CONSTRUCTION & ENVIRONMENTAL MANAGEMENT PLAN

Newport Foot Bridge

William Mc Garry & Associates Engineers

Site Address

Newport, Co. Tipperary

Planning Authority

An Coimisiún Pleanála

Reference Number

7766

Comhairle Contae Thiobraid Árann
Tipperary County Council

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Author	Signature	Date
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Reviewed	Signature	Date
Will Mc Garry BEng (Hons) BEng MIEI Engineer		22/10/25

1.0 Introduction

The purpose of this Construction Environmental Management Plan (CEMP) is to communicate key environmental obligations that apply to all site personnel, sub-contractors and visitors to the site, while carrying out construction activities as part of the proposed development. The CEMP defines the approach to environmental management at the proposed development site, outlining the work practices, construction procedures and responsibilities to be undertaken during the construction phase. Compliance with the CEMP, the procedures, work practices and controls will be mandatory and must be adhered to by all personnel and sub-contractors employed during the construction phase. The CEMP outlines, where necessary, the control measures that are required to avoid, minimise or mitigate potential effects on the environment and surrounding area.

1.1 Live Document

The CEMP is a "live" document and will be reviewed and updated as necessary throughout the construction phase.

1.1.1 Document Review and Updates

To ensure the CEMP remains "fit for purpose", it will be reviewed and updated as necessary throughout the construction phase to ensure that it continues to facilitate efficient and effective delivery of the project environmental commitments for the protection of the environment.

The CEMP will be reviewed to address, for example, the following;

- Any recommendations, comments or observations received by Tipperary County Council following the submission of the CEMP for approval.
- To ensure it reflects best practice at the time of construction.
- To ensure it incorporates findings from previous inspections and audits undertaken by the construction works contractor;
- To ensure it incorporates findings and/or recommendations arising from the site meetings between the construction works contractor and clients.

The Project Manager and EHS Officer will be responsible for the review of the CEMP and will ensure that any revisions to the CEMP are effectively communicated as appropriate to onsite personnel and sub-contractors. Roles and responsibilities are outlined further outlined in the CEMP.

1.2 Communication

Upon planning approval, Tipperary County Council will appoint a construction works contractor to the proposed development. This CEMP will be communicated to all site personnel during site inductions and briefings. All site personnel will be responsible for undertaking their work in an environmentally sustainable manner and will be encouraged to provide feedback and comments on environmental performance at the site and suggestions for improvement.

The construction works contractor will appoint a Project Manager to the proposed development. Any environmental issues, accidents or incidents will be reported to the Project Manager as soon as possible, who in turn will inform Tipperary County Council.

1.3 Limitations

This report only deals with the proposed works incorporated in this planning application for the Tipperary County Council on Behalf of the Client Tipperary County Council.

The report and its proposals have been documented for the sole use for Tipperary County Council, and the content should not be used by any third party without the expressed permission in writing of Will Mc Garry & Associates Ltd.

Where this report is referred to, or used, as the basis of proceeding with works 1 year after the issue date of said report, we reserve the right to re-inspect and review the works and proposed alterations to confirm that the conclusions and recommendations remain valid, and any changes in the conditions has not alerted the original recommendations. In Undertaking such further investigations Will Mc Garry & Associates Ltd. reserves the right to charge additional fees, the cost of which will be advised prior to conducing any works.

The proposed CEMP is an indicative plan to allow the contractor to fully implement an environmental management plan for the duration of the works carried out on site. This report does not exempt the contractor from their statutory responsibility to manage construction waste in line with current statutory requirements as per current guidelines and best practices.

No detailed analysis was undertaken as part of this commission. In the time available, we have not undertaken any testing of materials or construction traffic analysis. Instead we have advanced our opinion and conclusions based on our extensive experience of construction management processes and its requirements to ethically manage waste with a focus on recycling and reducing carbon footprints and assessments of similar schemes prior during the construction process

Specific Documents of note to be read in conjunction with this Construction Waste Environmental plan are noted below;

Environmental Impact Assessment Screening Report	Flynn Furney Environmental Consultants
Invasive Species Management Plan	Flynn Furney Environmental Consultants

2.0 Project Overview

The project focuses on the upgrade of an existing lane with link bridge to an existing amenity space creating a new pedestrian link from Newport Village centre to the existing amenity space The Newport Ball Alley located on the North Bank of the River Small.

The project consists of the following:

- Resurfacing of existing lane Access,
- Creation of New Amenity space to the South bank
- Create a new pedestrian link bridge with ne path to link into existing amenity space walkway.

2.1 The Site Location

The project is located in North Tipperary adjacent in Newport village Irish Grid Reference R 72592 62278, (ITM : X – 572545 : Y- 662309.) The site is located within the Special Area of Conservation for the lower Shannon River.

The total site area for the project is .32 Hectares encompassing a local amenity space to the North in the form of the Newport Ball Alley and amenity space bounded by the river Newport to the East and the River Small to the South an existing access lane that serves existing properties no in the ownership of Tipperary County Council. This access lane is paved for the upper section and becomes a compacted earth path as it approaches the River Small bank which splits the site. The ownership of Tipperary County Council encompasses the majority of the Newport Ball Alley and access Lane.

The topography of the site accessing from the South Lane is a steep narrow Lane, with existing access points from both sides to adjacent properties. The lane levels off adjacent to the riverbank which is a bracken enclosed site. The north bank abuts an existing local amenity space in the form of the Ball Alley and park lands.

There are two accesses points to the site, from the Pound Street L2110 adjacent the main street pedestrian access via the proposed lane resurfacing and via a shared access route to the North Bank which accesses the Ball Alley. Parking is limited to on street parking on the surface streets with no formal parking area to the Ball Alley site.

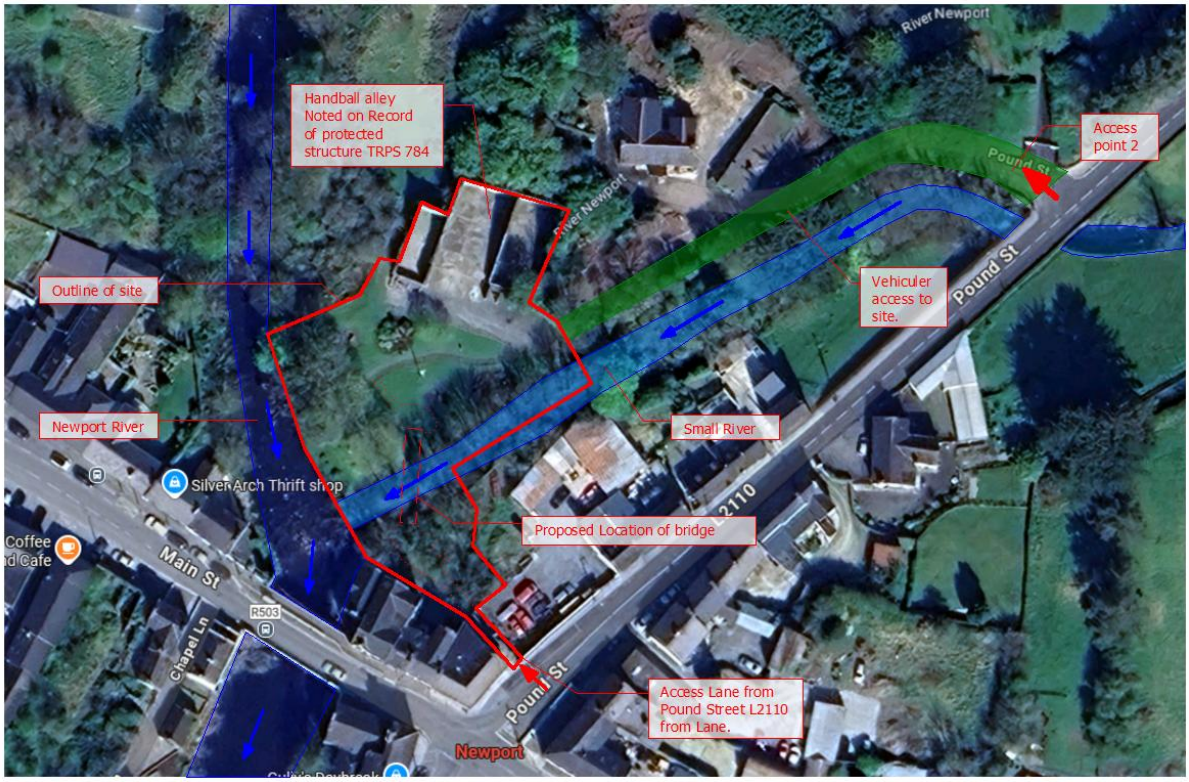

Figure 1: Site Location Map (Source Google)

The site is located within Newport Village, Bounded by Mixed use development to the South and South East abutting the River Newport on the West, to the North of the site the development is abutting agricultural lands and residential properties. The surrounds to the site are natural hedgerow with mixed trees and shrubs.

