot be guaranteed. The Contractor is to inform all parties of any restrictions upon working hours requested by SDCC.

1.7.4 Control of Traffic Management & Access to the Site

Vehicular Access to the site is via a single access point to the Killakee Road .



All Traffic Management to be in accordance with "Chapter 8 of the Traffic Signals Manual".

Measures will be put in place for the safe provision of temporary diversion of traffic, buses, cyclists, pedestrians and emergency services.

TMP of site layout, routes and work areas will be send out to all contractors, suppliers and delivery drivers.

Construction Stage Safety, Health & Environmental Plan
Project Name: Coillte Massey Wood Trail

It is the responsibility of the Contractor to ensure that vehicles during delivery, plant or materials do not restrict the free movement of pedestrians on public paths.

1.7.5 Liaison with the Client

Regular meetings will be held on site or via Teams at which all aspects of Health, Safety and Welfare and dealing with restrictions related to the staff and the public shall be discussed.

1.7.6 Liaison with Contractors

Regular Contract meetings will be held on site, (every two weeks and more frequently if required by the Project Supervisor for the Construction Stage or the Client), where affecting safety matters will be discussed. All contractors who are required to attend such meetings shall do so and implement any improvements in Health, Safety or Welfare on site as directed by the Project Supervisor for Construction.

1.8 Known Existing Services

All services are to be treated as live until proven otherwise. All services are to be identified prior to commencement of work. The onus is on the Contractor to consult with all utility owners and to obtain hard copy record drawings for all services in the area prior to commencement of the works. These drawings should always be kept on Site.

It is anticipated that the Contractor will liaise with Telecom Providers, ESB, Gas Companies, Local Authorities and other relevant parties to assist in the location of their respective existing services. The utility providers' guidance documents on assessing and mitigating the risks associated with their respective utilities are available on request from the providers. A copy of these guidance documents is always to be available for reference on-site and the guidance must be followed. It is anticipated that the Contractor will liaise with the utility provider prior to and during the work.

Existing services are to be maintained and protected for the duration of the works. If, for any reason, a service cannot be maintained in operation the outage for that service shall be coordinated with the utility owner. If any services are damaged during the works, the utility service provider shall be contacted immediately.

A CAT scan will be completed prior to any intrusive site investigation works taking place to locate the alignment of any services in the area. If any services are passing through our working area, the relevant service provider will be contacted prior to any excavation taking place

1.9 Drawings

A full set of the contract drawings are available for inspection, electronically from the Project Manager.

Hard copies are available in the site office.

2 Organisation and Management

2.1 Key Management Structure & Responsibilities

Insert Roles and Responsibility of the Project Team

| Role | Contact Name | Contact Details | Email address |
|-------------------------|--------------|-----------------|---------------------------|
| Managing Director | ██████████ | ██████████ | ██████████@civilmarine.ie |
| Project Director | ██████████ | ██████████ | ██████████@civilmarine.ie |
| Project Manager | ██████████ | ██████████ | ██████████@civilmarine.ie |
| Health & Safety Manager | ██████████ | ██████████ | ██████████@civilmarine.ie |
| Project Engineer | ██████████ | ██████████ | ██████████@civilmarine.ie |

2.2 Duties of Subcontractors

The sub-contractors on the project must nominate an individual who will co-ordinate their company health and safety matters and liaise with Cunningham Civil and Marine Ltd site management team on all Health and Safety matters. Biweekly Health & Safety Co-ordination meetings will be held, and Sub-contractors will be expected to attend (Health & Safety Co-ordination Meetings).

Sub-Contractors must comply with any directions given to them by the Project Supervisor for Construction & the Health & Safety Co-Ordinator.

In addition, they must also comply with the provisions of the Safety, Health and Welfare at Work (Construction) Regulations 2013 this Safety and Safety Plan, and in particular the site rules set out herein and must ensure that all their employees have received the appropriate level of health and safety training/information for the work in which they are engaged in.

All sub-contractors must have their own Safety Statement available on site before commencement of work along with any Safety Method Statements & Risk Assessments for any hazardous works.

Detailed duties and responsibilities must be outlined in their Safety Statement.

All Sub-Contractor employees must attend a specific Site Safety Induction course before commencing work on site. These inductions will be carried out by Cunningham Civil and Marine Ltd site management team. Under no circumstances will any person be allowed on site without having been inducted to the project.

It is the Sub-Contractors responsibility to make sure that their own employees are supplied with the appropriate Personal Protective Equipment (Employer’s Duty under the 2005 Act).

2.3 List of Subcontractors

| Trade | Subcontractor Name | Contact | Mobile |
|-------|--------------------|---------|--------|
| TBC | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

2.4 Pre-commencement of Works Checklist

(Delete as applicable)

| | | | |
|----|--|--|--|
| 1. | <i>Is the Construction Health & Safety Plan on Site?</i> | | |
| 2. | <i>Is Cunningham Civil and Marine Ltd Safety Management System on Site?</i> | | |
| 3. | <i>Has Management been issued with Emergency Response Procedures and do they know their responsibilities?</i> | | |
| 4. | <i>Is there adequate First Aid Cover / and ancillary equipment on site?</i> | | |
| 5. | <i>Has the H.S.A been notified, and is the AF2 displayed prominently on site?</i> | | |
| 6. | <i>Has site signage been erected / displayed?</i> | | |

| | | | |
|-----|---|--|--|
| 7. | <i>Have Existing Services been located & appropriate authorities contacted?</i> | | |
| 8. | <i>Are procedures in place for securing the site after each working day?</i> | | |
| 9. | <i>Is there adequate P.P.E on site as per risk assessment requirements?</i> | | |
| 10. | <i>Have traffic & route management procedures been implemented?</i> | | |
| 11. | <i>Is security fencing in place and adequate for the job?</i> | | |
| 12. | <i>Are Welfare Facilities in place and suitable?</i> | | |
| 13. | <i>Are procedures in place for induction, training and monitoring of staff on site?</i> | | |

2.5 Informing Subcontractors of Hazards & Risks involved

Prior to commencement on site all sub-contractor will be informed of the existence of the Health and Safety Plan for this project. This document details the Hazards & Risks involved in this project and the control measures to eliminate/reduce those Hazards & Risks.

In addition, Cunningham Civil and Marine Ltd will meet with the contractor to ensure that he understands the Hazards & Risks associated with the project, and the required measures are incorporated effectively to help reduce/eliminate any identified Hazards & Risks.

Contractors will have to sign a form stating that they will comply with the provisions of this document prior to that Contractor commencing on site. Contractors may, at any time, inspect this document, which shall be kept by the Site Management.

2.6 Dealing with Emergencies

2.6.1 Emergency Response Procedures

Emergency response procedures will be issued to all employees, subcontractors and visitors during the site-induction. Emergency responses included in appendices and RAMS will have specific emergency responses depending on certain activities.

Construction Stage Safety, Health & Environmental Plan
Project Name: Coillte Massey Wood Trail

Cunningham Civil and Marine Ltd will work closely with the management of all sub-contractors and emergency services in the event of any emergency occurring.

2.6.2 First Aid

A First Aid box is always provided on the site. The trained First Aider's on site and are responsible for ensuring that the contents of first aid boxes are replenished as necessary,

The name of the First Aiders and the locations of the first aid boxes will be posted.

2.6.3 Fire Points & Procedures

Fire points will be set up accordingly during the duration of the project. Each Fire Point Station will be composed of a powder fire extinguishers and warning device; emergency procedures will also be located at each station.

2.6.4 Reporting of Accidents & Dangerous Occurrence

All accidents will be reported to the Project Manager and the Site Supervisor who will complete the accident report form with the aid of the HSEQ Manager. Any reportable accidents or dangerous occurrences will be investigated, and a report submitted to the HSA, on forms IR 1 or IR 3 as appropriate, and a copy sent to the Project Supervisor for Construction within one day of the accident.

All details will be recorded in the Accident Report Book.

The Project Supervisor for Construction will be advised of any incidents.

All contractors must report all accidents/incidents to the Site Supervisor and/or Project Engineer. It is important all employees are responsible for reporting any accident they may have as soon as is practicable after the accident.

2.7 Liaison / Site Auditing / Review of Project

2.7.1 Liaison

Sub-Contractors Representatives will meet with Cunningham Civil and Marine Ltd Site Management on a regular basis during the week.

Sub-contractors will advise Cunningham Civil and Marine Ltd Site Management of any deviation from methods of work or materials used and seek approval before proceeding.

2.7.2 Site Health & Safety Monitoring

- The HSEQ Manager will audit the site regularly, and will report in writing any hazards, defects or breaches of legislation observed during the audit directly to the Project Manager. Should any item concern a sub-contractor, then it will be reported to that sub-contractor's Nominated Representative and the appropriate corrective actions must be taken without undue delay. Each phase of the project will be audited individually and marked accordingly.
- In addition, the Project/Site Manager will complete a weekly HSE Checklist and will arrange for site safety meetings to be carried out on site.
- These reports will be discussed at the site safety meetings.
- Any elected Site Safety Representative will be permitted to carry out his or her duties as per the regulations.

2.7.3 Review

A formal review will be undertaken at the end of the project. Any problems identified will be communicated to those involved and any sub-contractors who have not performed satisfactorily will be advised of the corrective action required before tendering for further work.

3.0 Communication and Co-operation

3.1 Client Liaison Meetings

Cunningham Civil and Marine Ltd will meet when necessary, with the contractors and client to ensure that they understand the Hazards & Risks associated with the project. Cunningham Civil and Marine Ltd will effectively incorporate all possible control measures to help reduce /eliminate any identified Hazards & Risks. It is the aim of Cunningham Civil and Marine Ltd to have a good working relationship with the client ensuring that any disruption due to construction activities is minimised. The safety agenda for such meetings is listed below:

- Review of Safety on site.
- Cunningham Civil and Marine Ltd compliance.
- Sub-contractor compliance.
- Incidents & Accidents.
- Required Improvements.
- Accidents & Trends.
- Noise/vibration Monitoring
- Any other business
- Up-coming works and associated Hazardous.
- Risk Assessments.
- Safety Method Statements.
- The minutes of all Client meetings will be maintained and kept on the Cunningham Civil and Marine Cloud Drive.

3.2 Subcontractor Coordination Meetings

It is the policy of Cunningham Civil and Marine Ltd that health and safety will be discussed at all subcontractor coordination meetings.

The safety agenda for such meetings will include: -

Review state of Health & Safety paperwork

- A review of the work completed to date.
- Sub-Contractors Health & Safety Statements
- Statutory Forms.
- Toolbox talks to-date and future requirements based on work activities.
- Inductions.

- Safety Method Statements for any future hazardous jobs.
- Permits to Work (Hot Work's, Confined Spaces, Excavation, etc.)

3.3 Health and Safety Meetings & Monthly Reporting

Specific Site Safety meetings are held on a bi-weekly basis and the nominated person from each Sub-contractor must attend. Cunningham Civil and Marine Ltd shall chair the meeting. The Health and Safety topics may include:

- Previous minutes
- All high-risk activities
- Matters arising from inspections
- Accidents and incidents
- Co-ordination and access issues
- Plant

Training, information, and supervision. Additional meetings are arranged as required on commissioning and on the preparation of the Health & Safety File, respectively.

3.4 Site Monitoring

The PSCS shall carry out formal inspections of the site at regular intervals and shall also ensure the following monitoring procedures are in place.

- The Site Manager carries out a weekly site inspection
- Site Managers, Supervisors and Sub-Contractors shall maintain their work areas daily and address their findings.
- Review of Safety on site.
- Cunningham Civil and Marine Ltd compliance.
- Sub-contractor compliance.
- Incidents & Accidents.
- Required Improvements.
- Accidents & Trends.

Up-coming works and associated Hazardous.

- Risk Assessments.
- Safety Method Statements.

N.B - to expedite the above meetings, can attendees prepare lists of items which they wish to discuss prior to attending.

The minutes of all Health and Safety meetings will be maintained, circulated and filed.

3.5 Information / Training on Health and Safety

Health and Safety information is available from the Safety Co-Ordinator. The following information is also available on site:

- The Safety, Health and Welfare at Work Act 2005
- The Safety, Health and Welfare at Work (General Applications Regulations) 2007
- Approved Codes of Practices
- The Construction Stage Health and Safety Plan for this project.

3.6 Toolbox Talks

Toolbox talks will be held at regular periods (talk topics will depend on the Hazards & Risks identified on site at any given time). Records of all Toolbox talks held on this project will be submitted to the Safety Co-Ordinator for inclusion in the Site Health and Safety File.

3.7 Display of Statutory Notices

The following notices are displayed prominently in the site offices: -

- Emergency Response Procedures Plan
- The Site Rules for the Project
- Name and telephone number of the First Aiders

3.8 Welfare Arrangements

The Welfare Arrangements will comply with the requirements of the Safety Health and Welfare at Work (Construction) Regulations 2013.

All personnel engaged in the work on this project will have the use of the site welfare facilities.

Co-operation will be required from all to maintain these facilities in a clean and hygienic condition.

3.9 Site Specific Induction

All persons engaged on this construction site must attend a site-specific safety induction. Safety inductions will be done via induction sheets and will be backed up regularly by toolbox talks.

Details of the Site-Specific Induction and contents are provided.

3.10 Record Keeping / Statutory Forms

These are available from the H.S.A. There are three, which are particularly relevant to this project.

These are: -

GA1 – Report of Thorough Examination and Testing of Lifting Equipment.

GA2 – Report of Weekly Inspection of Lifting Equipment/ Accessories /Attachments

GA3 – Report of Results of Inspection of: Work Equipment for Work at a Height

AF3 – Thorough Examination of Excavations

AF4 – Results of Inspections & Thorough Examination of Personal Floatation Devices

These forms must be kept and maintained by the Project Team and signed off by the various bodies involved in these activities.

These statutory registers place duties on a person to carry out inspections and record their findings. These duties may be summarised as follows: -

3.10.1 GA1 Report of Thorough Examination and Testing of Lifting Equipment

Reports of Thorough Examinations and Testing are carried by biannual (6 monthly) and annual (12 monthly) depending on the lifting equipment / accessories / attached intended to be used for the works.

The reports must be examined by a competent person at least once in a period specified in column 2 of Parts B or C of that Schedule or as required under the other circumstances described in Part C.

Reference: Schedule 1 of the Safety, Health and Welfare at Work (General Application) Regulations 2007 – Chapter 2 – Use of Work Equipment

Report of Thorough examination of lifting equipment, lifting accessory equipment or other miscellaneous equipment is set out in *Schedule 1 of the Safety, Health and Welfare at Work (General Application) Regulations 2007 – Chapter 2 – Use of Work Equipment*

3.10.2 GA2 Report of Weekly Examination - Lifting Equipment

Lifting equipment used on a construction site is examined weekly by the user as regards features related to its safe working and a record of the results is kept available for inspection. The reports must be signed by competent persons carrying out the inspections or tests (usually signed off by the machine / equipment operator).