3.0 Regulation Requirements

The purpose of the CEMP Plan is to provide information necessary to ensure that the management of waste , effects of construction and the further operations produced by the site is carried out in accordance with all current legal and industrial standards and have no adverse environmental impact on the surrounding area. Where there is cause for adverse impact, this report aims to demonstrate mitigation by the design team in accordance with statutory requirements and best practice.

One priority of the plan shall be to promote recycling, reuse and recovery of waste and diversion from land fill wherever possible. Guidance will also be given to ensure an appropriate method of transportation of waste is used to prevent littering or other serious environmental pollution.

Below are a list of the Statutory Requirements and Relevant Guidelines promoting Best Practice environmental management for sites.

3.1 Statutory requirements

The following list of acts and regulations, which is not exhaustive, will be complied with by the construction works contractor throughout the proposed project:

- The Wildlife Act, 1976 and Wildlife (Amendment) Act, 2000;
- European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No. 477 of 2011) and (Amendment) Regulations, 2015 (S.I. No. 355 of 2015), transposing the Habitats Directive 92/43/EEC (as amended) and Birds Directive 2009/147/EC;
- The Flora (Protection) Order, 2015 (S.I. No. 356 of 2015);
- Planning and Development Regulations, 2001 as amended;
- The Local Government (Water Pollution) Act, 1977, as amended;
- The Fisheries (Consolidation) Act, 1959, as amended;
- Fisheries (Amendment) Act, 1999;
- European Communities (Quality of Salmonid Waters) Regulations, 1988 (S.I. No. 293 of 1988);
- European Communities Environmental Objectives (Surface Waters) Regulations, 2009 (S.I. No. 272 of 2009);
- Water Framework Directive (2000/60/EC);
- European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9 of 2010) and 2016 (S.I. No. 366 of 2016);
- Air Pollution Act, 1987;
- Air Quality Standards Regulations, 2011 (S.I. No. 180 of 2011), transposing the Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC);
- Planning and Development Act 2000 (S.I. No. 30 of 2000), as amended;
- The EPA Act (Noise) Regulations 1994 (S.I. No. 179 of 1994);
- European Communities (Construction Plant and Equipment) Permissible Noise Levels Regulations, 1988 (S.I. No. 320 of 1988), as amended;
- European Communities (Noise Emission by Equipment for Use Outdoors) Regulations, 2001 (S.I. No. 632 of 2001);
- Council Directive 1999/31/EC on the Landfilling of Waste and Council Directive 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills;
- Waste Framework Directive 2008/98/EC;
- WEEE Directive 2012/19/EU;
- Waste Management Act 1996 as amended;
- Waste Management (Hazardous Waste) Regulations 1998 (S.I. 163 of 1998) and (Amendment) Regulations 2000 (S.I. 73 of 2000);
- Waste Management (Food Waste) Regulations 2009 (S.I. 508 of 2009);
- European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (WEEE) (S.I. 149 of 2014);
- Litter Pollution Act 1997 and Litter Pollution Regulations 1999 (S.I. 359 of 1999);
- Waste Management (Prohibition of Waste Disposal by Burning) Regulations 2009 (S.I. 286 of 2009), as amended;
- European Communities (Waste Directive) Regulations 2011 (S.I. 126 of 2011), (Amendment) Regulations 2016 (S.I. 315 of 2016), and European Union (Properties of Waste which Render it Hazardous)

Regulations 2015 (S.I. 223 of 2015), European Union (Waste Directive) (Recovery Operations) Regulations 2016 (S.I. 372 of 2016).

3.3 Relevant Guidelines

The following list guidance documents, which is not exhaustive, will be consulted as relevant by the construction works contractor throughout the proposed project:

- Environmental Good Practice on Site (CIRIA, 2015);
- Control of Water Pollution from Construction Sites; guidance for consultants and contractors (CIRIA, 2001);
- Control of Water Pollution from Construction Sites – Guide to Good Practice (CIRIA, 2002);
- Guidelines on Protection of Fisheries During Construction Works in and adjacent to Waters (IFI, 2016);
- The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads (National Roads Authority (NRA), 2010);
- Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes (NRA, 2006a);
- Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes (NRA, 2006b);
- Guidelines for the Treatment of Bats during the Construction of National Road Schemes (NRA, 2006c);
- Bat Mitigation Guidelines for Ireland (Kelleher and Marnell, 2006);
- Bats & Lighting: Guidance Notes for Planners, Engineers, Architects and Developers (Bat Conservation Ireland, 2010);
- Assessment of dust from demolition and construction 2014 (Institute of Air Quality Management, 2014);
- Guidelines for the Treatment of Noise and Vibration in National Road Schemes (NRA, 2004);
- Code of practice for noise and vibration control on construction and open sites (British Standard 5228-1, 2009);
- Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (DoEHLG, 2006);
- Southern Region Waste Management Plan 2015-2021 and Associated Reports.

4.0 Roles and Responsibilities

The construction works contractor (CWC) will put an experienced construction management team in place. The CWC will be responsible for the control and co-ordination of health and safety during the works and will be appointed as the Project Supervisor (Construction Stage). The Project Manager will have overall responsibility for environmental management at the proposed development site. The indicative roles and responsibilities for the relevant site personnel are detailed below.

4.1 Project Manager

The Project Manager's responsibilities are as follows:

- Management of the project;
- Implementing the Construction Environmental Management Plan;
- Monitoring the performance of the CEMP and maintaining records to demonstrate compliance with the CEMP and Construction Method Statement;
- Updating the Construction Environmental Management Plan as required;
- Ensuring no deterioration of the environment occurs as a result of the project;

- Co-ordinating the construction team;
- Implementing the Health and Safety Plan and associated responsibilities;
- Production of construction programmes;
- Maintaining of relevant records and registers;
- Ensuring site personnel receive induction and are provided with the relevant information relating to the protection of the environment during works;
- Dealing with any queries or complaints from the public.
- Maintaining a project diary.

4.2 Quality Manager

The Quality Manager will report to the Project Manager. Their responsibilities are as follows:

- Implementing the Construction Environmental Management Plan;
- Management of quality issues relating to the project;
- Co-ordinating the construction teams;
- Ensuring that method statements are in place;
- Implementing the Health and Safety Plan.

4.3 Site Engineer

The Site Engineer will report to the Project Manager. Their responsibilities are as follows:

- Ensuring that all aspects of the project comply with the Construction Environmental Management Plan;
- Materials procurement;
- Design of Temporary Works;
- Administration;
- Programming and planning;
- Implementing the Health and Safety Plan;
- Maintaining a project diary.

4.4 Environmental Health & Safety (EHS) Officer

The EHS Officer will report to the Project Manager. Their responsibilities are as follows:

- Ensuring the Health and Safety Plan is implemented;
- Ensuring the Construction Environmental Management Plan is being implemented and followed at all times;
- Updating the Construction Environmental Management Plan as required;
- Ensuring all personnel have received safety inductions;
- Investigating any accidents, incidents or near misses;
- Ensuring relevant personnel have received training in environmental issues;
- Undertaking site audits on a regular basis.