This form contains the report of the results of weekly inspection of lifting equipment / accessories / attachments – including safe load indicators.

Any lifting equipment / accessories / attachment must be checked and entered on this form.

Items such as those mention below:

- Cranes
- Telescopic Handler
- (MEWP) Mobile Elevating Work Platforms
- Excavators used as Lifting Devices

Lifting Equipment

- Winches & Hoists
- Wire ropes
- Man riding & man riding working platforms (non-integrated certification)

3.10.3 GA3 Report of Results of Inspections of: Work Equipment for Work at a Height

This report must be signed by a competent person carrying out the inspection.

This form contains the report of the results of inspection of scaffolds and other equipment used for safe working at heights.

Working at Height - Erecting or working on a scaffold

Scaffolds must be inspected as follows: -

- Before being taken into use.
- After any modification, period without use, exposure to bad weather or any other circumstances which may have affected its strength or stability or displaced any part of it.
- At least once every seven days.

All scaffolding including the following must be inspected: -

- System Scaffolding.
- Lightweight System (including Mobile) Scaffolding.

Working at Height – Static line / Safety Running Lines

- Where static / safety running lines are proposed to be used during the works, the PSCS will be informed on the proposed anchorage points.
- Temporary barriers will be needed to control access to areas where fall arrest or fall prevention systems will be utilised for the works.
- Where running safety line systems are relied upon, access to the roof (e.g. during work breaks and at the end of the working day) need to be controlled.
- Safety nets and other collective fall arrest systems will form part of the GA3 form.

Personal Fall Protection Equipment

EN365 states there must be a detailed inspection of Fall Arrest PPE carried out by a Competent Person at least every 12 monthly and for lanyards this recommended to be conducted every 6 months or more frequently.

Similar plant and equipment used to fulfil a similar purpose and from which it is possible to fall a distance that has the potential to cause injury, must be entered in the form. i.e. safety netting

Equipment for performing work at height must be checked prior to use, e.g., through tactile and visual check.

The GA3 Report of Results of Inspections of: Work Equipment for Work at a Height form does not substitute for reports of thorough examination of lifting equipment that may be required under other statutory provisions (see GA1 and GA2).

3.10.4 AF3 Thorough Examination of Excavations

This form contains the report of the results of any examination of excavations, shafts, earthworks, underground works, tunnels, cofferdams or caissons.

The report must be signed by the person carrying out the examination and shall be made on the day of such examination. The report shall be kept on site while work is being carried out.

Excavations, shafts, earthworks, underground works, or tunnels; every part of any excavation, shaft, earthwork, underground works or tunnel where persons are at work must be inspected by a competent person at least once in every day during which persons are at work therein. The face of every tunnel, the working end of every trench more than 2 metres deep and the base and crown of every shaft must be inspected by a competent person at the commencement of every shift.

3.10.5 AF4 Results of Inspections & Through Examination of Personal Flotation Devices

This form contains the report of the results of inspections and thorough examination of Personal Flotation Devices:

- Personal Flotation Devices must be Inspected in accordance with the manufacturer's instructions.
- Personal Flotation Devices must be Thoroughly Examined every 12 months.
- The report must be signed by the person making the Inspection or Thorough Examination.
- The Report shall be kept on site while relevant work is being carried out.
- Where no relevant work is being carried out on the site the report shall be kept at an office of the contractor for whom the inspection was made.

3.10.6 Record Keeping

Will be obtained and filed to fulfil our obligations under the requirements of the 2013 Construction Regulations. Such records will include Solas Safe Pass training and CSCS skills training.

3.10.7 Temporary Works Design Process

- Temporary works may include such items as propping, formwork, trench shoring / supports, non-standard scaffolding, working platforms, gangways and access stairs / ladders, etc.
- Persons who make decisions on site in respect of these are themselves deemed to be designers.
- Before any Temporary Works takes place on site, Integrated Risk Solutions as PSDP on the project must be notified to ensure that: The work of the Temporary Work designers is coordinated throughout the project.
- The Temporary Works taking place do not impinge on the main design provided by the designers.
- The Temporary Works taking place does not affect the stability of the overall structure.

The foreseeable temporary works on this project include:

Cunningham Civil and Marine shall submit to the PSDP for his approval complete details including design calculations and drawings if deemed necessary for all temporary works he may be responsible for the purpose of carrying out the works. Cunningham Civil and Marine shall be responsible for all such design and construction of temporary works.

Where additional temporary works are required as a result of construction methods being adopted the PSDP should be consulted in advance and all designs should be submitted to the PSDP ten days in advance for approval.

- During the construction phase the PSCS is to inform the PSDP of:
- Any unforeseen eventuality resulting in a substantial design change.
- Any proposal to depart from the principles set out in the Preliminary Safety and Health Plan.
- Any change to information for inclusion in the safety file.

4.0 Environmental Management Plan

We are committed to the continuous prevention of pollution and to the continual improvement of environmental management and performance. We are also committed to compliance of all our operations and activities by our clients, employees and local community.

We will achieve this by the implementation of an Environmental Management System which will include the following:

- A. Assessing the environmental sensitivity of processes and the impact of operations on the local, regional and global environments;
- B. Employing best available and economic techniques for the measurement and control of emissions and wastes and for the optimal use of resource; (This will be achieved through continuous improvement measures)
- C. Compliance with all applicable environmental legislation and consents;
- D. Training employees to ensure that they are fully competent to control the activities for which they are responsible;
- E. Working with suppliers, customers and contractors to promote awareness of the importance of environmental issues and the need to work in an environmentally responsible manner
- F. Initiating and supporting educational programmes which will enhance environmental understanding of our company operations;
- G. Making information on our environmental performance publicly available, anticipating and responding to concerns regarding our activities, and encouraging dialogue with interested parties;
- H. Operating in a planned and responsible manner, aiming to prevent pollution through spills and accidental discharges: the company will maintain emergency plans.
- I. Reviewing objectives and target

4.1 Acts and Regulations

Cunningham Civil and Marine shall comply with those set out in The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora i.e. "The Habitats Directive" which include Special Areas of Conservation (SACs), established under the Habitats Directive 92/43/EEC for habitats and species.

Cunningham Civil and Marine must not deposit deleterious material into any watercourse, river or shore. Cunningham Civil and Marine shall not carry out any works within, or allow any material to reach, the mud-bank at the toe of the embankment which form part of a Special Area of Conservation.

4.2 Project Responsibilities

CCM is responsible to ensure all members of their team, including sub-contractors comply with the procedures set out in this CEMP. CCM will ensure that all persons working on site are provided with sufficient training, supervision and instruction.

4.2.1 Project Manager

The Project Manager will liaise with the project team in assigning duties and responsibilities in relation to the CEMP to individual members of the project team. The Project Manager will lead the works on site and have overall responsibility for the implementation of the CEMP.

4.2.2 Site Manager/Site Supervisor

The Site Manager will liaise with the project team and the Project Ecologist in assigning duties and responsibilities in relation to the CEMP. Perform regular environmental site inspections.

4.2.3 Site Environmental Manager

The site Environmental Manager will develop, implement and maintain the CEMP. The Site Environmental Manager will liaise with the project manager in preparing, reviewing and updating plans, and method statements for activities where there is a risk of pollution or effects to the environment. Ensure all relevant works are undertaken in accordance with the relevant legislation in Ireland. Liaise with subcontractors and consultants prior to works. Respond to all environmental incidents, notify the relevant statutory authorities when environmental incidents occur and prepare relevant reports. Carry out regular inspections on the project.

4.2.4 All Personnel

Report any operations and conditions that deviate from the CEMP to the Site Manager. Take an active part in site safety and environmental meetings. Ensuring awareness and complying with project method statements. Attend all environmental training.

4.3 Noise Management & Mitigation Measures

The construction phase of the Project has the potential to increase noise levels at noise sensitive locations surrounding the site. Other potential noise impacts from the construction phase will depend on the number and type of equipment employed during the works.

Control of Noise

- All machinery will be fitted with effective exhaust silencers and shall be maintained in good and efficient working order.
- Machines in intermittent use will be shut down insofar as practicable.

Construction Stage Safety, Health & Environmental Plan
Project Name: Coillte Massey Wood Trail

- All compressors shall be silencer type models.
- All ancillary pneumatic percussive tools will be fitted with mufflers or silencers.
- Pumps & mechanical static plant covers shall have acoustic treatment.
- Plant will be positioned so as to best shield neighbouring dwellings from noise.
- Noise will be considered in the production of RAMS.

4.4 Control of Substances Hazardous to Health (COSHH)

- Machines will be kept in good working order.
- Spill kits will be on site in locations identified in the RAMS.
- A COSHH store is located on site.
- Refuelling will take place away from the water and in a designated area.
- RAMS will include COSHH risk mitigation measures, including substitution where possible.

4.5 Waste Management

All waste on site will be subject to chain of custody documentation.

Waste product storage and disposal at all operations shall be in accordance with all legislative requirements and internal standards. Wherever possible, centralised storage areas should be maintained to minimise the number of waste storage facilities around site. The following requirements will be implemented.

Control of Waste

- Adequate and appropriate waste containment facilities will be provided in all work areas
- Store food and domestic waste in bins with lids fitted which will be removed to the designated disposal sites daily;
- Store waste chemicals and hydrocarbons in labelled and sealed drums within bunded areas and ensure they are taken offsite for disposal at an approved site
- Segregate recyclables (glass, waste paper, scrap metal, cabling, sheets etc.) into bins and either reuse or recycle
- Return pallets and containers used for transport of materials to the supplier - as early as possible; and
- Keep work areas free of litter and maintain a high level of housekeeping at all times

- Waste material such as the excavated concrete will be inspected for Invasive Alien Species material prior to removal from site.
- Burning of waste material, containers, stockpiles and waste, however, temporary, will follow best practice guidelines at all times and be stored at designated areas within the Site.
- Any dust, debris or other waste residues generated during demolition and/or construction works will be collected and removed to prevent ingress to the river/shore

4.6 Dust Management

The main air quality impacts will be associated with dust generation during construction works

The potential for dust to be emitted depends on the type of construction activity being carried out in conjunction with environmental factors including levels of rainfall, wind speeds and wind direction. The potential for impact from dust depends on the distance to potentially sensitive locations and whether the wind can carry the dust to these locations. The majority of any dust produced will be deposited close to the potential source and any impact from dust deposition will typically be within several hundred metres of the construction area.

It is not envisaged that a dust monitoring nor a sampling programme is required for this site. Ongoing good practice measure for the management of dust on-site is to be implemented as set out below. Ongoing visual monitoring of dust by Site Management.

Control of Waste

- Site road and compounds will be regularly cleaned and maintained as appropriate.
- Hard surface roads will be swept to remove mud and aggregate materials from their surface.
- Furthermore, any road that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and/or windy conditions.
- Speeds will be restricted on hard surfaced roads as site management dictates.
- Public roads in the vicinity of the site will be regularly inspected for cleanliness, and cleaned as necessary.
- Loads of materials leaving the Site will be evaluated and covered if considered necessary to minimise potential dust impacts during transportation.
- The transportation contractor shall take all reasonable measures while transporting waste or any other materials likely to cause fugitive losses from a vehicle during transportation to and from site, including but not limited to:
 - Covering of all waste or material with suitably secured tarpaulin / covers to prevent loss;

- Utilisation of enclosed units to prevent loss.
- Dust suppression through use of bowers and cleaners
- Cover seed
- Plan site layout so that machinery and dust causing activities are located away from receptors as far as possible
- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have the potential to produce dust from site as soon as possible.
- Cover seed of fence stockpiles to prevent wind whipping.
- Ensure all vehicles switch off their engines when stationary – no idling vehicles.
- Use enclosed chutes and covered skips.

Upon request the contractor shall,

- Record all dust and air quality complaints, identify causes and take appropriate measures to reduce emissions in a timely manner
- Make a compliant log available, when requested
- Record any exceptional incidents that cause dust or air emissions

4.7 Fuel and Oils Management

Construction machinery and associated equipment will be the principal sources of pollutants such as oil, lubricants, fuel and hydrocarbons. The accidental release of fuel, oil spills or harmful chemicals to the river/shore could result in adverse water quality impacts.

Control of Fuels and Oils

- No servicing or repair of plant, machinery or vehicles should be undertaken on-site and the mechanical soundness of construction machinery will be checked prior to the commencement of construction works.
- Construction pollutants such as oil or fuel will be stored in secure bunded impermeable containers away from drains and open water and inspected regularly for leaks or signs of damage.
- Taps, nozzles or valves associated with construction pollutants must be fitted with a lock system.
- Spill trays to be used under generators.
- The refuelling of plant(s) will be carried out at designated refuelling points or from refuelling bowers, at least 50m from any water course.

- Only designated trained operators should be authorised to refuel plant on-site and emergency spill kits will be present at equipment for all refuelling events.
- Refuelling bowsers will have spill containment equipment which the operators will be fully trained in using.
- Procedures and contingency plans will to be set up to deal with any emergency accidents or spills.
- Fuel storage isolated from any source of ignition or impact.
- An emergency spill kit with oil boom, absorbers etc. is to be kept on-site in the event of an accidental spill

4.8 Concrete Management

There is potential for pollutants to enter the river, negatively impacting on water quality from the use of cementitious material within the footprint of a river increases risk of ingress of uncured grout or mortar.

Control of Concrete

- Concrete should not enter surface-water within the project site as if it reaches the river, it can have a serious effect on water quality and aquatic life.
- A qualified operator will be employed to carry out concrete pouring.
- The use of concrete close to the water and within the footprint of the river, will be carefully monitored in order to avoid spillage.
- Pouring of concrete and the application of protective systems, curing agents etc. will be completed in dry conditions.
- Ensure pour site outside of the river is free of standing water and plastic covers will be ready in case of sudden rainfall event.
- Ensure the dam is securely installed and inspected for leaks prior to cement being poured.
- Ensure the water within the damming area has been pumped out to the settlement pond prior to cement being poured.
- No batching of wet-cement products will occur on-site. Ready-mixed supply of wet concrete products will take place.
- Concrete lorries will be required to wash chutes off-site at their own depots.
- The site entrance will be maintained in good condition for the duration of the works in order to prevent the introduction of sediment from outside the project site via construction vehicle tyres.

- Spill kits available in vulnerable locations and that boom for watercourses are long enough and have adequate anchorage.

The contractor is responsible for:

- All concrete pours and will ensure supervision by suitable personnel;
- Appropriate water pollution prevention measures are put in place and;
- Water sampling is carries out.

4.9 Surface Water Runoff Management

A temporary site compound will be installed comprising a portacabin with canteen and drying facilities and portable toilets. The accidental release of pollutants such as fuels, oils and other such substances to the aquatic environment from runoff from the temporary compound could potentially give rise to negative water quality impacts.