4.5 All Staff and Sub-contractors

All site personnel and sub-contractors have the following responsibilities:

- Ensuring the requirements of the Construction Environmental Management Plan are followed;
- Co-operate with the Project Manager and EHS Officer in the implementation and development of the CEMP;
- Co-operate as required with site inspections and audits;

- Report all incidents, accidents and near misses to the Project Manager and/or EHS Officer.

5.0 Construction Project

The construction of proposed development will be undertaken by the construction contractors, hereafter referred to as "the construction works contractor", on behalf of Tipperary County Council, hereafter referred to as "the clients".

5.1 Construction Time Frame

The expected construction timeframe will be approximately 5-6 months, with hours of operation from 8am to 5pm Monday to Friday. A designated waste area and designated area of any waste materials are to be located away from Newport Foot Bridge and any drainage system will be established by the construction works contractor within the development site boundary, appropriate measures must be taken to prevent any runoff into Newport / Small River and impacting on the natural forest during construction works.

The above time frame is based on a skeleton crew of 5 general operatives and a 2-person management team operating at different roles as outlined further in the report. The aim of the reduced crew is to achieve the works in strategic time periods at different areas of the path to coincide with ecological requirements outlined in the Ecological Impact and mitigation section of this report. Further information and recommendations may be proposed in the NIA.

5.2 Construction Schedule

The approximate construction period for the proposed development is estimated to be 5-6 months. Upon approval of the CEMP by development authority, the construction schedule will be finalised at a detailed design stage. The proposed development will include the following main construction activities:

General

- Mobilisation of personnel and equipment to site;
- Site inductions and relevant training;
- Erection of health and safety / construction works signage;
- Installation of external lighting if required;
- Site clearance, including any vegetation removal.

New Pedestrian Bridge and Amenity space.

- Resurface of existing laneway to river,
- Install lighting
- Update of existing area with new amenity space to Southern Bank.
- Instal bridge abutments (close proximity to water)
- Install Bridge
- Install new link access path to north side of river to existing amenity space.

5.1.1 Main Stages of Construction

During site demolition and site clearance works, any excess material at the site will be either stored for re-use in construction activities at the development site or removed to a licensed waste facility. During excavation works, subsoil and topsoil will be temporarily stored for re-use in reinstatement where possible. Any excess materials will be transported offsite by a licensed contractor for disposal at a suitably licensed facility. Alternatively, should excess excavated materials/soils be classified as a by-product under Article 27 of the Waste Directive Regulations, 2011, and if the proposed end use meets the requirements of the Article 27 regulations, excavated soils could be directed for local use. The storage of excavated material on site will be temporary, until the completion of site reinstatement activities.

5.1.2 Construction Working Hours

It is anticipated that construction works will be undertaken during standard construction hours or day light hours depending on the projects start time and hours are as follows:

Start	Finish	Days
8am	5pm	Monday – Friday

Table 1: Working Hours

Works are to be limited to the recommended times and season within the Ecology assessment report. As aforementioned the Newport Ball Alley and access Lane sits in a local amenity space of importance, care and due diligence should be applied to Flora and Fauna which may be affected by the works. No works are to be carried out after or before sunset under artificial light.

In the event that works are to be undertaken outside of the times mentioned above, e.g. road closures etc. in such cases, notification will be given where necessary to the relevant bodies (i.e. the Planning Authority) and any potentially affected local residents & business owners in good time and prior to specified works commencing.

5.1.3 Construction Plant & Equipment

The construction plant and equipment likely to be used during the construction phase of the project are included in the table below. It should be noted that this list is not exhaustive.

Construction of Bridge and Upgrade to Access Lane	
ACTIVITY	SUGGESTED PLANT/EQUIP REQUIRED
Demolition, Site Clearance & Excavations	Excavator Mini dumpers
Construction of new _Pedestrian Bridge and Amenity space.	Teleporter Mini dumper Excavator Cement mixer Mini-crane
Reinstatement & Landscaping	Excavator Mini-dumper

Table 2: Construction Plant out with Newport / River Small Amenity

Where possible electric vehicles are to be used to limit noise pollution and impact on surrounding flora and fauna.

5.1.4 Security Arrangements

The construction works contractor will ensure the proposed development site is secured, so as to provide the safety of all potentially affected parties, including staff, contractors, traffic and pedestrians. Only authorised personnel will be allowed onto the development site. The site will be secured by a fence, hoarding or another suitable site barrier system to protect against unauthorised entry. The construction works contractor will implement the appropriate security arrangements, including signing in / out procedures, signage and out-of-hours security.

5.1.5 Health and Safety

All activities undertaken at the proposed development site during the construction phase shall be in accordance with the requirements of the Safety, Health and Welfare at Work Act 2005, as amended, and the Safety, Health and Welfare at Work (Construction) Regulations, 2013 as amended. As required by the 2013 regulations, a Health and Safety Plan will be prepared by the construction works contractor, which will address health and safety issues from the design stages through to the completion of construction works. This plan will be updated and reviewed as required as the proposed development progresses.

Prior to works commencing onsite, all site personnel, including sub-contractors, will receive induction training that will incorporate health and safety requirements and good practice. Site induction will be mandatory for all employees, sub-contractors and visitors to the development site. Specific training will be provided, where necessary.

All construction personnel, contractors and visitors to the site will wear the following appropriate Personal Protective Equipment as a minimum at all times:

- Safety helmet;
- Hi-visibility clothing (coat or vest);
- Safety boots;
- Eye protection where identified for specific activities.

Regular site safety audits will be undertaken throughout the construction phase to ensure the rules and regulations established for the site are complied with at all times.

5.1.6 Construction Signage and Labelling

Environmental signage and labelling will be used to inform site personnel of environmental requirements and restrictions with regards construction activities, in addition to promoting environmental good practice at the development site. The construction works contractor will erect the appropriate signage and label all relevant areas and receptacles. Examples will include designated storage areas for potentially polluting materials and waste and site environmental rules.

Figure 2: Construction health and Safety Signage

5.1.7 Construction Method Statement

Prior to works commencing, the construction works contractor will prepare and provide to the clients a detailed Construction Method Statement, which will address all construction works required for the proposed development. The construction works contractor will maintain a register of all method statements for the project, in addition to a register of all site personnel trained on the method statements.

5.1.8 Potential for Historic Contamination.

If contaminated material is encountered during construction works, appropriate measures will be undertaken in compliance with relevant waste legislation, and as outlined in Section 5.7 below. The relevant authorities will be notified where required.

5.1.9 Traffic Control

The construction works contractor will undertake site entrance works to facilitate the access of traffic associated with the proposed development. The construction works contractor will ensure the following:

- Deliveries to the site will be via suitably contained vehicles, with sheeting and covers where required;
- Deliveries to the site will be scheduled during the construction hours of 8:00am to 5:00pm Monday to Friday,
- Deliveries and removals will be coordinated and scheduled to the site to avoid congestion during peak times in the summer.
- Where possible, large-scale vehicle movements will be timed outside peak hours on the local road network.
- The contractor shall provide for the safe passage of pedestrian and vehicular traffic and measures to keep the impact of the works on local roads, and local communities to a minimum;
- Local roads will be inspected and cleaned as necessary to ensure that access roads are kept clear of mud and debris;
- Materials will not be delivered to the site until required.

6.0 Environmental Management

6.1 Environmental Management Systems

An Environmental Management System (EMS) will be put in place by the construction contractor. The EMS will take into account any comments or recommendations received by Tipperary County Council and, in accordance with the relevant guidelines, will be appropriate to the scale of the operation.

The construction works contractor will implement a number of environmental management procedures, including but not limited to the following:

- Awareness and Training;
- Environmental Emergency Response;
- Record Keeping, Auditing and Monitoring;
- Environmental Complaints Procedure;
- Protection of Flora and Fauna;
- Protection of Soil, Groundwater and Surface Water Quality;
- Chemical and Hazardous Material Management;
- Noise Management;
- Dust Management;
- Waste Management.

6.2 Environmental Awareness and Training

The CEMP will be updated as necessary to ensure that all measures detailed within the environmental management procedures have been addressed within the CEMP.

Prior to works commencing onsite, this CEMP and its contents will be communicated to all site personnel, including sub-contractors, as part of induction training. Site induction will be mandatory for all employees, sub-contractors and visitors to the development site.

Specific training will be provided, where necessary, to nominated personnel to address any incidents or emergencies that could have a potential to cause environmental pollution. This training will be provided to staff via toolbox talks, and may address issues such as the following:

- Water Pollution;
- Spill Control;
- Noise Pollution;
- Dust Pollution;
- Waste Management.

6.2 Environmental Commitments

The clients recognise that construction works have the potential to adversely impact upon the environment and will therefore ensure that the construction works contractor is committed to the effective implementation of the CEMP. Compliance with the CEMP, including all procedures, work practices and controls, will be mandatory by all personnel and sub-contractors employed during the construction phase. The CEMP outlines the necessary control measures that are required to avoid, minimise or mitigate potential effects on the environment.

The construction works contractor will be committed to the implementation of the controls / mitigation measures specified within the following sections:

- Dust Management
- Surface Water, Groundwater and Soil Contamination Control
- Terrestrial Biodiversity Protection Protocol
- Invasive Species Control
- Noise and Vibration Control
- Traffic Control
- Waste Management Control
- Chemicals and Hazardous Materials Management

The Project Manager, Quality Manager and EHS Officer will be responsible for the implementation of the CEMP throughout construction works. The Project Manager will be responsible for monitoring the performance of the CEMP and maintaining records to demonstrate compliance with the CEMP and will be assisted by the EHS Officer.

6.3 Environmental Incident Coordination

In the event of an environmental incident at the site, the construction works contractor will follow the Emergency Management Plan as appropriate. The construction works contractor will liaise with the relevant third parties as appropriate, which may include the following:

- Emergency Services;
- Tipperary County Council;

- National Parks and Wildlife Service;
- Inland Fisheries Ireland;
- Waterways Ireland;
- Environmental Protection Agency.

7.0 Environmental Mitigation Measures

Fully outlined in the ecological suite of information associated with this planning application are the identified Ecological impact and mitigation measures recommended by the Ecological Consultant Flynn Furney.

Document
Newport Appropriate Assessment Screening Report
Newport Ecological Impact Assessment Report
Newport Invasive Species Management Plan
Newport Natura Impact Statement
Newport Foot Bridge Bat Survey

Table 3: List of Ecological Reports

Attention should be given to the recommendations in each report and a full understanding of the risks and mitigation should be achieved before any works commence on site.

7.1 Dust Management

The following dust control measures will be implemented by the construction works contractor for the duration of the construction of the proposed development:

- Cognisance will be taken of the guidelines published by the Institute of Air Quality Management (IAQM), “Assessment of dust from demolition and construction 2014”;
- Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind;
- Prolonged storage of materials onsite will be avoided;
- When transporting materials to and from the site, vehicles will be fitted with covers where possible to prevent material loss;
- Public roads outside the site will be regularly inspected for cleanliness and cleaned as necessary. A road sweeper will be used if required;
- While the natural recolonization of exposed areas of soil during reinstatement activities is preferred, re-seeding will be undertaken where required to promote the rapid stabilisation of soils;
- Regular visual inspections will be undertaken around the proposed site boundary to monitor the effectiveness of dust control measures.

Should additional dust control measures be required, for instance during particularly dry weather, dust suppression measures will be undertaken, including the following:

- Water misting plant, such as bowsers and sprays will be used as required and where necessary;

- Where practicable, stockpiles of excavated soils and exposed surfaces will be dampened down via misting plant.

7.2 Surface water, Ground Water and Soil Contamination Control

The implementation of control measures for dust and materials storage and handling will reduce the potential for a deterioration in water quality. The following control measures shall be implemented by the construction works contractor for the protection of surface water quality and groundwater quality:

- The construction works contractor will adhere to standard construction best practice, taking cognisance of the Construction Industry Research and Information Association (CIRIA) guidelines "Control of Water Pollution from Construction Sites; guidance for consultants and contractors" 2001 and "Control of Water Pollution from Construction Sites – Guide to Good Practice", 2002;
- Cognisance will be taken of the 2016 guidelines published by Inland Fisheries Ireland, "Guidelines on Protection of Fisheries During Construction Works in and adjacent to Waters";
- Where spoil is generated, this will only be stored temporarily. A designated spoil area will be established by the construction works contractor within site footprint at the site. Where possible, spoil will be covered or alternatively, graded to avoid ponding or water saturation;
- Excavations and earth-moving activities will be planned outside periods of heavy rainfall, to limit the potential for suspended solids to become entrained within surface water run-off;
- All construction plant machinery and equipment will be maintained in good working order and regularly inspected;
- Spill kits, adequately stocked with spill clean-up materials such as booms and absorbent pads, will be readily available onsite;
- The construction works contractor will ensure the relevant site personnel are trained in spillage control;

Additional controls to reduce the potential impact upon soils include the following:

- Specialist machinery (such as tracked machinery) will be used to minimise the potential compaction of soils;
- Excavated materials will be stockpiled onsite, segregated into topsoil and subsoils, and reused in reinstatement activities where possible;
- Any fill and aggregate material required onsite will be sourced from reputable, local quarries.

7.3 Biodiversity Protection Protocol

It is considered that the implementation of the controls and measures outlined will reduce any potential adverse impacts upon the biodiversity in the area. The following control measures are also recommended to ensure that the proposed construction works will not have any significant impact upon biodiversity:

- All construction works will be confined as far as possible to the development footprint outlined in red on drawings.
- Where possible, no construction works will be conducted outside of normal working hours, to reduce potential noise disturbance to nocturnal species; where recommended in the ecological impact statement works should be carried out outside of key time periods ie: breeding, nesting, foraging time periods.

- Should a protected fauna species such as Bat species or Otter (Lutra lutra) be found during the construction works, an officer of the NPWS will be notified prior to the resumption of construction works;
- Where possible, any vegetation removal works will be scheduled outside of the 1st of March to the 31st of August period, so as not to disturb nesting bird species;

Construction works have the potential to impact upon bat species due to lighting disturbance on commuting and foraging habitat. Therefore, the following measures will be implemented by the construction works contractor:

- Construction works in the hours of darkness, when bats are active (April – October), will be kept to a minimum;
- Should lighting be required during construction works, it will be of a low height (without compromising safe working conditions) to ensure minimal light spill. Where possible and where practicable to do so, timers or motion sensors will be used;
- Directional lighting will be used where possible, by use of louvres or shields fitted to the lighting;
- White light emitting diode (LED) will be used where possible, which is considered to be a low impact in comparison to other lighting types.

7.4 Invasive Species Control

The Ecologist has highlighted areas with specific flora that's is deemed to be of an invasive / non-natural origin that required attention and due care. Noted in the immediate area to the works is Giant Hogweed and in the vicinity of the site Japanese Knotweed and Himalayan knotweed.

The Proximity of the Hogweed to the works required a planned, preventative methodology to how works and interaction with the specified area as noted on plan needs to be carried out. No proposed works are to be carried out in the areas highlighted for the Japanese Knotweed and Himalayan Knotweed. Refer to the Ecologist report for further information and recommendations. The proposed solution has been cognisant of the evasive species and the proposed solution has limited affect on these areas, but the contractor must apply due care and diligence.