The purpose of this procedure is to describe measures for the management of all surface water and runoff from the temporary site compound.

Control of Surface Water Runoff

- The temporary site compound including designated parking areas will be located at an agreed location with the Client.
- No parking of construction related vehicles will be permitted in proximity to the river, adequate parking facilities for site workers and construction related vehicles will be made available within the site compound. To be agreed with the Client.
- Self-contained portable toilets with an integrated waste holding tank will be used at the site compound, maintained by the appointed contractor, and removed from the Site on completion of the works or when these facilities are no longer required.
- A bunded containment area will be provided within the compound for the storage of fuels, lubricants, oils etc.
- The effluent storage tank to be located within the compound will be emptied when full by vacuum tanker and the contents disposed to a suitably licensed waste facility.

Monitoring

- Controls will be regularly inspected and maintained.

- Weather forecasts will be regularly monitored during the construction phase. The 24 hour advance meteorological forecasting service from Met Eireann will be used.

The contractor is responsible for ensuring the appropriate water pollution prevention methods are put in place.

4.10 Environmental Emergency Response Planning

The purpose of an Emergency Response Plan is to describe measures for the prevention of an environmental accident or incident and the response required to minimise the impact of such an event.

In the event of an environmental emergency, all personnel will react quickly and adhere to this procedure. All site personnel will be inducted in the provisions of the Emergency Response Plan.

The following outlines some of the information, on the types of emergency, which must be communicated to site staff:

- Release of hazardous substance – Fuel and oil spill;
- Concrete spill or release of concrete or silt;
- Flood event – extreme rainfall event;
- Environmental buffers and exclusion zones breach;
- Housekeeping of materials and waste storage areas breach;
- Stop works order due to environmental issue or concern (threat to archaeological or ecological feature); and
- Fire on-site (cross-reference site Safety Emergency Plan as appropriate).

If any of the above situations occur; the Emergency Response Plan is activated. The Contractor is responsible for overseeing the Emergency Response Plan (to be confirmed by the Appointed Contractor(s)) and will be prepared and ready to implement the plan at all times. The HSE Manager will be immediately informed and report to the scene. He/she must be aware of the:

- Nature of the situation – brief description of what has happened;
- Location of the incident;
- Whether any spill has been released; and
- Whether the situation is under control.

Oil Spillage

- The following list outlines issues to be to be appropriate for inclusion the plan: Site staff will report the spillage immediately to the Project Manager. Project manager must refer to the spill plan which is included in the safety folder.
- Where relevant, the HSE Manager will report the spillage to the relevant authorities;
- Where possible, the source of pollution will be identified;
- Switch off all sources of ignition;
- Stop the spillage spreading:
- Use absorbent materials from the spill kit to mop up the spill (sand or absorbent materials should be used rather than detergents);
- Place boom across watercourse or in nearby downstream existing drains as a precaution;
- Do not wash spillage into drainage system. Washing will only make the situation worse and extend the pollution to other water bodies/drainage systems;
- If the spill has already reached drains, block the inlet of the dirty water cross pipes in the nearby drainage outflow points on the roadside drains with oil absorbent booms, which will prevent oils flowing into the existing drains;
- Shovel contaminated sand/earth/absorbent granules into sacks or skips; and
- A specialist oil removal company should remove pooled oil.

Concrete Spillage

The following list outlines issues likely to be appropriate for inclusion in such a plan:

- Site staff will report the concrete spillage immediately to the Project Manager;
- Where relevant, Cunningham Civil and Marine will report the spillage to Inland Fisheries Ireland and the client;
- If there is a risk of concrete spreading into the drainage system, the inlet of the dirty water cross pipes in the nearby drainage outflow points on the roadside drains will be blocked using the absorbent booms, which will prevent concrete flowing into the existing drains;
- Do not wash spillage into drainage system. Washing will only make the situation worse and extend the pollution to other water bodies/drainage systems;
- If the spill has already reached drains, acid may be added to the drains by the Environmental Manager to neutralise the alkalinity of the concrete; and
- Shovel contaminated concrete granules into sacks or skips for treatment in the Roadside Concrete Wash unit.

Location of Emergency Spill Kits

- A map indicating the location of all emergency spill kits will be attached to the Emergency Response Plan document.
- Emergency oil spill kits will also be carried in all site vehicles and machinery and in the site office.

Cunningham Civil and Marine will report the spillage to the Regional Fisheries Board, OPW and other relevant authorities

4.11 Site Environmental Training Awareness

All persons working on Coillte lands must attend an Environmental Impact Awareness course run by the Coillte Environmental Officer prior to commencing any site works.

Site signage will be provided at the entrance of the Site to inform the public that access to construction works area and the temporary compound is restricted to those directly involved in the construction works. Access for traffic and users will be maintained during the construction works.

A site environmental induction and ongoing training will be provided to communicate the main provisions of the CEMP including this EMP to all site personnel. Two-way communication will be encouraged to promote a culture of environmental protection.

The following outlines some of the information which will be communicated to site staff:

- Environmental procedures of the CEMP ;
- Housekeeping of materials and waste storage areas;
- Environmental Emergency Response Plan

Housekeeping and Storage of Hazardous Materials

- Hazardous materials marked with the following symbols will only be stored in a secure storage container in the temporary site construction compounds.
- Sub-contractors will provide a copy of the Material Safety Data Sheets for all hazardous substances brought on-site.

Construction Stage Safety, Health & Environmental Plan
Project Name: Coillte Massey Wood Trail

All finalised CEMP policies will be adhered to, in the management of fuels and oils, concrete, and installation of sediment and erosion controls and drainage features. All finalised details will be communicated with site personnel. Environmental Training including spill kit training, installation of silt fence training is to be provided by the Appointed Contractor(s). Environmental training records will be retained in the site office.

4.12 Monitoring and Auditing

The works will be subject to environmental monitoring and auditing during the construction works.

All mitigation measures, any planning conditions and relevant construction methods will be monitored on-site.

The Contractor will provide Audit Checklists to ensure regular checks of the Site's control measures for the ongoing protection of the environment.

All environmental records, including complete checklists, will be retained at the site office.

4.13 Environmental Accident, Incident and Corrective Actions

All Environmental Accidents, Incident and Corrective Actions will be recorded, investigated and closed-out in a timely manner in accordance with plan.

- Cunningham Civil and Maine site management will be contacted as soon as possible where there is any incident that carries the possibility of negative environmental consequences (e.g. minor oil leakage or blockage of drainage pipe).
- The Emergency Response Plan and standard emergency procedures will be applied to get the incident under control and prevent injury or loss of life in the first instance.
- Work in the area will be halted and the Environmental Manager will be called to the scene to assess the situation and to decide on initial responses and remedial measures.
- Once the situation is under control, the environmental accident or incident will be recorded and the cause investigated.
- Any remedial action required will be taken to mitigate any damage and prevent a reoccurrence.
- Corrective actions will be communicated to personnel and sub-contractors where relevant – particularly where it results to a change in procedure..

4.14 Environmental Complaints

Any environmental complaints received, whether internal or external, will be recorded and investigated. It is recommended that immediate action is taken as relevant to resolve environmental complaints to avoid any nuisance to the local community or any environmental damage.

Includes:

- Recording of any complaints to a Site Log;
- Follow up by the relevant site representative
- Remedial measures where required;
- Ongoing communication with complainant to confirm resolution; and
- Any required training or communication with site personnel and sub-contractors as a result.
- The out of hours contact number for the Site is: To Be Confirmed Prior to Commencement of Works

4.15 Calendar for Works

CALENDAR

| Activity/Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Clearance of Vegetation | Green | Green | Red | Red | Red | Red | Red | Red | Green | Green | Green | Green |
| Disturbance to trees and potential Pine Marten Habitat | Green | Green | Red | Red | Red | Red | Red | Red | Green | Green | Green | Green |
| Removal of Trees with Bat Roost Features | Red | Green | Green | Green | Green | Red |
| In-stream Works in River ¹ | Red | Red | Red | Red | Red | Red | Green | Green | Green | Red | Red | Red |
| Works near ² Badger Setts | Red | Red | Red | Red | Red | Green | Green | Green | Green | Green | Red | Red |
| Works in Marsh Fritillary Sensitive Areas | Green | Red | Red | Green | Green | Green |
| Removal of or otherwise impacts on Amphibian breeding sites | Red | Red | Red | Red | Red | Red | Green | Green | Green | Green | Green | Green |
| Removal of Lizard hibernacula (e.g.) stone walls or log piles ³ | Red | Red | Red | Green | Green | Green | Green | Green | Green | Red | Red | Red |

¹ This to be confirmed with local Inland Fisheries Ireland Environmental Officer as required. IFI may change these dates per watercourse at their discretion.

² Between 30m and 150m of sett

³ Hibernacula removed between Oct and March must be carried out by hand under ecologist supervision

No works to proceed in red.

5.0 Particular Activities with Hazards and Risks to Health and Safety

When assessing the likelihood and severity of risk, the following tables can be used for guidance:

- (A) Determining the probability of the event occurring (refer Table 1)
- (B) Determining the consequences (refer Table 2)

Table 1 – Likelihood (How likely is it that the event will occur?)

| Descriptor | Description | Probability | Frequency |
|----------------|--|-------------|--|
| Rare | The event may occur in exceptional circumstances | 0-5% | Has occurred or can reasonably be considered to occur only a few times in 100 projects |
| Unlikely | The event could occur at some time | 5% - 35% | Has occurred 2 or 3 times over the last 10 projects |
| Possible | The event should occur at some time | 35% - 65% | Has occurred in this organisation more than 3 times in the last 10 projects or is considered to have a reasonable likelihood of occurring in the next few projects |
| Likely | The event will probably occur in most circumstances | 65% - 95% | Has occurred more than 7 times in this organisation over the last 10 projects or circumstances have it such that it is likely to happen in the next few projects |
| Almost Certain | The event is expected to occur in most circumstances | 95-100% | Has occurred 9 or 10 times in the last 10 projects in this organisation or circumstances are in train that will almost certainly cause it to happen |

Table 2 – Consequence (Given the event occurs, what is the likely outcome?)

| Descriptor | Example Description - Health & Safety | Example Description - Environment | Example Description – Financial | Example Description – Property |
|---------------|--|---|--|---|
| Insignificant | No injuries or health issues | Marginal environmental impact (contained on site) which can be resolved by day to day operational procedures | Low financial loss (<€1,000) | Minor damage or vandalism to an asset |
| Minor | Minimal Impact on health, 1 st Aid treatment | Environmental impact is minor, On site release and is reversible, immediately contained, remediation is achieved with application of internal resources, not reportable | Medium financial loss (€1,000 - €10,000) | Minor damage or vandalism to multiple assets |
| Moderate | Reportable injury (up to 3 days absence) | Substantial environmental impact with off site release, rectification is difficult, unauthorised damage or destruction to any state or locally significant relic or heritage item, emission of excessive levels of dust or an offensive odour or noise that may affect neighbours | High Financial loss (€10,000 - €100,000) | Damage, vandalism or loss of multiple assets |
| Major | Extensive injuries (more than 7 days absence), single fatality | Highly significant environmental impact, reportable to regulator release off site with detrimental effect to surrounding environment & community, requires major clean up, fines may apply | Major financial loss (€100,000 - €1,000,000) | Extensive damage, vandalism or loss of major asset(s) |
| Catastrophic | Multiply fatalities | Highly significant environmental impact, reportable to regulator release off site with detrimental effect to surrounding environment & community, requires major clean up, fines may apply | Huge financial loss (>€1,000,000) | Destruction or complete loss of major asset(s) |

When assessing the likelihood and severity of risk, the following table is to be used:

Risk Assessment Matrix

| 0-5 Low Risk | | Severity of the Potential Injury/Damage | | | | |
|----------------------|---------------------|---|---|--|---|--|
| | | Insignificant damage to property, equipment or minor injury | Minor injuries requiring 1 st aid, minor damage to property, minor | Moderate reportable injury (up to 3 days absence) limited damage of property | Major injury (more than 7 days absence), single fatality, critical damage to property | Catastrophic Multiple fatalities, catastrophic loss of property and business |
| 6-10 Moderate Risk | | 1 | 2 | 3 | 4 | 5 |
| 11-15 High Risk | | | | | | |
| 16-25 Extreme | | 1 | 2 | 3 | 4 | 5 |
| Likelihood of Hazard | Almost Certain 5 | 5 | 10 | 15 | 20 | 25 |
| | Likely 4 | 4 | 8 | 12 | 16 | 20 |
| | Possible 3 | 3 | 6 | 9 | 12 | 15 |
| | Unlikely 2 | 2 | 4 | 6 | 8 | 10 |
| | Rare 1 | 1 | 2 | 3 | 4 | 5 |

From the above, the risk can be assessed, and the following table can then be used to determine the risk score/rating:

Risk Rating

| Residual Risk Level Score | Description | Required Action |
|---------------------------|---------------|--|
| 16-25 | Extreme | Immediate elevation to and action by Director(s) is required. Work can commence when an action plan has been created and approved by Director(s) |
| 11-15 | High Risk | Immediate elevation to Senior Management for review. Work can commence when an action plan has been created and approved by Senior Management. |
| 6-10 | Moderate Risk | Task can commence once Project Manager has reviewed the risk and it is not reasonably practicable to reduce the risk further Constant supervision in place. |
| 0-5 | Low Risk | Task can commence under the following actions: A) Implement the risk control measures as documented. B) Monitor and review effectiveness of control measures |

5.1 HAZARDS & RISKS ASSOCIATED WITH SITE SETUP

Risk Identified: Medium

Risk Assessment: Serious Injury or Death caused by contact with site vehicles, back or musculoskeletal injuries caused by poor manual handling techniques.

Control Measures:

1. All works to be carried out to accommodate the safe use of site plant and equipment.
2. Access to the site will be via last entrance to the church via Barrack Hill.
3. All areas to be worked in will be cordoned off to all pedestrians and vehicular traffic until permanent site security fencing/hoarding has been erected.
4. Work to be carried out by trained and competent persons.
5. Warning signs will be erected to direct vehicular traffic away from the works area until setup is completed.
6. Site compound to be established and secured.
7. All personnel will have received manual handling training.
8. Materials to be lifted and moved by mechanical means.
9. A banksman/Spotter will be in use to direct vehicular and pedestrian traffic while the site is being set up.
10. All work areas must be left secure at the end of shift and warning signs erected to warn any and all personnel.
11. A traffic management plan will be prepared and will be adhered to by all personnel using the facility.

5.2 HAZARDS & RISKS ASSOCIATED WITH RISK OF BURIAL / COLLAPSE

Risk Identified: Medium

Risk Assessment:

Serious injury from the gabion baskets collapsing.

Control Measures:

- Design to adopt conventional gabion baskets to simplify construction.
- Baskets built and tied accordingly.
- Area excavated and ground made even for gabion baskets to sit on
- Temporary works design must be specific to the particular task taking into account constraints, locations, access etc. The PSCS is to coordinate and plan all temporary and permanent works requirements.