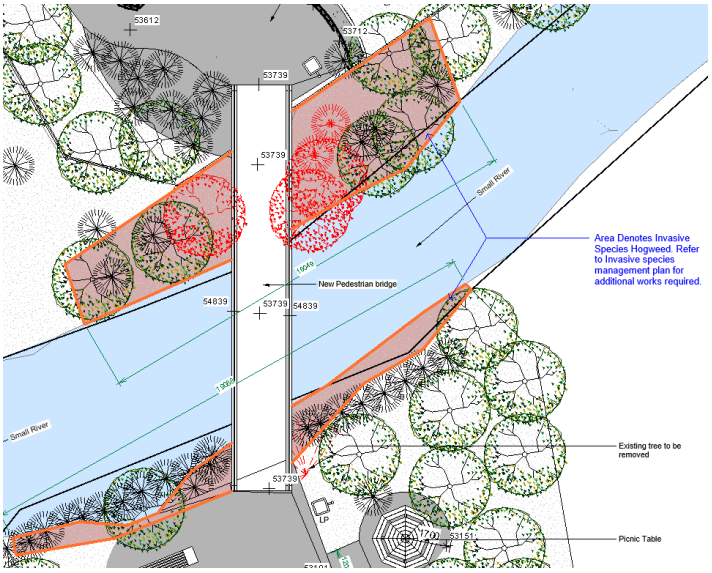

Figure 3: Hogweed Locations

The following controls for the prevention / treatment of invasive flora species will be implemented throughout the construction phase of the development:

- Works adjacent to the area should be carried out by competent contractors under the supervision of the competent qualified ecologists.
- All relevant construction personnel will be trained in invasive flora species (main species of concern) identification and control measures;
- A method statement, incorporating the recommendations of the ecology reports and its findings should be submitted to the ecologist prior to any works being carried out in these areas.
- A method statement for the temporary stockpiling of excavated material should be submitted to the ecologist prior to any works being carried out in these areas with specific reference to the Ecology report and its findings.
- Regular site inspections will be undertaken to ensure that no new growth of invasive species has taken place;
- The construction works contractor will ensure that all equipment and plant is inspected for the presence of invasive species and thoroughly washed prior to arriving to, and leaving from, the development site;
- In the event of new growth of invasive species listed under the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 appearing onsite (not limited to those noted in the Ecology reports), works within the immediate vicinity will cease until the invasive plant has been appropriately treated and disposed of to a suitably licensed facility, in accordance with Regulation 49 of the 2011 Regulations;
- Only suitably licensed and trained personnel should use herbicides, following guidelines and instructions on correct use;
- Herbicides should not be used in or adjacent to watercourses unless application is targeted in the control of invasive species such as giant hogweed (Heracleum mantegazzianum).
- Cognisance will be taken of National Roads Authority's Guidelines on "The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads".

7.5 Noise and Vibration Control

The following noise control measures will be implemented by the construction works contractor for the duration of the construction of the proposed development:

- Cognisance will be taken of the National Roads Authority's "Guidelines for the Treatment of Noise and Vibration in National Road Schemes", the British Standard 5228: Part 1 "Code of practice for Noise Control on Construction and Open Sites" and the CIRIA 2015 "Environmental Good Practice on Site";
- Plant and machinery used on-site will comply with the EC (Construction Plant and Equipment) Permissible Noise Levels Regulations, 1988 (S.I. No. 320 of 1988). All noise producing equipment will comply with S.I. No 632 of 2001 European Communities (Noise Emission by Equipment for Use Outdoors) Regulations 2001;
- All construction activities will take place between 8:00am and 5:00pm, Monday to Friday, and 8:00am to 2:00pm on Saturdays. Any works which, by necessity, are required to be carried out outside of these times will be notified to the relevant bodies and any potentially affected local residents and commercial operators in good time and prior to specified works commencing;
- No plant used on site will be permitted to cause an ongoing public nuisance due to noise;

- Where required, screens or barriers will be installed to shield particularly noisy activities;
- Deliveries will be organised to arrive during daytime hours (between 8:00am and 5:00pm, Monday to Friday)
- Care will be taken when unloading vehicles to minimise noise disturbance. Materials should be lowered, not dropped, insofar as practicable and safe;
- Regular maintenance will be carried out on all construction equipment, machinery and vehicles;
- Construction plant will be operated in accordance with the operator's instructions;
- Engine and machinery covers will be maintained in good working order and will remain closed whenever machinery is in use;
- Where practicable, all mechanical plant will be fitted with effective exhaust silencer's and pneumatic tools fitted with mufflers or silencers;
- Any compressors required will be silenced or of sound reduced models fitted with acoustic enclosures;
- Construction plant will be selected, where possible, with low inherent potential for the generation of noise;
- Construction plant will be switched off or throttled back to a minimum when not in use;
- Staff personnel will be instructed to avoid unnecessary revving of machinery;
- Site personnel will notify the Project Manager in the event equipment or plant becomes defective, resulting in high noise emissions. Any defective plant will be kept out of service until the necessary repairs are undertaken.

8.0 Record Keeping

Records shall be kept for each material leaving the site for all types of use or disposal. This shall take the following basic outline form:

- Waste taken for reuse off site
- Waste taken for recycling
- Waste taken for disposal
- Reclaimed waste materials brought to site for reuse.

For any movement of waste, a docket shall be signed and recorded by waste manager, detailing type and weight of material and source or destination.

This will be readily comparable with all delivery records to site, so a waste generation percentage for each material can be determined.

This will allow ease of comparison of figures with targets established for the recovery, reuse and recycling of Construction waste. It will also highlight the source of failure in meeting these targets.

9.0 Construction Waste

9.1 Categories of Construction Waste

The European Waste Catalogue (EWC) classifies waste materials and categorise them according to what they are and how they are produced. It is referred to in a number of European Union directives and commission decisions regarding waste management. In 1994, the first European waste catalogue and hazardous waste list was published as two separate documents. The lists were used by the environment protection agency for the compilation of waste data from 1995 and were adopted into Irish legislation by the Waste Management Act 1996.

In 1996 the Environmental Protection Agency (EPA) published a single list incorporated both the European Waste Catalogue and the Hazardous waste list. The European Waste Catalogue and the hazardous waste list are used for the classification of all wastes and hazardous wastes and are designed to form a consistent waste classification system across the EU. They form the basis of all national and international waste reporting obligations, such as those associated with waste licences and permits, the national waste database and the transport of waste.

The EPA has also published a more concise guide of these in January 2002. The European four-digit waste codes (EWC) for the typical waste materials expected to be generated for this site are tabulated below as follows:

Waste Material	EWC
Non - Hazardous	
Concrete, bricks, tiles, ceramics	17 01
Wood, glass and plastic	17 02
Bituminous mixtures, coal tar and tarred products	17 03
Metals (including their alloys)	17 04
Soil, stones, and dredged spoil	17 05
Gypsum-based constructed material	17 08
Hazardous	
Electrical and Electronic Components	16 02
Batteries	16 06
Wood Preservatives	03 02
Liquid Fuels	13 07
Soil and stones containing dangerous substances	17 05 03
Insulation materials containing asbestos	17 06 01
Other insulation materials containing of or containing dangerous substances	17 06 03
Construction materials containing asbestos	17 06 05
Construction and demolition waste containing mercury	17 09 01
Construction and demolition waste containing PCBs	17 09 02
Other construction and demolition wastes containing dangerous substances	17 09 03

Table 4: Waste Material EU Classification

9.2 Anticipated Hazardous Waste

Fuels used during construction for site machinery etc., will be classed as hazardous and will be stored in suitable tanks with the draw-off points bunded. Where this is the case, it is not expected that there will be any fuel wastage. Waste mixtures contain dangerous substances classified as hazardous waste. This will not be used as fill on the site and only disposed of in a licensed hazardous waste facility.

Other waste materials which may arise during construction works in small volumes include:

- Waste Oils and Liquid Fuels – EWC 13 02 and EWC 13 07;
- Waste from Electrical and Electronic Equipment – EWC 16 02;
- Cables – EWC 17 04 11;
- Paints – EWC 20 01 28;
- Wood Preservatives – EWC 03 02;
- Batteries – EWC 16 06.

Wastes from EWC fractions EWC 03 02, EWC 13 02, EWC 13 07, EWC 16 02 and EWC 16 06 may be hazardous.