- Safe access to all work areas to be provided.
- Protection to the public passing adjacent and close to the site.

5.3 HAZARDS & RISKS ASSOCIATED WITH OVERHEAD & UNDERGROUND SERVICES

Risk Identified: High

Risk Assessment:

Death or serious injuries will occur if contact is made with live overhead or underground electric cables. Fire, explosion, electrocution, burns and internal organ damage can also occur from contact with live overhead or underground cables. Also, explosions and fire can be caused by the rupturing of underground gas lines.

Control Measures:

1. Site management to liaise with Asset Owners and South Dublin County Council to locate any possible underground electrical cables prior to any excavations taking place. Liaison with Bord Gas will also be necessary in regard to underground gas lines and with Eircom in regard to the location of telecommunication services and broadband lines.
2. Safety Files, record drawings of construction and plans to be consulted before excavations are opened.
3. Mini pillars, car park lighting, streets lights or any other indicators are to be considered before any excavating takes place.
4. Excavating machines will not be used within a half meter of exposed cables.
5. Physical barriers and signage installed when working near overheads services.
6. Spotter in place when working around overhead cables.
7. When underground cables are exposed, they will be supported and protected to prevent damage to insulation.
8. Exposed electric cables in excavations must not be used as a hand or a foot hold for climbing into or out of the excavation.
9. If in doubt, consult with South Dublin County Council, ESB, Bord Gais and or Eircom.

5.4 HAZARDS & RISKS ASSOCIATED WITH WORKING ON OR NEAR WATER

HAZARD: WORKING IN, ON OR NEAR WATER

Risk Identified: High

Risk Assessment:

- There is a risk of personnel drowning as works will be carried out near a river flowing through the woods.
- In the case of 'Person in Water' scenario, the rescue plan will be put into action immediately.

Control Measures:

1. Rescue equipment shall be provided and kept in efficient state ready for use.
2. Ensure appropriate edge protection is in place around any water bodies. If this is not possible ensure a safe distance is maintained. A safety boat may be required. A specific risk assessment must be completed.
3. The Contractor shall develop and submit emergency procedures which include access and escape routes with particular emphasis on other areas of the site at risk of fast rising flood waters.
4. Emergency plan to be drawn and include procedure for recovery from the water, safety drills to be carried out periodically and include recovery of personnel from the water.
5. All personnel must be familiar with the rescue plan.
6. Personal flotation devices to be used accordingly. The area should be checked for water safety devices prior to work and if no devices are provided; must ensure they have their own water safety devices present.
7. All PFD's must be checked weekly on AF4 and have a valid 12 monthly thorough examination.
8. Each lifejacket is subject to a weekly visual inspection which should be signed off on a PFD inspection sheet.
9. Ensure no lone work is conducted next to waterways and two-way communication is in place where necessary.
10. Ensure appropriate PPE is worn i.e. nonslip footwear, gloves to protect from water borne bacteria etc and goggles to avoid eye injury/contamination.
11. Safe Method Statement/JSSP/SSWP to be conducted before works and no work to be conducted unless safe to do so.
12. Only trained and or competent personnel to operate plant and equipment adjacent to water.
13. Works only to be completed in appropriate weather.
14. Suitable rescue equipment is in place, readily available and kept in good condition.

5.5 HAZARDS & RISKS ASSOCIATED WITH WORKING AT HEIGHT

Hazards:

Working from MEWP's

Working on Scaffolds/Mobile Scaffold Towers

Use of scaffolds

Band Stand Trestles

Full body safety harness

Collective protective fall arrest systems.

All work at heights from where a person can fall and cause injury must be carried out in accordance with Part 4 (Work at Heights) of the Safety, Health and Welfare at Work. (General Applications) Regulations 2007 to 2016

All work at heights where there is a risk of falling will require the use of collective protective fall protection or fall arrest systems; e.g. Working Platforms, Safety Nets, Safety Harness or any other approved method of fall arrest.

Risk Identified: High

Risk Assessment:

Death or serious injury can be caused by falling from height or by materials falling from height.

Control Measures:

1. Thorough risk assessment of every location to select best method of work. e.g. work platform, scaffold, tower, MEWP, etc.
2. Best and most suitable equipment always purchased or hired.
3. PPE provided, including harnesses where necessary.
4. Only fully trained craftsmen allowed to work at height (roofers etc.)
5. Safest method of access to height must always be used.
6. Stairways and walkways kept clear.
7. No makeshift trestles allowed on site.
8. Trestles above 1.2m must be supplied with handrails, mid rails and safe ladder access.
9. Use of mobile scaffolding towers or podium steps instead of "A" frame ladders, as work from "A" frame ladders or any ladder is not permitted on any Cunningham Civil and Marine Ltd Construction site.
10. All alloy towers must be erected by competent and fully trained staff.
11. CSCS skill cards required for the erection and dismantling of scaffold and mobile scaffolding towers.

12. Scaffold design for bespoke scaffolding.
13. Safety harnesses provided for staff and worn where necessary where other collective fall protective measures cannot be put in place.
14. Only trained persons to operate MEWP's.
15. Use of MEWP's with outriggers where possible.
16. Harnesses must be worn in MEWPs' and Boom Lifts at all times
17. All ladders to conform to proper standards (i.e. class 1 industrial EN131)
18. S.W.L. signs on loading bays.
19. Personnel reminded to exercise extreme care on roofs and always tie off for safety especially near edges.
20. Edge protection to be in place at all leading edges, with top rail, mid rails and toe boards where necessary.
21. All operatives to put aside and report immediately report defective equipment.
22. Scaffolds to be erected to the level of the eaves for all roof-work.
23. **Defective ladders immediately removed from workplaces and destroyed to prevent any further use.**

5.6 HAZARDS & RISKS ASSOCIATED WITH WORKING PUBLIC ACCESSIBILITY TO ANY PART OF THE SITE

Hazard: Public Accessibility

Risk Identified: High

Risk Assessment:

Risk of serious personal injury or death. Slips, trips, falls – over goods, materials, rough terrain, into excavations, heights. Electrocution. Theft.

Control Measures:

1. Warning signs to be posted to highlight the dangers involved.
2. All access points to be closed / barricaded to prevent access to unauthorised persons.
3. Entrance to be fully secured each evening / end of each work shift.
4. Only authorised personnel allowed on site, signs to be posted.
5. Responsible person to check site boundaries on a regular basis.
6. Ladders and other loose equipment to be removed outside of working hours.
7. Pedestrian traffic must be secured and kept separate from the works.
8. **Any unauthorised member of the public found on site is to be escorted from the site immediately.**

9. DO NOT PERMIT ANY UNAUTHORIZED PERSONS ONTO THE SITE OR CLOSE TO ANY WORKPLACE ENTRANCE.

5.7 HAZARDS & RISKS ASSOCIATED WITH HOT WORKS

Hazards: *Fire Outbreak*
 Burns
 Eye Injury
 Asphyxiation
 Explosion

Risk Identified: High

Risk Assessment:

The following are defined as 'Hot Work' –

- Metal Cutting by Disc (angle grinders etc.)
- Gas flame work (Oxy-acetylene work, blow lamps, gas burners of any type).
- Electric arc welding.
- Operations involving molten liquids (bitumen boilers).
- Any other device, which poses a fire risk.

The Hazards & Risks arising from 'HOT WORK' shall be controlled as follows; -

– All areas of the site require a Hot Work Permit.

Details of Hot Work Permit System

1. All hot works carried out require Hot Work Permits.
2. Hot Work Permits must be signed of by the site management prior to any and all hot works.
3. Hot Work permits place obligations in terms of responsibility on the persons named on them and to whom they are granted.

The obligations are as follows: -

- That person carrying out the particular work is trained and competent.
- That the Fire Watcher is trained, competent and has the correct equipment.
- That the precautionary conditions detailed in the permit have been met prior to the start of the Hot Works.
- That the precautionary checks will be carried out as detailed when the Hot Works are complete.

The Project Manager or person(s) nominated by him must satisfy himself that all reasonable precautions have been taken before granting any such Hot Work Permits.

3. Conditions of Hot Work Permits are detailed on the permit.

4. Failure to comply with Hot Work Permit conditions will lead to the permit been withdrawn and personnel who are in breach of the permit will be removed from site. The permits will only be re-instated if the contractor can show total commitment to the Fire Safety Requirements and the proper operation of the Hot Work Permit System.
5. Before starting Hot Works, the area(s) must be examined and cleared of any combustible material.
6. Safety Equipment must be available before Hot Works commences including a fire hose reel (where practicable) attached fire extinguishers to bottle trolleys and or mobile extinguishers and fire blanket.
7. Personnel involved in Hot Work activities must be trained in the Site Safety Procedures, safety systems and plant and equipment.
8. A trained person must always be on stand-by during Hot Works and know the locations of all fire points and telephones.
9. The Hot Work areas and all adjacent areas to which sparks, and heat may have spread must be thoroughly inspected on completion of the operation, and sixty minutes later to ensure that there are no smoldering fires present.

5.8 HAZARDS & RISKS ASSOCIATED WITH MOVEMENTS OF PLANT/ MACHINERY/OR SITE TRAFFIC

Hazards:

- Incorrect use.
- Speeding
- Poor Maintenance
- Reversing Unsupervised
- Overloading or insecure loads
- Interface with public

Risk Identified: High

Risk Assessment:

Risk of death or serious injury if personnel make contact with moving site plant and equipment. Injury caused by falls of materials from overloaded trucks.

Control Measures:

1. All plant operators must be at least 18 yrs of age trained, competent, authorised and in possession of current Solas Approved, or equivalent Construction Skills certification cards
2. Only plant and machinery necessary for the project will be permitted on the site.
3. Plant, vehicles and machinery must not park on access roads or obstruct emergency exits, fire hydrants, or other exits.

Construction Stage Safety, Health & Environmental Plan

Project Name: Coillte Massey Wood Trail

4. Plant and machinery must be inspected daily by their operators for defects. All vehicles will be kept in a good state of repair according to the manufacturer's specifications.
5. Banksmen/Spotter will be used during all reversing operations including all public interface areas outside of the site.
6. Reversing horns and rotating lights are mandatory on all construction plant operating on site and all indicators lights etc. must be in full working order. All site plant and equipment will comply with the requirements of the Safety, Health and Welfare at Work (Construction) Regulations 2013.
7. Plant & Machinery must not be overloaded and that loads are tied down securely. The driver is responsible for ensuring that the vehicle is safe for transit after loading. All loads must be properly covered using netting to keep load intact before leaving site.
8. All banksmen, traffic controllers and security personnel directly involved in the contract will wear orange hi-visibility vests.
9. Site and public traffic will be controlled under a site-specific traffic management plan.
10. No use of mobile phones while operating plant.

5.9 HAZARDS & RISKS ASSOCIATED WITH HOUSEKEEPING AND CONTROL OF DUST & SILICA DUST

Hazards: *Rubbish, Materials, Equipment, Excessive Dust and silica Dust*

Risk Identified: *High*

Risk Assessment:

Injuries caused by Slips, Trips and Falls. Respiratory problems caused by the continuous inhalation of dust. Outbreak of fire and pollution of the air.

Control Measures:

1. The control of Materials, Rubble and Dust is of paramount importance for orderly and safe progressing of works.
2. The contractor appointed is responsible for cleaning up in accumulated waste and materials in all the work areas.
3. Skips and bins will be provided by Cunningham Civil and Marine Ltd where necessary and rubble, waste etc. associated with each Sub-Contractors work will be placed in skips and not allowed to form a hazard or accumulate in any work areas. Companies taking skips off site will ensure loads are secure by using appropriate netting.

4. Silica Dust must be controlled, and all measures will be incorporated so as not to present a Health Hazard to construction employees or to the site staff and the public. Water sprays must be used on all concrete cutting or breaking equipment. Dust suppressant systems must be used on site roadways or areas of the site which have the potential to create dust when equipment and site plant is in use.
5. Windblown debris must be disposed of or securely tied down.
6. Appropriate PPE must be worn when dealing with rubbish or when working in dust environments. Always check your mask and ensure it is marked as FFP3 or P3. All masks to be worn correctly.
7. Cutting equipment such as concrete saws will have water feed lines to minimise dust.
8. Water sprays will be used on road sweepers to prevent the creation of excessive dust.
9. Dust capture equipment must be used on all equipment used for grinding etc.

5.10 HAZARDS & RISKS ASSOCIATED WITH HAZARDOUS SUBSTANCES

Hazards: *Various chemicals which will be used on site.*

Risks Identified: *Medium*

Risk Assessment: From External Contact – Dermatitis Burns
From Inhalation – Poisoning, Asphyxia, Death
From Ingestion – Poisoning, Internal injuries, Cancers.

Substances can be classified as toxic, harmful, irritant, corrosive, biological, highly flammable or a combination.

Control Measures:

1. Obtain details of all substances in the proposed works and existing area that are known to be health hazards and arrange analysis where required.
2. Consider all alternatives.
3. Ensure that the relevant manufacturer's data is available and up to date. Material Safety Data Sheets should accompany all hazardous substances that may arrive on the works.
4. Obtain information on site emergency services and procedures.

5. Ensure that before any works commence operatives know the correct and safe use of substances, have been issued with the correct PPE and are wearing it.
6. Check that all substances are stored correctly and securely and are issued only to those instructed in their use.
7. Ensure work areas are ventilated well-lit and protected from other workers.
8. Ensure hygiene measures are adequate and working correctly.
9. Ensure members of the public are adequately protected.
10. Make sure disposal methods for empty containers are correct and that toxic substances are not being placed in general purpose skips.
11. Adhere rigidly to the instructions on the Material Safety Data Sheet for the product.

5.11 HAZARDS & RISKS ASSOCIATED WITH NOISE & VIBRATION

Hazards: Noise & Vibration

Risk Identified: Medium

Risk Assessment: Exposure to excessive noise will cause noise Induced Hearing Loss and Tinnitus. Exposure to excessive vibration will cause hand arm vibration syndrome or whole-body vibration syndrome. Exposure to high levels of noise, either continuously or as a sudden loud 'bang' from cartridge-operated tool, can cause incurable deafness, often accompanied by a ringing in the ears (tinnitus). Noise will also make communication difficult and may increase the likelihood of an accident. Over exposure to excessive vibration levels may result in Whole Body Vibration effects.

Control Measures:

1. Employees will wear ear protection if they have to work in noisy surroundings or if they are operating noisy pieces of plant and machinery.
2. Equipment will be selected with low level noise and vibration intensities.
3. Ear protection must be provided for use when noise levels exceed 80dBA and ear protection must be worn when noise levels exceed 85dBA.
4. Do not keep noisy equipment/plant running unnecessarily.
5. Make sure plant and equipment that arrives on site is fully serviceable and that they are fitted with silencers, mufflers etc. and are sound insulated.
6. Supplies of ear defenders / earplugs will be readily available on site.
7. Cunningham Civil and Marine Ltd site management will liaise with the client where necessary in regard to any issues including excessive noise and vibration.

8. All handheld mechanical equipment which causes vibration will not be used for long periods and all of this equipment has been fitted with anti-vibration handles.
9. Mobile equipment in use has been fitted with anti-vibration seats.

5.12 HAZARDS & RISKS ASSOCIATED WITH CERTAIN DISEASES

Hazard: Weil's Disease (Leptospirosis)

Risk Identified: High

Risk Assessment:

There is a risk of severe illness or death occurring if any person develops Weil's Disease or Leptospirosis. The bacteria that cause this disease is found in the urine of rats and other small animals and enters the body through cuts, wounds, sores and when taking food, drinks or when smoking.

Control Measures:

1. The key to the avoidance of this disease is to ensure good hygiene practices.
2. When working in excavations or other types of groundwork, ensure the use of suitable gloves.
3. To ensure the avoidance of the disease good personal hygiene practices must be adhered to.
4. Wash hands thoroughly and dry them before taking any food, smoking or taking drinks.
5. Cover all cuts and broken areas of skin with waterproof dressings before starting work.
6. Do not place cigarettes or cigars on the ground and then place them in your mouth as this may cause the bacteria to enter the body.
7. Report any unusual symptoms of sickness to a doctor and site management without delay as any delay in treatment may mean death.

5.13 HAZARDS & RISKS ASSOCIATED WITH LIFTING GEAR

HAZARD: LIFTING OF MATERIALS

Risk Identified: High

Risk Assessment:

Risk of severe injury or death from falling objects

- Failure of lifting gear or appliance
- Dropping loads
- Incorrect slinging
- Collapse of the pulley /tripod
- Falls from height
- Serious Injury
- Fatality

Control Measures:

1. Use the right lifting for the activity.
2. Ensure Accessories are in good condition before use and check SWL'S.
3. Check the safe working load marked on the accessories.
4. Do not stand under loads; ensure slings are properly adjusted to the load.
5. Make sure that the metal rope is not kinked or twisted. Chains and slings must never be shortened by knotting it.
6. Use approved hand signals.
7. All lifting gear must be tested as per the General Application Regulations
8. Ensure thorough examination GA1 and weekly visual checks GA2 are completed are and in date
9. Ensure appropriate PPE is worn
10. All operatives attaching lifting gear, slinging loads and signalling must be competent and have CSCS Slinger/Signaller training. Ensure training is valid.

5.14 HAZARDS ASSOCIATED WITH SLIPS TRIPS AND FALLS

HAZARD: SLIPS TRIPS AND FALLS WHICH MAY CAUSE INJURIES / MSD'S (MUSCULOSKELETAL DISORDERS)

Risk Identified: High

Risk Assessment:

- Uneven surfaces
- Working at height .
- Heavy public foot traffic in work location.

Control Measures:

1. Strict housekeeping measures in place to ensure there are no trip hazards on site.
2. Pedestrian and vehicular traffic management plan in place and strictly adhered to.
3. Public access routes must be maintained and kept free of trip hazards for the duration of the work.

5.15 HAZARDS ASSOCIATED WITH ADVERSE WEATHER CONDITIONS

HAZARD: ADVERSE WEATHER CONDITIONS

Risk Identified: Medium

Risk Assessment:

- High Winds
- Lightening
- Slippery Conditions
- Site floods causing damage to plant/equipment
- Materials harmful to the environment leech into the waterways.

Construction Stage Safety, Health & Environmental Plan

Project Name: Coillte Massey Wood Trail

- Floodinfo.ie provides map information indicating likely hood of flooding on the site and indicates a 10% Annual Exceedance Probability (AEP) Fluvial Flood Extent (1 in 10 chance in any given year).
- The risk cannot be avoided due to the nature of the proposed works

Control Measures:

1. Plant, equipment, work pieces and consumables are to be secured to prevent wind movement.
2. The security of the site, equipment, work pieces and consumables must be ensured prior to closing the site at the end of the workday and at the weekend.
3. The site is to be assessed for slippery conditions.
4. The site will be kept tidy at all times.
5. When installation or removal tasks are being undertaken the work pieces must be controlled. to ensure that control of them is not lost.
6. Shelter to be provided in extreme weather conditions and change of clothes.
7. Rules of the road to be obeyed.
8. Weather monitored daily.

Safety Method Statements & Risk Assessments will be required from all sub-contractors for any and all work they intend to carry out which may be hazardous and at the discretion of Cunningham Civil and Marine Ltd. All Safety Method Statements & Risk Assessments must be presented to site management at least two weeks in advance of the work starting for inspection and approval or otherwise. All RAMS must be signed off by the operatives and sub-contractor management.

All site operatives must have current Safe Pass cards, CSCS Cards where necessary, Manual Handling Training Certificates, Abrasive Wheel Training and any other training certificates as required.

Appendices

Appendix 1 – Notification to HSA - AF1



An tÚdarás Sláinte agus Sábháilteachta
 Health and Safety Authority

Safety, Health and Welfare at Work (Construction) Regulations
 2013

Approved Form (AF 1)

Regulation 10

Particulars to be notified by the Client to the Health and Safety
 Authority before the design process begins

NOTE:

This form is to be used to notify of any project covered by the Safety, Health and Welfare (Construction) Regulations 2013, which will last longer than 30 days or 500 person days. It can also be used to provide changes in appointments since initial notification of projects.

Any day on which construction work is carried out (including holidays and weekends) should be counted, even if the work on that day is of short duration. A person day is one individual, including supervisors and specialists, carrying out construction work of one normal working shift.

1 Client: Provide name, full address, telephone number and e-mail address for the Client. If more than one Client, please attach details of all Clients on a separate sheet.

Name: South Dublin County Council
 Address: County Hall
 Belgard Square North
 Tallaght
 DUBLIN
 Telephone: 014149000 E-Mail: info@sdblincoco.ie

2 Project Supervisor Design Process and Health & Safety Coordinator: Provide name, full address, telephone number and e-mail address for the PSDP and Health & Safety Coordinator for the Design Process.

PSDP Name: Roughan & O'Donovan Consulting Engineers H&S C. Name:
 Address: Arena House Address:
 Arena Road
 Sandyford
 DUBLIN
 Telephone: 012940800 Telephone:
 E-Mail: info@rod.ie E-Mail:

3 Project Supervisor Construction Stage and Health & Safety Coordinator, if know : Provide name, full address, telephone number and e-mail address for the PSCS and Health & Safety Coordinator for the Construction Stage.

PSCS Name: H&S C. Name:
 Address: Address:
 Telephone: Telephone:
 E-Mail: E-Mail:

4 Information on Construction Work: Please provide your details of the following.

Description of Project: Development of upgraded car park, visitor centre, walking trails and upgraded roads
 Exact Address: Dublin Mountain Visitor Centre
 of Construction Site: Old Military Road
 Jamestown
 DUBLIN

Signed: _____ by or on behalf of the Client

Position: _____ Date: _____

Appendix 4 – Emergency Response & Preparedness

In The Event of a Medical Emergency

| Key Personnel/Emergency Response Team (ERT) | Contact Number | Responsibilities |
|--|---|--|
| <p>Emergency Response Team Leader/ Project Manager: [REDACTED]</p> | <p>[REDACTED]</p> | <p>Assess the situation and determine the First Aid and emergency resources required.</p> <p>Dispatch First Aid to assess and treat injured persons</p> <p>If outside assistance is required, delegate a contact for emergency services and have them call 999/112</p> <p>Manage Incident operations</p> <p>Ensure the safety of all personnel</p> <p>Maintain a log of all activities</p> |
| <p>First Aid Representative: [REDACTED] [REDACTED] [REDACTED]</p> | <p>[REDACTED] [REDACTED] [REDACTED]</p> | <p>Assess the situation</p> <p>Protect yourself, patient and others from harm</p> <p>Assess the injured person</p> <p>Provide first aid as required.</p> |
| <p>Site Supervisor [REDACTED] [REDACTED]</p> | <p>[REDACTED] [REDACTED]</p> | <p>Immediately identify and stop site work activities</p> <p>Assess the incident and determine if evacuation of the site is required</p> <p>Announce requirement to Evacuate by Radio Broadcast on UHF Radio Chanel “Emergency, Emergency, Emergency” move to emergency assembly point.</p> <p>Assess the safety and wellbeing of all workers and arrange for first aid for all injured worker(s).</p> |

Construction Stage Safety, Health & Environmental Plan
Project Name: Coillte Massey Wood Trail

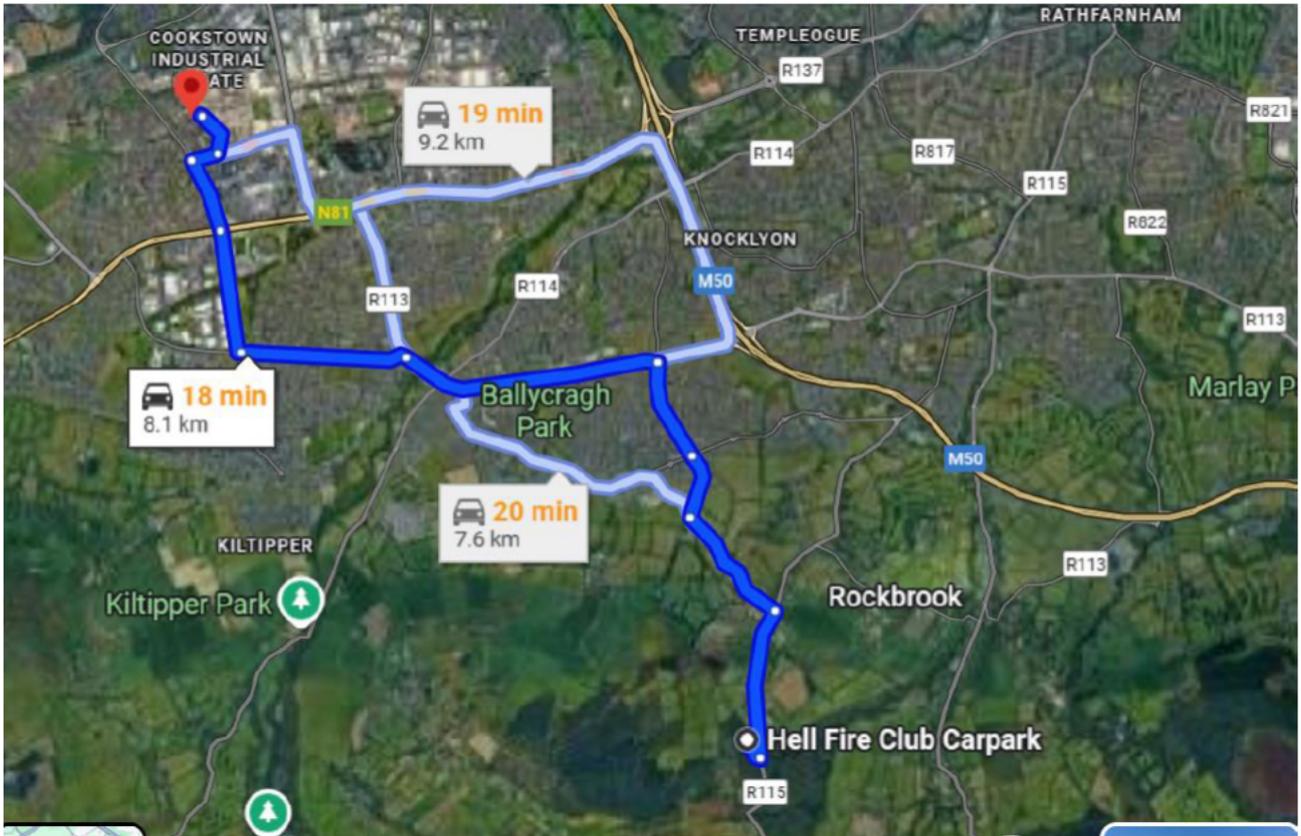
| Emergency | Alarm Device |
|-------------------|----------------------------------|
| Medical Emergency | Shouting, mobile phone, Air horn |

| Step | Action |
|------|---|
| 1 | Establish verbal contact with the injured person (IP) as soon as possible to assess consciousness. |
| 2 | Notify someone to contact emergency services (999 or 112) if required. |
| 3 | If trained in first aid, initiate first aid. If not trained, notify site first aider. |
| 4 | Stay with the injured person and await the site first aider/ medical assistance. |
| 5 | Ensure medical assistance is on its way and arrange for access to the scene by emergency services. |
| 6 | Moving the injured person should be avoided where possible unless there is a risk to life. i.e., risk of being struck by a vehicle, trench, or structural collapse etc. If there is no danger, the injured person should be left in situ until emergency services arrive. |
| 7 | Notify Senior Management. |
| 8 | Relevant details relating to the incident including a timeline of events, witness statements and photographs will be taken so the incident report can be prepared accurately. |

| Emergency Services Contact and Location | |
|--|--|
| Emergency Services | 999 or 112 |
| Closest Hospital: Tallaght University Hospital | <i>Tallaght, Dublin, D24 NROA (See map below) (01) 414 2000</i> |
| | |

Construction Stage Safety, Health & Environmental Plan
Project Name: Coillte Massey Wood Trail

Directions to Tallaght University Hospital



Construction Stage Safety, Health & Environmental Plan

Project Name: Coillte Massey Wood Trail

In The Event of a Fire

| Emergency | Alarm Device |
|-----------|----------------------------------|
| Fire | Air horn, shouting, mobile phone |

| Step | Action |
|------|---|
| 1 | Whoever discovers the fire should raise the alarm and contact emergency services. |
| 2 | All personnel are to leave the office/location of fire and assemble at the emergency assemble point. |
| 3 | If applicable, turn off generator, compressors and other powered equipment unless these provide power for emergency services. |
| 4 | Workers trained in the use of fire extinguisher may attempt to extinguish a minor fire only if confident to do so with equipment available, otherwise it should be left to the Fire Brigade |

| Type | When used |
|----------------|--|
| Dry Powder | Most fires including electrical fires (Cloth, paper, and wood fires) |
| Carbon Dioxide | Electrical Fires. Assist in extinguishing flammable liquids. (Cloth, paper, and wood fires) |
| Foam | Class A fires such as paper, wood, and cloth |



Construction Stage Safety, Health & Environmental Plan

Project Name: Coillte Massey Wood Trail

Falling into Water

| Key Personnel/Emergency Response Team (ERT) | Contact Number | Responsibilities |
|---|---|--|
| <p>Emergency Response Team Leader/ Project [REDACTED] [REDACTED]</p> | <p>[REDACTED]</p> | <p>Assess the situation and determine the First Aid and emergency resources required.</p> <p>Dispatch First Aid to assess and treat injured persons</p> <p>If outside assistance is required, delegate a contact for emergency services/ Coastguard and have them call 999/112</p> <p>Manage Incident operations</p> <p>Ensure the safety of all personnel</p> <p>Maintain a log of all activities</p> |
| <p>First Aid Representative: [REDACTED] [REDACTED] [REDACTED]</p> | <p>[REDACTED] [REDACTED] [REDACTED]</p> | <p>Assess the situation</p> <p>Protect yourself, patient and others from harm</p> <p>Assess the injured person</p> <p>Provide first aid as required.</p> |
| <p>Site Supervisor/Project Manager [REDACTED] [REDACTED]</p> | <p>[REDACTED] [REDACTED]</p> | <p>Immediately identify and stop site work activities</p> <p>Assess the incident and determine if evacuation of the site is required</p> <p>Announce requirement to Evacuate by Radio Broadcast on UHF Radio Chanel "Emergency, Emergency, Emergency" move to emergency assembly point.</p> <p>Assess the safety and wellbeing of all workers and arrange for first aid for all injured worker(s).</p> |

| Emergency | Alarm Device |
|--------------------|------------------------|
| Falling into Water | Shouting, mobile phone |

| Step | Action |
|------|--|
| 1 | All workers to wear a Personal Flotation Device (PFD) when working near or on water |
| 2 | The PFD will deploy in the event of a person falling into water and will keep that person afloat and facing upwards, until help arrives. |
| 5 | A life buoy with rescue line attached should be thrown to the person in the water. |
| 6 | Recover the injured person into the bank. |
| 7 | 1 st Aider to assess and call 000 if required. |
| 8 | Person to remove wet clothes and put on dry clothes. Emergency blankets used to heat person up if required. |

PROJECT INDUCTION ITINERARY

Introduction Cunningham Civil and Marine Ltd Safety and Health Policies

The nature of the job, what it entails construction safety in general?