9.3 Estimated Waste Generated

Below is an outlined proposal of the proposed estimated waste generated on site as guided by the EPA *National Waste Reports, the GMIT* and other research papers. This list is not exhaustive and is subject to change pending confirmation of the final construction plan. The information should allow the contractor ample detail to from a robust waste management plan specific to the project's construction criteria.

Waste Type	Tonnes	Reuse / Recovery		Recycle		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Concrete Mixed Reinforced	2.5	0.0	0	**0**	**0**	100	2.5
Metal	0.150	0	0.0	**100**	**.150**	0	0
Inert Site Stratum (Allowance)	2.5	**100**	**2.5**	10	0.0	0	0
Total	5.150		2.5		.150		2.5

Table 5: Estimated off site reuse, recycle and disposal for construction waste

In the absence of general national guidelines for the acceptance of material at waste permitted sites in Ireland, the Austrian guidelines for excavated- soil landfills will be applied to classify this material. Prior to the transfer of material from the site to a specific waste permitted site the available data should be submitted to the permit holder to confirm the suitability of the material for the transfer of the material to the facility.

Category	Qualifying Criteria
Category 1	Inert Material, suitable for disposal at a waste permitted site in Ireland
Category 2	Inert Material, suitable for disposal at inert waste landfill in Ireland
Category 3	Non-hazardous material, suitable for disposal at a landfill facility in Ireland or for disposal/recovery in continental Europe
Category 4	Hazardous material as defined by the application of the "Hazardous Waste Classification Tool" suitable for disposal/recovery continental Europe

Table 6: Qualifying Criteria Category

The below table outlines the foreseen earthen materials generated on site. The proposed scheme should allow for an approximate 100m³ of earthen material to be excavated on site. The list is not exhaustive and is subject to confirmation of the proposed schemes outline and ground conditions experienced on site. Contractor should allow for variation of ground conditions as associated with a standard construction site of this size.

Category	Qualifying Criteria	%	Cubic Metres

Category 1	Inert Material, suitable for disposal at a waste permitted site in Ireland	100	100
Category 2	Inert Material, suitable for disposal at inert waste landfill in Ireland	0.0	0.0
Category 3	Non-hazardous material, suitable for disposal at a landfill facility in Ireland or for disposal/recovery in continental Europe	0.0	0.0
Category 4	Hazardous material as defined by the application of the "Hazardous Waste Classification Tool" suitable for disposal/recovery continental Europe	0.0	0.0

Table 7: Earthen Material Generated on Site

9.4 Proposed Waste Management

Waste is to be segregated on site to the above table. The site waste storage area will have skips and recycling receptacles for all recyclable wastes. Collections for these will be as usage required. Non-hazardous recyclable waste will be transferred by suitable means to landfill. All materials for recycling will be segregated into suitable containers which have adequate access for collection vehicles.

Throughout the construction phase, wastes generated will be managed by the construction works contractor in order of priority in accordance with Section 21A of the Waste Management Act 1996, as amended, as per the waste hierarchy below.

The construction works contractor will ensure that copies of all waste contractors' collection permits and licences will be available for inspection, as discussed in the "Record Keeping" section below.

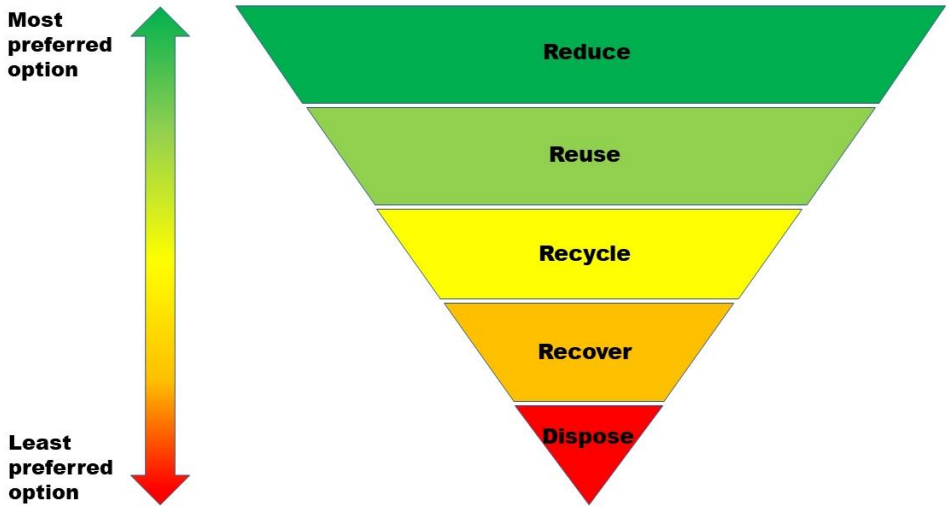

Figure 4: The Waste Hierarchy

Soil / Subsoil / Bedrock

This inert soil and subsoil will be excavated and reused where possible. As there will be an excess of non-hazardous overburden that is not used for landscaping, this material will be disposed of off-site. Soil disposal will be by contractors licensed under the Waste Management Act 1996, the Waste Management (Permit) Regulations of 1998 and the Waste Management (Collection Permit) Regulations of 2001. All soil will be classified in accordance with Council Decision 2003/33/EC and disposed of in accordance with its hazard category in fully EPA

/local authority licensed disposal facilities. Permits issued under the Waste Management (collection permits) regulations 2007 allow the contractor to reuse this for landscaping etc. subject to its terms.

Plastics / Timber / Cardboard / Scrap Metals / Plaster / Glass

These highly reusable and/or recyclable materials, if uncontaminated, will be cleaned, segregated and stored in suitable covered skip for collection by licensed contractor. Every effort will be made in the management of the site to minimize the oversupply of these materials.

Hazardous Materials

A specialist contractor will be employed to carry out environmental clean-up to remove traces of contaminated materials from the site. These should be licensed under Waste Management (Collection Permit) regulations 2007. This will be disposed of in a facility licensed under the Waste Management Act 1996 and waste management (Facility Permit) regulations of 2007.

9.5 Excavated Materials

This section should be read in conjunction with the dust control measures relating to the storage and handling of spoil. The following controls for the handling and storage of excavated materials will be implemented throughout the construction phase:

- Spoil will only be stored at the proposed development site temporarily.
- Spoil will be covered or alternatively, graded, to avoid ponding and water saturation, in addition to mini-mising exposure to wind;
- Where required, silt fencing will be placed around spoil areas until such time as the excavated soil has been used in re-instatement works or removed offsite by a licensed waste contractor;
- Spoil will be used in the reinstatement process where possible;
- Reinstatement will be undertaken as soon as possible after excavation and earth-moving works.

9.6 Concrete

The following controls will be implemented throughout the construction phase:

- The use of pre-cast concrete where possible;
- The delivery and pouring of concrete will be supervised at all times;
- The pouring of concrete will be avoided during periods of expected heavy rainfall;
- Concrete will be poured directly into the shuttered formwork from the Ready-Mix Truck, reducing the risk of spillage;
- The wash-out of Ready-Mix Truck drums will not be permitted onsite, in the environs of the site, or at a location which could result in a discharge to surface water;
- Surplus uncured concrete will be returned to the batching plant where possible.

9.7 Waste Contractors

The collection of wastes from the site will be undertaken by suitably authorised waste haulers, and will only be recycled / recovered or disposed of at suitably licensed waste facilities.

The construction works contractor will appoint a waste contractor(s) for the construction phase. The waste contractor(s) appointed for the project will have experience in construction waste management and will be appropriately licensed, holding the relevant waste collection permit and/or waste licences for the types of waste anticipated to be generated during construction works.

The waste contractor(s) will be appropriately licensed in compliance with the following regulations:

- Waste Management (Collection Permit) Regulations 2007 (S.I. No. 820 of 2007);
- Waste Management (Collection Permit) Amendment Regulations 2008 (S.I. No. 87 of 2008);
- Waste Management (Facility Permit and Registration) Regulations 2007 (S.I. No. 821 of 2007);
- Waste Management (Facility Permit and Regulations) Amendment Regulations 2008 (S.I. No. 86 of 2008).