Interface with public

b) Welfare

1) Location of Canteen.

2) Location of Site Toilets.

3) Location of Drying Rooms.

This talk also involves the need for co-operation in helping keep these facilities clean. All workers will be reminded that all welfare facilities are in use for all construction workers and must be kept clean and tidy.

c) Main Hazards & Risks and Hazards Associated with this contract

d) First Aid - The location of first aid on site, what to do in an emergency, where the phones are located and what to tell the emergency services when they get in contact.

e) Fire Emergency Procedures- these are also gone through in great length. All inductees are told the procedures that are required in case of a fire on site; they are briefed on the types of fire extinguisher on site and what class of fire they can be used on. They are strongly advised not to put themselves at risk in putting out a fire but to call the emergency services as quickly as possible.

f) Accident Reporting -the need for reporting all accidents, hazards and dangerous occurrences that may occur on site.

g) Site Protocol for all Personnel on Site

h) Site Rules

SITE RULES

If in Doubt, Ask!!!

“DO”

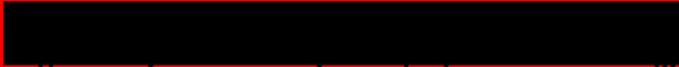
- **Wear Safety Footwear incorporating steel toecaps and steel puncture proof mid-soles.**
- **Wear a Safety Helmet and Hi-Visibility clothing at all times.**
- **Wear appropriate eye protection when working on or adjacent to work where is a risk of flying particles or dust.**
- **Wear close fitting clothing appropriate to the task with full-length sleeves.**
- **Wear gloves where necessary.**
- **Use all appropriate Personal Protective Equipment for Hazardous Tasks.**
- **Wash your hands frequently and thoroughly.**
- **Use a safety harness where there is a risk of falling from any area that can cause injury and where it is not reasonably practicable to provide collective fall protection.**
- **Have appropriate Fire Fighting Equipment available when undertaking any Hot Works and that you have received a permit to carry out hot works.**
- **Evacuate to the nearest assembly point, which is at the site canteen, if there is an emergency.**
- **It is your duty to report all accidents and incidents, which could have had serious consequences (near misses) and unsafe working conditions to your immediate supervisor or Safety Officer.**
- **Keep your work area tidy.**
- **Observe all traffic signs and restrictions, including all Site Speed Limits.**

“DO NOT”

- *Park on access or exit roads or park in any area that can cause an obstruction.*
- **SMOKE ANYWHERE ON SITE, AS IT IS PROHIBITED IN ALL AREAS.**
- **USE ABUSIVE LANGUAGE ON SITE.**
- *Use a naked flame or electric tools anywhere near combustible materials or flammable liquid.*
- *Undertake any Hot Works unless you have received authorisation from the Site Manager and have a current, appropriate Hot Work permit.*
- *Enter any manhole or confined space unless you are in possession of a valid entry permit.*
- *Undertake any excavation unless you have received authorisation from the Site Manager and have been issued with a Permit to Dig.*
- *Enter any excavation without adequate shoring or battering to a safe slope and where a risk assessment identifies the need.*
- *Leave tools or materials lying around the site.*
- *Throw materials down from a height.*
- *Ride as a passenger on any piece of site plant.*
- *Drive any vehicle or plant unless you are trained, over 18 and authorised by site management to do so.*
- *Reverse any vehicle on site unless you have a clear view to the rear or are being directed by a competent person.*
- **USE MOBILE PHONES IN ANY AREA OF THE SITE WHILE OPERATING MOBILE EQUIPMENT.**
- *Engage in any operation that may put yourself or other fellow workers at risk.*

Emergency Telephone Numbers

| | |
|--|--------------------------------|
| Emergency Services: | 999-112 |
| Tallaght University Hospital | (01) 414 2000 |
| Emergency Services (An Garda Siochana) Rathfarnham Garda Station: Tallaght Garda Station | (01) 666 6500 (01) 666 6000 |
| Health and Safety Authority: | (01) 6147000 |
| Environmental Protection Agency (EPA) | (053) 9160600 |
| Other useful contact numbers are: | |
| Inland Fisheries Ireland | 0818 34 74 24 |
| Board Gais: | 1850 205050 |
| Electricity Supply Board(ESB): | 1850 372 999 |
| Irish Water | 1890 278 278 |


 Your name, the service you require and where you are calling from.
 Give the operator clear precise information and clear directions on how to get to the site. When the emergency services arrive on site, have somebody at the entrance to direct them to the scene, ensure there is clear access to the scene, and remember

DON'T PANIC


 Massey Woods,
 Jamestown,
 Co. Dublin

Possible Eircode's to use:

| | |
|---|-----------------|
| Kilakee House, Killakee Road, Rathfarnham, Dublin 16 <i>(See fig 2) West side of the project</i> | D16 FT51 |
| Jamestown, Kilakee, Dublin 16 (See fig 3) East side of the project | D16 YW83 |

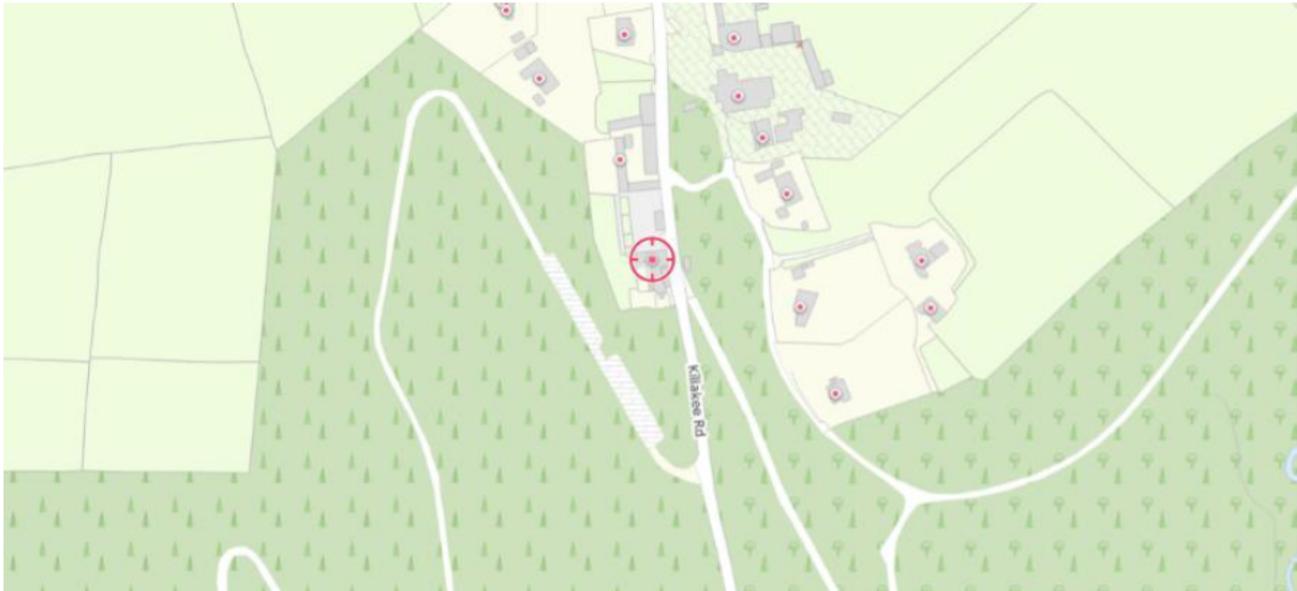
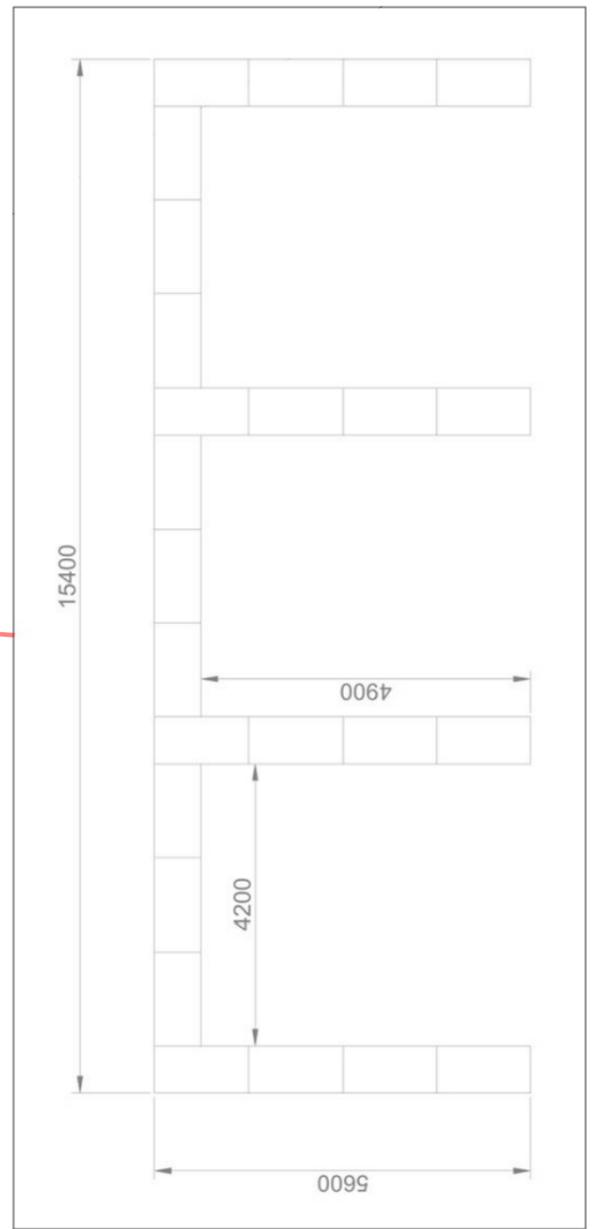
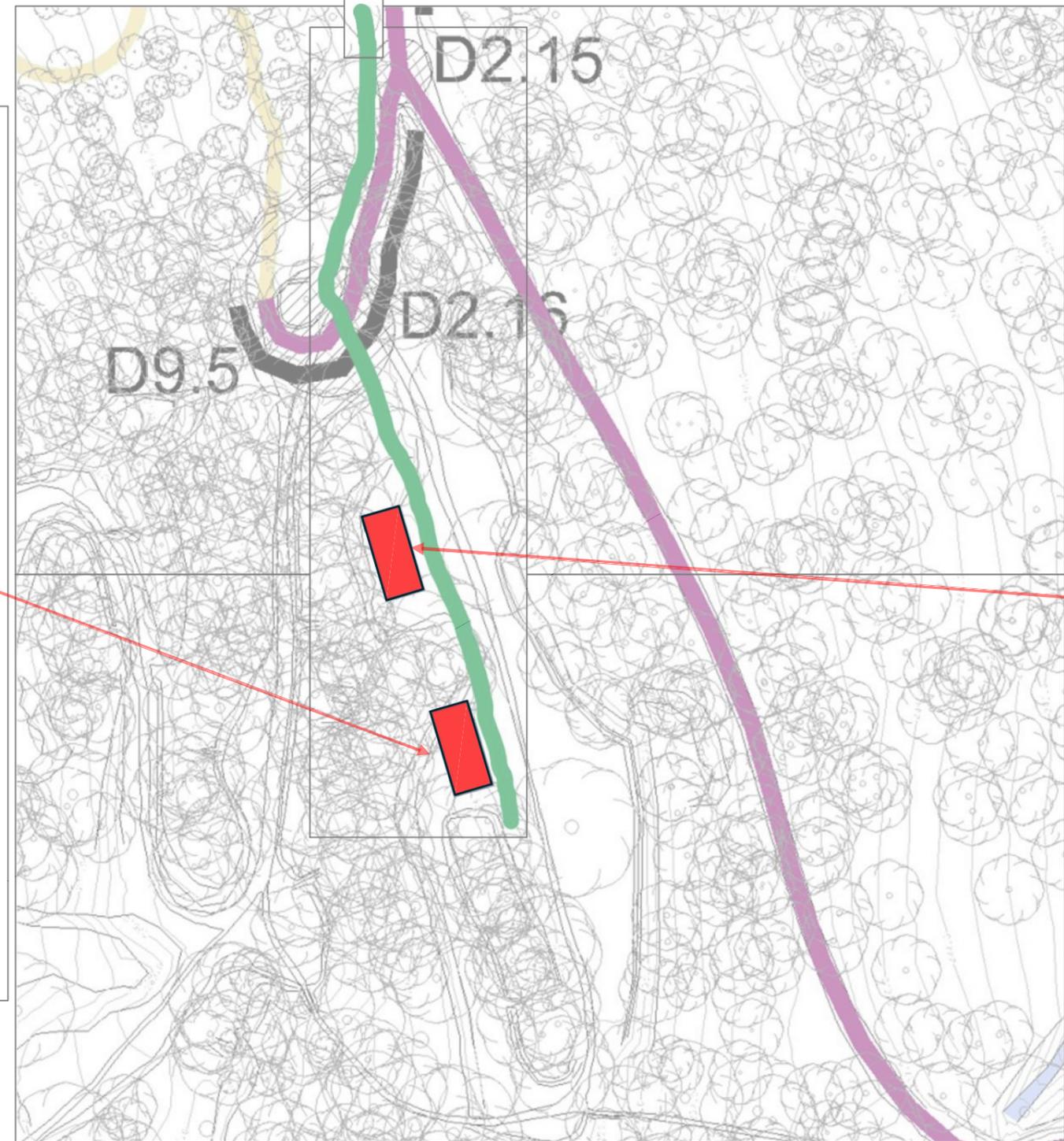
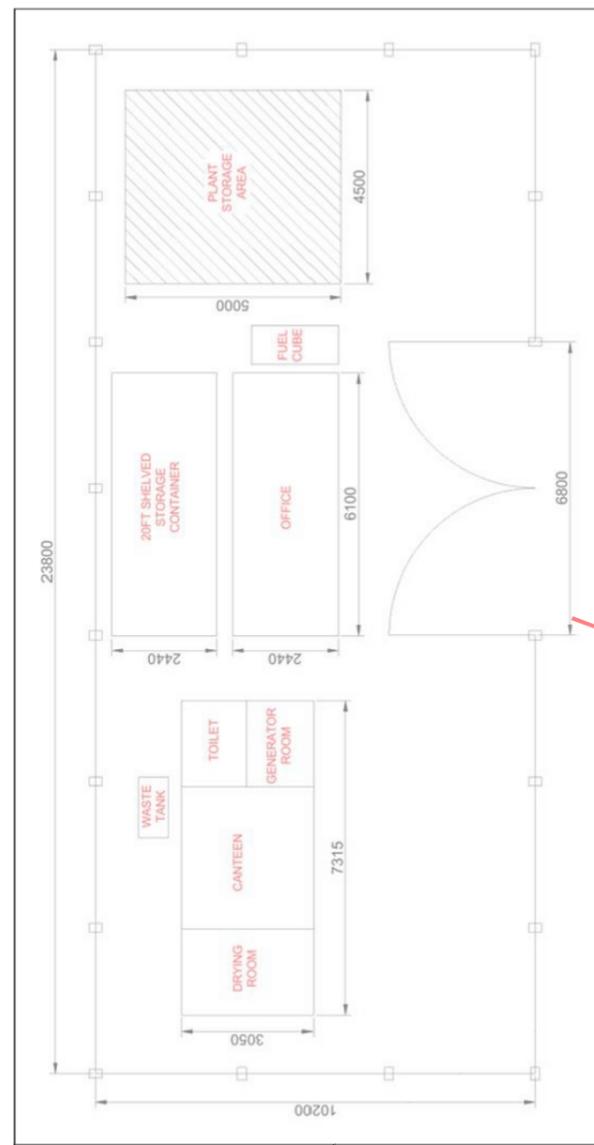