9.8 Mitigation of Construction Waste

Waste minimisation and prevention will be the responsibilities of the construction works contractor, who will ensure the following:

- The efficient ordering and purchasing of materials to reduce surplus materials;
- Materials will be ordered in appropriate sequence to minimise materials stored on site;
- The correct storage of materials to minimise the generation of damaged materials, for example keeping materials packaged until they are ready to be used and storing materials which are vulnerable to water damage via precipitation under cover and raised above the ground;
- The handling of materials with care, to avoid undue damage;
- The return of uncured concrete to the batching plant where possible;
- The re-use of shutters for concrete works;
- Where possible, excavated subsoil and topsoil will be reused for the reinstatement of the development site.

The construction works contractor will reuse materials onsite where possible. In particular, inert wastes (such as concrete (EWC 17 01 01), bricks (EWC 17 01 02) and soils and stones (EWC 17 05 04)) will be used for infilling activities where suitable (and where required).

10.0 Imported Materials to site

The proposed works envisaged require the import of materials foreign to the site. The proposed design for primary structural elements encompasses the use of offsite construction to mitigate the risk of construction waste generated from polluting the site. The proposed construction technique is to utilise an “assembly” method for the permanent structures with little to no wet trades.

For the path imported material is required in the from graded stone. The proposed works involve levelling the natural bumps where required and levelling stone in grades along the length of the path. The below outlines the forecasted quantities of materials to the site.

Imported Material Type	Tonnes
Pre cast Concrete Mixed Reinforced / Concrete block	4.5
Metal	4.7
Wood	3.2
Clause 804 Stone	30
Stone Blinding	8
Asphalt	1.5
PVC drainage Pipe	.1
Total	52

Table 8: Imported Material to Site

11.0 Operational Waste

11.1 Typical Waste Categories

Typical waste streams are expected to be produced during operation of the amenity space in the forms of litter and general recreational use.

- Food wastes
- Cardboard and paper wrapping
- Plastics (including bottles and other containers)
- Glass (including green, brown, clear)
- Metals (including aluminium cans and tin cans)

Periodic maintenance and repair activities will generate small quantities of waste such as green waste from maintenance.

11.2 Estimated Operational Waste Arisings

A Waste Generation Model has been used to predict waste types, weights and volumes arising from operations within the proposed development. The model incorporates building area and use and combines these with other data including Irish and US EPA waste generation rates.

Approximate estimates of waste generation volumes for the park and recreational spaces with a visitor rate of 250 people / week. The following are considered for the calculation of generated waste volumes for this development.

Waste Type	Park / Recreational Space
Organic	0.1
Cardboard/Paper	0.07
Plastic	0.09
Glass	0.008
Metals	0.03
Textiles	0.05
Mixed non-recyclables	0.12
Total	**0.468 m³/wk**

Table 9: Approximate estimates of waste generation volumes

Therefore, the total waste produced on site generated by the amenity space is estimated at **0.468 m³/wk**.

11.3 Waste Storage and Collection

This section provides information on how waste is to be stored within the development and also how the waste will be collected from the development. This has been prepared with due consideration of the proposed building layout as well as best practice standards, local and national waste management requirements including those of Tipperary County Council In particular, consideration has been given to the following documents:

- BS 5906:2005 Waste Management in Buildings – Code of Practice;
- National Waste Management Plan for a Circular Economy 2024 – 2030

Using the previously calculated waste generation model, waste receptacle requirements and the minimum areas required for waste storage have been established for the development in the table below.

Area/Use	Bins Required
	Waste Bin
Car Park	2 x 110L

Table 10: Bins Required

Waste storage receptacles required above will vary in size, design and colour dependent on the appointed waste contractor. All waste receptacles used will comply with the IS EN 840 2012 standard for performance requirements of mobile waste containers, where appropriate.

The proposed location of waste bins are to confirmed by Tipperary County Council in accordance with the operation and management plan for the Newport Foot Bridge, as it must also encompass the ball area and local amenity spaces. Waste collection is to be carried out by Tipperary County Council or by a Nominated Licensed Sub Contractor.

11.4. Mitigation of Operational Waste

As the waste envisaged to be generated is specifically waste from users in the form of general litter, mitigation measures proposed to manage the impacts arising from the site generated during operation of the proposed development are summarised below:

- Signage to promote the “take your rubbish home” to further recycle waste material
- Signage reinforcing the aesthetic and natura of the area
- Bins to be located in visible / accessible areas to promote use.

12.0 Estimated Cost of Waste Management

Without the appointment of a contractor for the project where more information will be available on the definite methods of collection, storage and transportation are known it is difficult to estimate at this stage.

Waste Management costs have also been changing significantly over the past decade.

However, below we outline the approximate current cost of landfill and recycling. The total cost of Construction and Demolition waste management shall be measured.

The re-use of materials on site will reduce the transportation and disposal costs for waste being taken to landfill sites. Where soil/stones cannot be re-used on the site, they may be reused as capping material for landfill sites, or reinstatement of quarries for example. For this purpose, this waste may be taken free of charge thus reducing overall Waste Management Cost.

Re-cycling in Tipperary for cardboard and clean plastic could be in the range €135 per tonne for disposal as municipal waste, however a net rebate in the range of €35 - €65 could be given if recycled.

Salvageable metals can generally be deposited free of charge at salvage yards, thus only incurring cost for transport.

Timber can be recycled as chip board etc. However, the cost of clean segregate waste is cheaper to dispose of compared to mixed waste.

Segregate waste will generally cost less than mixed municipal waste. As noted above, the disposal of waste to landfill can be reduced by consistently re-assessing the re-use, recovery or recycling or waste materials generated.

13.0 Waste Audit Procedure

The waste manager shall perform audits at the site during the entire construction phase of the works.

This shall ensure that all records are being maintained for all movements of all materials. Records shall also be readily available for comparison with the sites targets. At completion of the Construction phase a final report will be prepared outlining the results of the Waste Management process and the total reuse, recycling and recovery figures for the site.

14.0 Predicated impact of Proposed Development

Assuming all the proposed mitigation measures are implemented, the following impacts are expected to arise as a result of the proposed development.

14.1 Construction Phase

Minimal volumes of waste materials will be generated during the construction of the proposed development, including upgrade of the existing lane way, installation of the bridge and link to existing path.

However careful management of these, including segregation at source, will help to ensure maximum recycling, reuse and recovery is achieved, in accordance with current local national waste targets. It is expected however, that a certain amount of waste may still need to be disposed of to landfill. Assuming appropriate facilities are provided, environmental impacts (e.g. litter, contamination of soil or water etc.) arising from waste storage are expected to be minimal. Particular attention must be given to the appropriate management of demolition (and construction) waste containing contaminated or hazardous materials. The use of suitably licenced waste contractors will ensure compliance with relevant legal requirements and appropriate off site management of waste.

In summary, if the Construction and Demolition Waste Management Plan is implemented and a high level of due diligence is carried out at the site, it is envisaged that the environmental impact of the construction phase of the proposed development will be short term and slight, with respect to waste management.

14.2 Operations Phase

During the operation phase, post construction, it is envisaged that no waste will be generated during the operation phase of the proposed development from the Amenity space itself. Waste will however be generated by the users.

Assuming appropriate on-site storage is provided, environmental impacts (e.g. litter and to a lesser extent contamination of soil and water etc.) arising from waste storage are expected to be minimal. Bins, located in the carpark and adequate signage promoting anti littering should be in the access routes. The use of suitable licenced waste contractors will ensure bins are regularly emptied and will ensure compliance with the relevant legal requirements and appropriate off-site managements of waste.

In summary, if the operational phase management plan is implemented and a high level of due diligence is carried out at the site, it is envisaged that the environmental impact of the operation phase of the proposed development will be long term and slight, with respect to waste management.

15.0 Coordination with External Entities

The Council will be consulted throughout the Construction phase to ensure that all available waste reduction, reuse and recycling options are being explored and utilised and that compliant Waste Management is being carried out at the site.