Fig 2: D16 FT51

Site Layout Plan: Site Compound & Storage Area

Notes



Client:

Legend:

| | | | | |
|------|----------|------------------|------|------|
| 00 | 15/10/25 | SITE LAYOUT PLAN | ER | GH |
| Rev: | Date: | Description: | Drw: | Chk: |

Client: COILITE

Project: MASSEY WOODS TRAIL



Drw by: ER
Eng app: GH
App by: GH
Status:

Drawing Title: SITE LAYOUT PLAN

Drawing No.: D0001

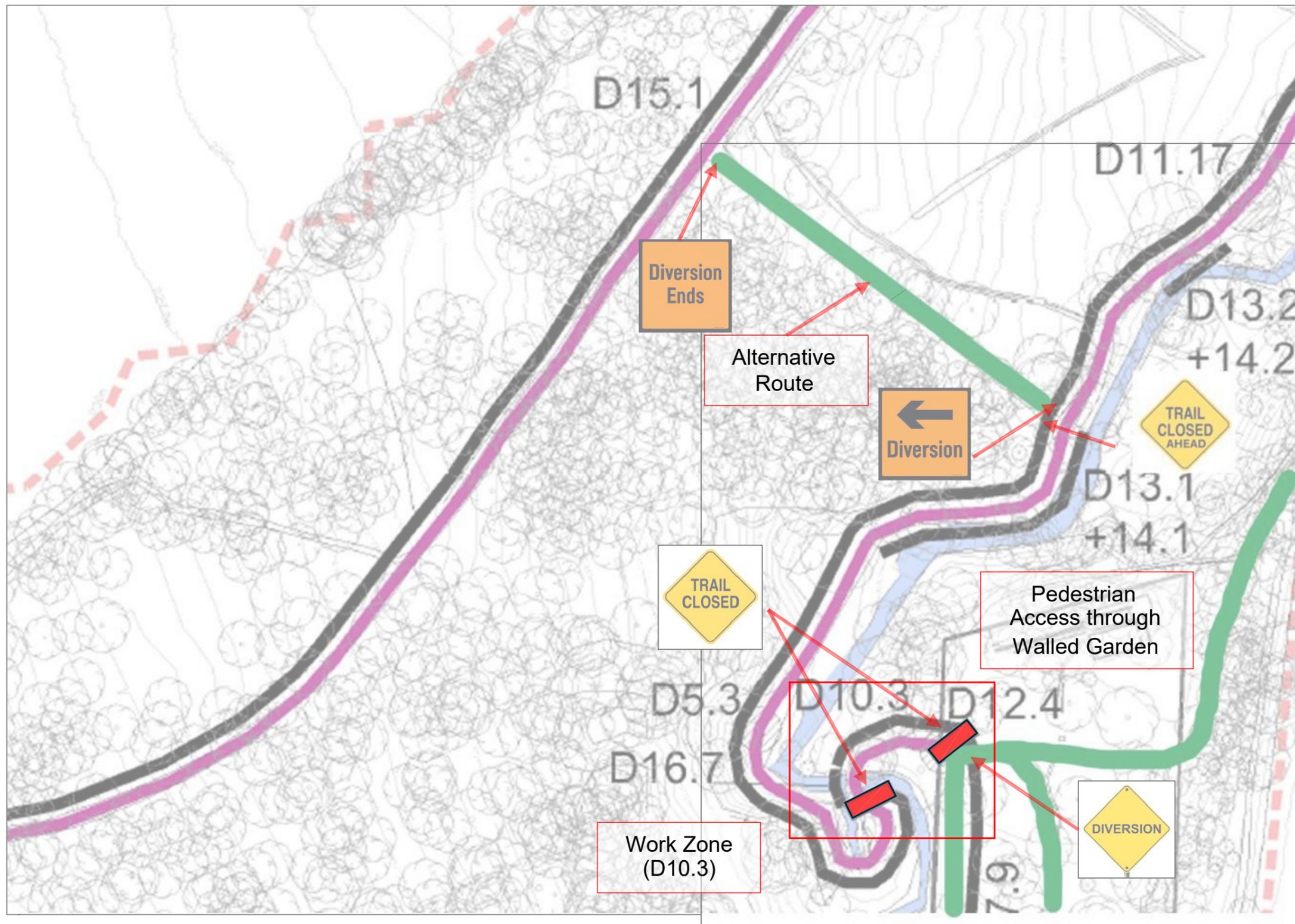
Revision: R00

Sheet No.: 01 of 01

Date: 15/10/2025
Scale: N/A
Project Number: P250090
Sheet Size: A3

Pedestrian Management Plan: Cellweb Gravel Path (D10.3)

Notes



Client:

Legend:

| | | | | |
|------|----------|-------------------------|------|------|
| 00 | 15/10/25 | TRAFFIC MANAGEMENT PLAN | ER | GH |
| Rev: | Date: | Description: | Drw: | Chk: |

Client:
COILITE

Project:
MASSEY WOODS TRAIL

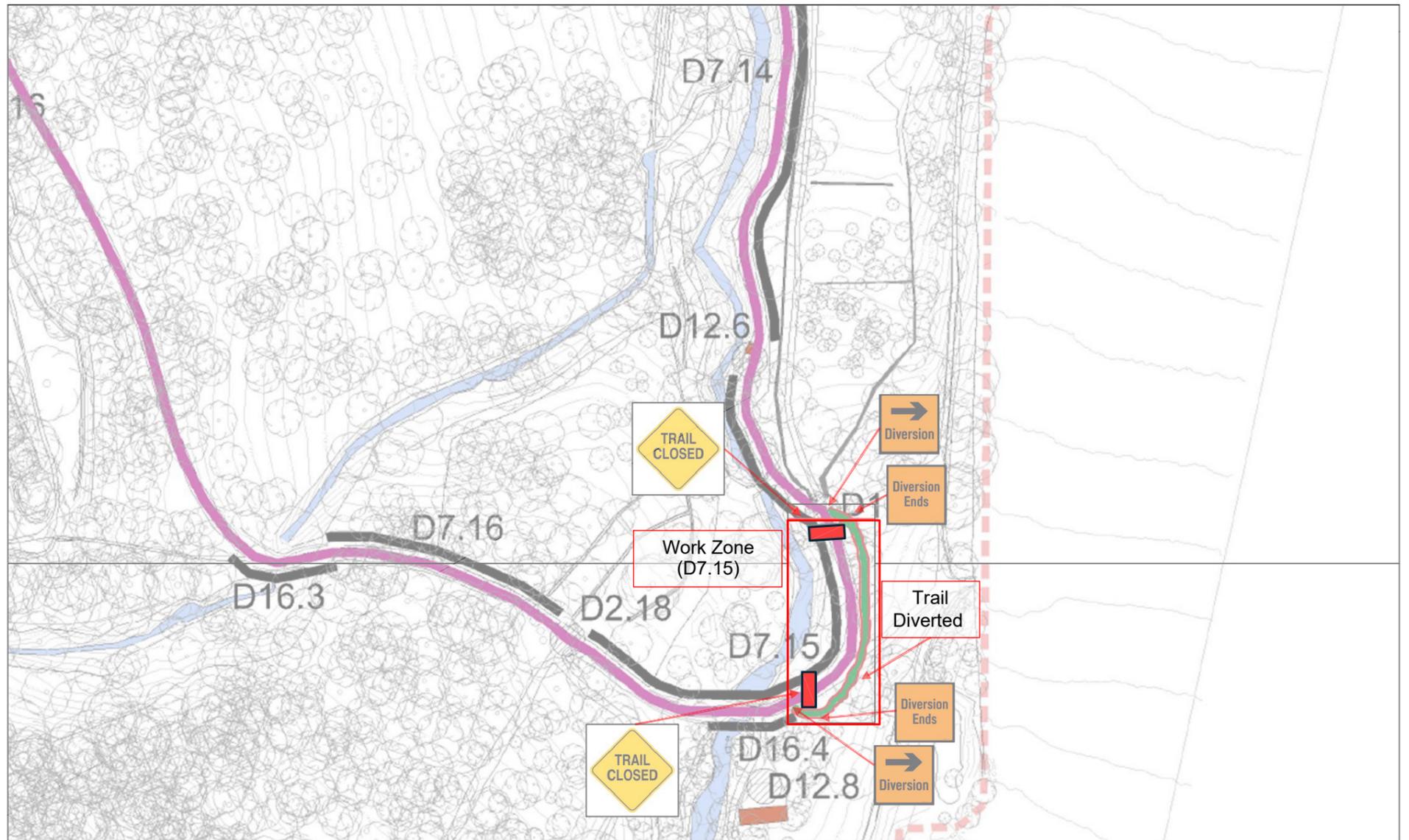
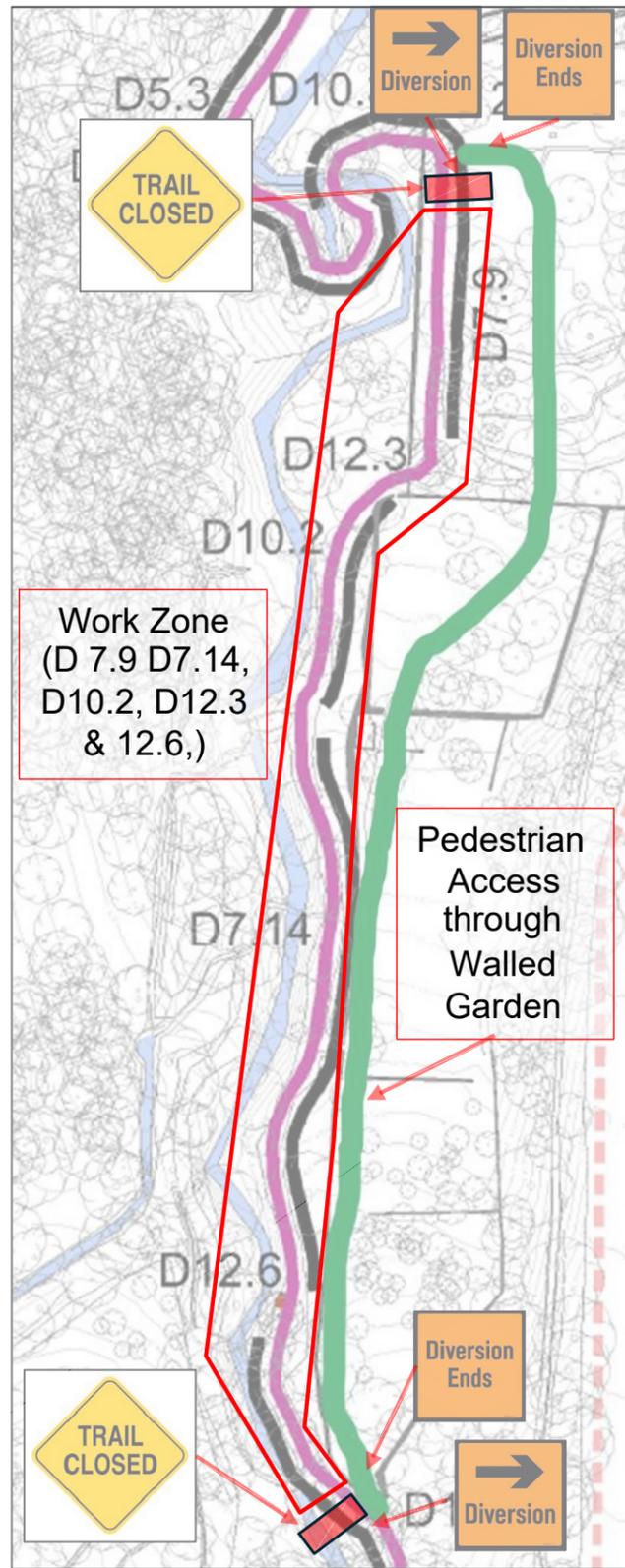


| | | |
|-----------------|-------------|---------|
| Drw by: | Eng app: | App by: |
| ER | GH | GH |
| Status: | | |
| For Information | | |
| Date: | Scale: | |
| 15/10/2025 | N/A | |
| Project Number: | Sheet Size: | |
| P250090 | A3 | |

Drawing Title:
TRAFFIC MANAGEMENT PLAN

Drawing No.: D0002
Revision: R00
Sheet No.: 01 of 05

Pedestrian Management Plan: Cellweb Gravel Path, Refurbishment of Existing Paths, Feature Stone Paving (D7.9, D7.14 & 7.15, D10.2, D12.3 & D12.6)



Client:

Legend:

| | | | | |
|------|----------|-------------------------|------|------|
| 00 | 15/10/25 | TRAFFIC MANAGEMENT PLAN | ER | GH |
| Rev: | Date: | Description: | Drw: | Chk: |

Client: COILITE

Project: MASSEY WOODS TRAIL



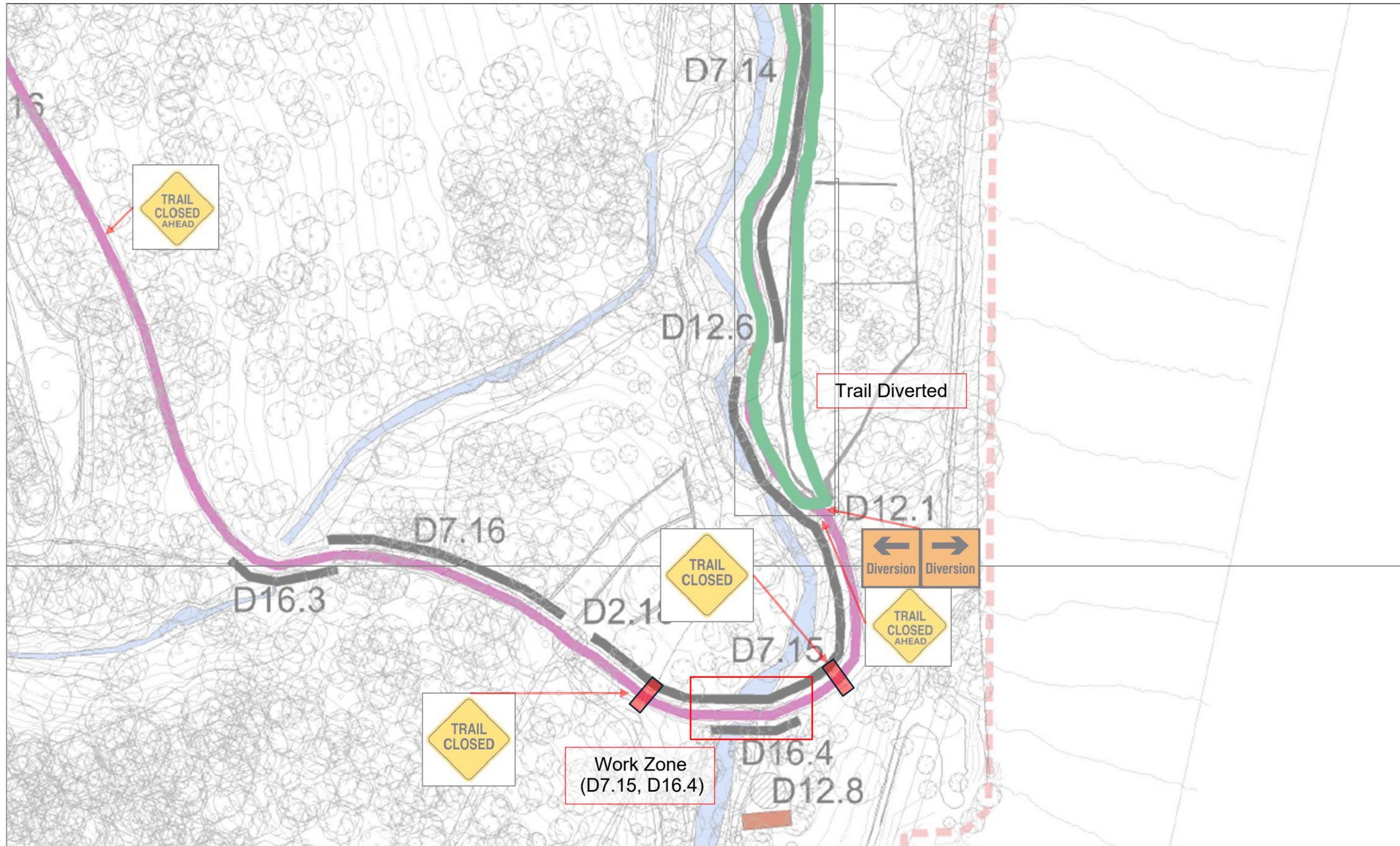
| | | |
|-----------------|-------------|---------|
| Drw by: | Eng app: | App by: |
| ER | GH | GH |
| Status: | | |
| For Information | | |
| Date: | Scale: | |
| 15/10/2025 | N/A | |
| Project Number: | Sheet Size: | |
| P250090 | A3 | |

Drawing Title: TRAFFIC MANAGEMENT PLAN

Drawing No.: D0002
Revision: R00
Sheet No.: 02 of 05

Pedestrian Management Plan: Refurbishment of Existing Surface and Bridge Resurfacing (D7.15 & D16.4)

Notes



Client:

Legend:

| | | | | |
|------|----------|-------------------------|------|------|
| 00 | 15/10/25 | TRAFFIC MANAGEMENT PLAN | ER | GH |
| Rev: | Date: | Description: | Drw: | Chk: |

Client: COILITE

Project: MASSEY WOODS TRAIL



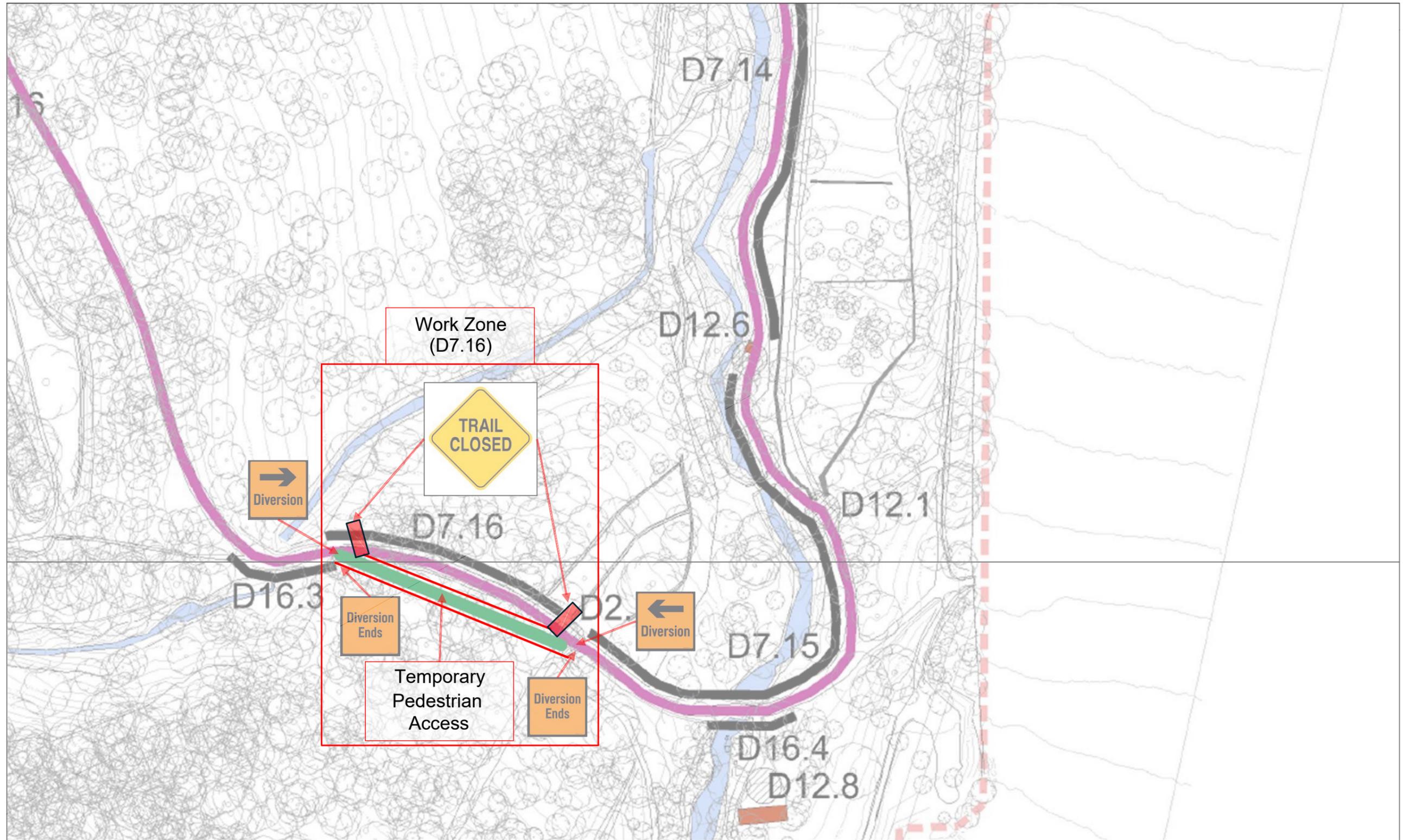
| | | |
|-----------------|-------------|---------|
| Drw by: | Eng app: | App by: |
| ER | GH | GH |
| Status: | | |
| For Information | | |
| Date: | Scale: | |
| 15/10/2025 | N/A | |
| Project Number: | Sheet Size: | |
| P250090 | A3 | |

Drawing Title: TRAFFIC MANAGEMENT PLAN

Drawing No.: D0002
Revision: R00
Sheet No.: 03 of 05

Pedestrian Management Plan: Refurbishment of Existing Path (D7.16)

Notes



Client:

Legend:

| | | | | |
|------|----------|-------------------------|------|------|
| 00 | 15/10/25 | TRAFFIC MANAGEMENT PLAN | ER | GH |
| Rev: | Date: | Description: | Drw: | Chk: |

Client: COILITE

Project: MASSEY WOODS TRAIL



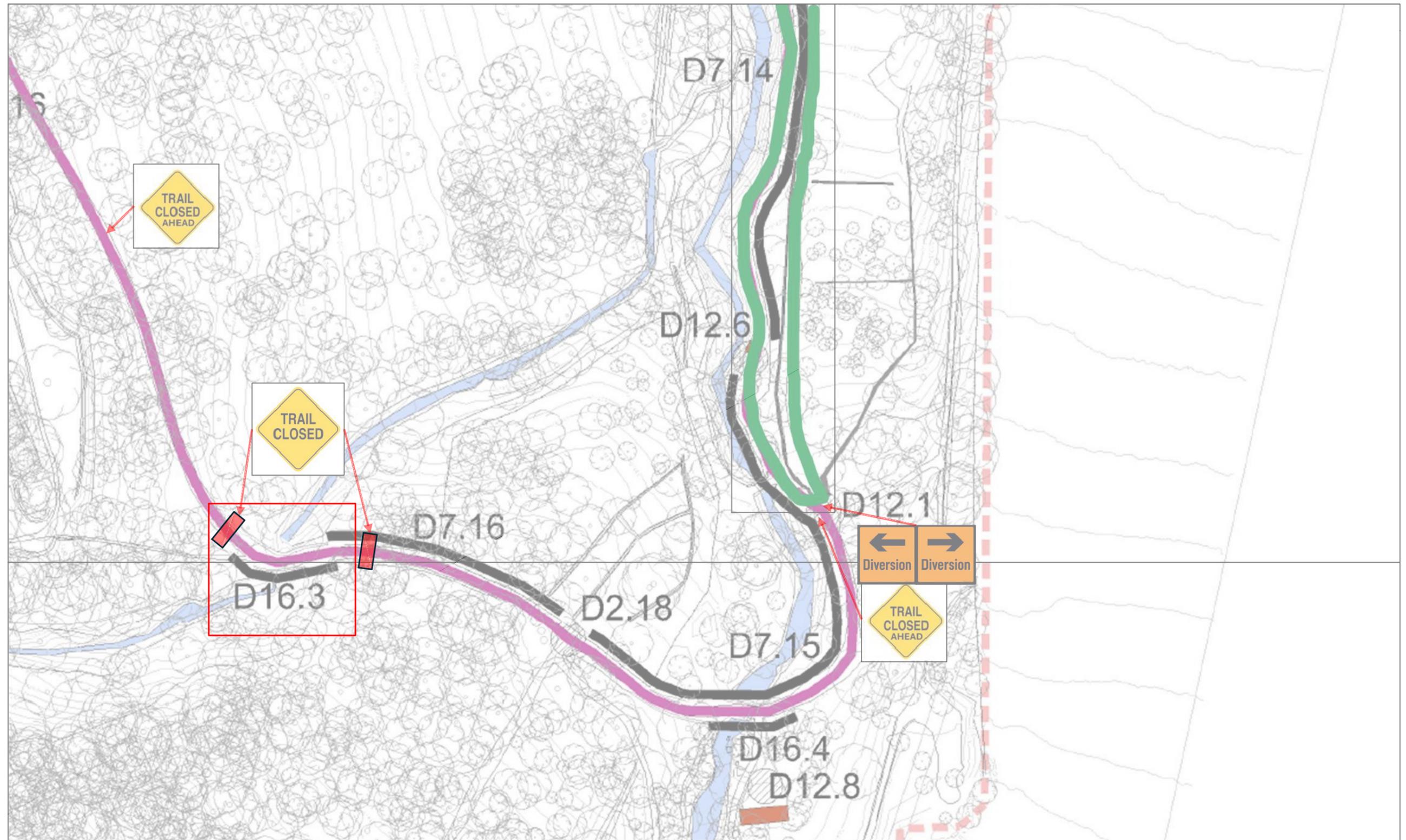
| | | |
|-----------------|-------------|---------|
| Drw by: | Eng app: | App by: |
| ER | GH | GH |
| Status: | | |
| For Information | | |
| Date: | Scale: | |
| 15/10/2025 | N/A | |
| Project Number: | Sheet Size: | |
| P250090 | A3 | |

Drawing Title: TRAFFIC MANAGEMENT PLAN

Drawing No.: D0002
 Revision: R00
 Sheet No.: 04 of 05

Pedestrian Management Plan: Bridge Resurfacing (D16.3)

Notes



Client:

Legend:

| | | | | |
|------|----------|-------------------------|------|------|
| 00 | 15/10/25 | TRAFFIC MANAGEMENT PLAN | ER | GH |
| Rev: | Date: | Description: | Drw: | Chk: |

Client:
COILITE

Project:
MASSEY WOODS TRAIL



| | | |
|---------|----------|---------|
| Drw by: | Eng app: | App by: |
| ER | GH | GH |
| Status: | | |

Drawing Title:
TRAFFIC MANAGEMENT PLAN

Drawing No.:
D0002

Revision:
R00

Sheet No.:
05 of 05

| | |
|-----------------|-------------|
| For Information | |
| Date: | Scale: |
| 15/10/2025 | N/A |
| Project Number: | Sheet Size: |
| P250090 | A3 |

1

2

3

4

5

6

7

8