Specialist companies, where required, will be contacted to determine their suitability and each company's records reviewed to ensure relevant current collection permits / licenses are held.

Companies will also be contacted to gather information regarding treatment of hazardous materials, if required (although not anticipated for this site), costs of handling and the best methods of transportation for recycling or reuse when hauling off site.

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16.0 Monitoring and Auditing

16.1 Reporting and Record Keeping

The Project Manager, in conjunction with the EHS Officer, will ensure that appropriate, detailed records are maintained during the construction phase of the development. Records of all works associated with the proposed development will be completed by the construction works contractor throughout the construction phase. Environmental records will include waste and site inspection records and where relevant, environmental incident and complaints records. Other records may include Safety Data Sheet records and a copy of the Safety File. Where relevant to the associated works, statutory inspection records will be maintained for such activities as excavations and lifting gear.

Where necessary and as requested by the local authority, copies of relevant construction activity records can be made available.

In the event of an environmental incident occurring at the site with the potential to cause environmental pollution, the Project Manager will notify the clients and the relevant third parties as soon as practicable. Such environmental incidents may include:

- Fire;
- Water pollution event;
- Hydrocarbon or chemical spill;
- Excessive noise;
- Excessive dust.

Any complaints and/or incidents will be reported to the Project Manager. The Project Manager will be responsible for developing and maintaining a register of complaints and a register of incidents, with details on follow-up actions. The Project Manager will notify the clients as soon as practicable of any environmental complaint or incident.

16.2 Environmental Performance Monitoring

16.2.1 Safety Monitoring

The EHS Officer will be present at the development site during working hours, to ensure activities are undertaken in a safe manner.

16.2.2 Environmental Monitoring

The EHS Officer will be present at the development site during working hours, to ensure activities are undertaken in an environmentally sensitive manner. The EHS Officer will undertake regular site inspections and audits, at least weekly, to monitor the environmental performance of the site and address any potential environmental issues such as dust, litter and noise. Site inspections and audits will include the following:

- Assessment of public access roads;
- Assessment of neighbouring properties;
- Chemical and hydrocarbon storage area;
- Waste storage area;
- Spoil area.

The EHS Officer will be responsible for maintaining a register of all environmental monitoring and will communicate the site's environmental performance during site meetings.

17.0 Monitoring Compliance Reports

As aforementioned site inspections and audits will be undertaken by the EHS Officer on a regular basis, at least weekly. These site inspections and audits will monitor the environmental performance of the site.

Where works are determined to be in breach of any specifications outlined within the CEMP, the EHS Officer shall notify the Project Manager, who will raise a non-compliance report and notify the clients as soon as practicable. Non-compliance reports may also be raised as a result of an incident or potential incident, the receipt of a complaint or as a result of a regulatory inspection or audit.

The non-compliance report will include details on the nature of the non-compliance, the proposed corrective action required, action taken to prevent recurrence and verification that the corrective actions have been undertaken and the non-compliance has been closed out. Any non-compliances will be discussed at the fortnightly meetings between the construction works contractor and clients.

18.0 Procedures to Review Inspections and Steps to Address Non-compliance

The Project Manager will be responsible for reviewing inspections, audits and any arising non-compliances. A review schedule will be decided upon between the construction contractors and the clients upon the approval of the CEMP by Tipperary County Council.

The Project Manager will notify the clients as soon as practicable of any non-compliances arising during the construction of the proposed development. The Project Manager will be responsible for notifying the relevant third parties where required of non-compliances at the site and will liaise with third parties as necessary as to the outcome of the non-compliance. All non-compliances will be investigated immediately, and the construction works contractor will aim to close out non-compliances as soon as possible. The statuses of any non-compliances will be discussed at the fortnightly meetings between the construction works contractor and clients.

Where it has been determined that revisions to the CEMP are required to ensure recurrence of a non-compliance does not take place, the Project Manager and EHS Officer will make the necessary changes to the CEMP and will ensure that the revisions are effectively communicated as appropriate to onsite personnel and sub-contractors.

19.0 Conclusion

This CEMP has been prepared to demonstrate the commitment of Tipperary County Council to environmental management at the proposed development site, and outlines the work practices and control measures that will be implemented by the construction works contractor throughout the construction period to ensure that potential environmental impacts are effectively managed, reduced or eliminated.

The CEMP is considered a "live" document and will be reviewed and updated as appropriate upon approval by Tipperary County Council and relevant 3rd parties as deemed necessary by the client and as necessary as construction works progress.

It is further recommended that a complete and full understanding of the Flynn Furney Ecological suite is fully reviewed by the contractor prior to any works commencing on site. A meeting should be scheduled with the aforementioned or appointed body to ensure that all mitigations and recommendations are implemented.

20.0 Appendices

Appendix A – Proposed Site Construction Compound Layout

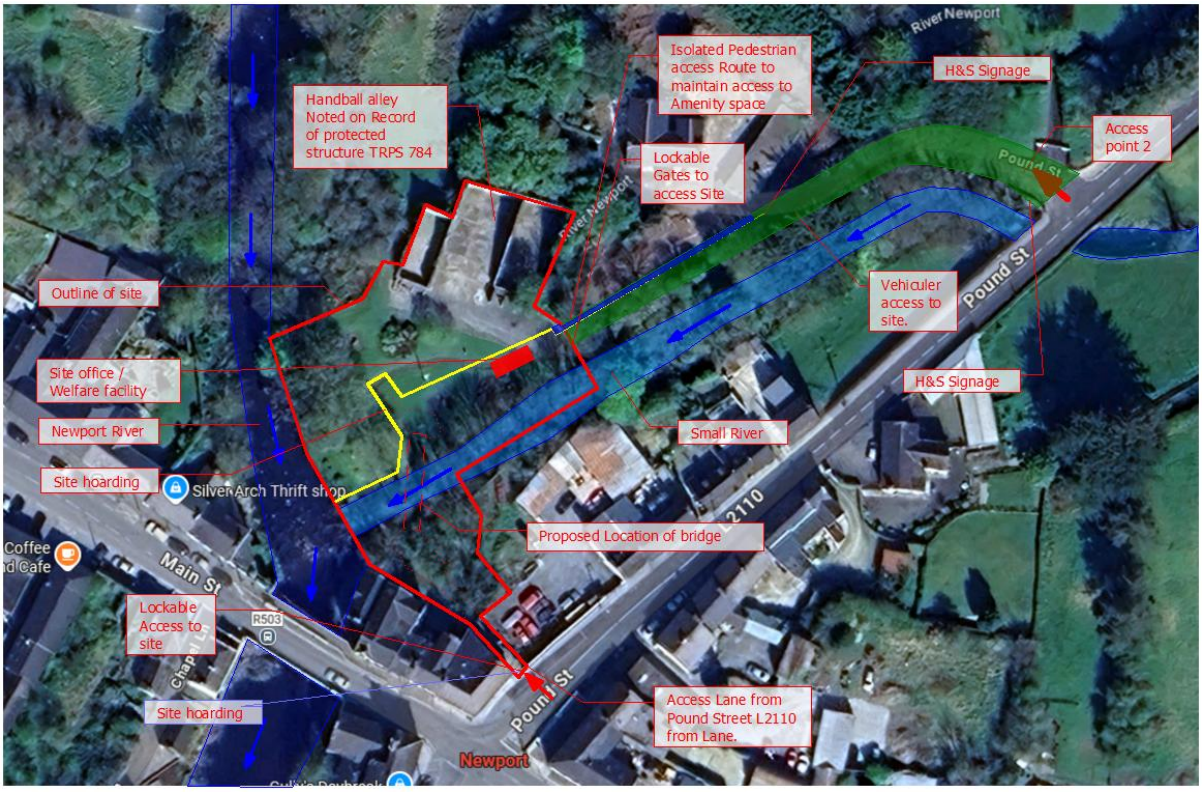

Figure 5: Site Compound Layout