

Kildare County Library

Outline Demolition and Construction Management Plan

Kildare County Council

60669624_ACM_RP_ENV_002_0 (oDCMP)

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1. Introduction

An Outline Demolition & Construction Management Plan (Outline DCMP) has been prepared by AECOM to accompany a Part 8 application for proposed works at Newbridge Library, Co. Kildare ('the site').

This Outline DCMP is a preliminary plan which includes a description of the proposed works and how these works will be managed for the duration of the construction on site. This plan shall be updated by the Contractor and agreed with Kildare County Council (KCC) by the Contractor in advance of the construction phase.

This document excludes any structural or architectural measures associated with existing structures being retained within the proposed site and adjoining structures. This document should be read in conjunction with all other structural, architectural, conservation architecture or other relevant design works requirements.

The development will be under the control of a Contractor who will be appointed after the approval is granted for the Planning Application. Once familiar with the site and having developed a final detailed methodology for the works required, the Contractor will prepare a detailed DCMP prior to the on-site activities commencing. It is anticipated the detailed plan will be based upon this preliminary plan and expanded to provide a project specific site management plan, incorporating:

- Operational Health & Safety (OH&S) Management Plan;
- Detailed Resource & Waste Management Plan;
- Detailed Traffic Management Plan.

The Construction Management Plan will be integrated into and implemented throughout the construction phase of the project to ensure the following:

- That all site activities are effectively managed to limit the generation of waste and to take advantage of opportunities for on-site reuse and recycling of waste materials.
- To ensure that all waste materials generated by site activities, that cannot be reused on site, are removed from site by appropriately permitted waste haulage contractors and that all wastes are disposed of at approved waste licensed/permitted facilities in compliance with the Waste Management Act 1996, the Waste Management (Amendment) Act 2001 and the Protection of the Environment Act 2003.
- To manage and control any environmental impacts (noise, vibration, dust, water) that project construction work activities may have on receptors and properties that are located adjacent to project work areas and on the local receiving environment.
- To comply with planning conditions and other requirements as set-out by KCC.

This document has been prepared to demonstrate how the Contractor and the appointed Project Supervisors will comply with the following relevant legislation, and relevant Best Practice Guidelines:

- KCC's Development Plan 2017-2023;
- Safety, Health and Welfare at Work (Construction) Regulations 2013;
- Traffic Signs Manual Chapter 8: Temporary Traffic Measures and Sign Roadworks (2019);
- Temporary Traffic Management Design Guidance, Department of Transport (2019);
- Temporary Traffic Management Operations Guidance Part 0 & Part 1, Department of Transport (2019);
- Department of the Environment, Heritage and Local Government – Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects – June 2006;
- Third Noise Action Plan 2019-2023, Kildare County Council;
- The Waste Management Act 1996 – 2008, Amendments & Associated Sub-ordinate Regulations;
- CIRIA Document 133 Waste Minimisation in Construction;
- The Litter Pollution Act 1997;
- The Eastern-Midlands Regional Waste Management Plan 2015-2021;

- Construction Code of Practice for the Sustainable Use of Soil on Construction Sites (DEFRA), September 2009;
- Designing out Waste: A Design Team Guide for Civil Engineering (WRAP);
- Environmental Protection Agency (EPA), Waste Classification, List of Waste & Determining if Waste is Hazardous or Non-Hazardous (2015);
- EPA, Best Practice Guidelines on the Preparation of Resource & Waste Management Plans for Construction and Demolition Projects;
- The EU Waste Framework Directive (2008/98/EC);
- Protection of the Environment Act 2003 (S.I. No. 413 of 2003);
- Litter Pollution Act 1997 (S.I. No. 12 of 1997).

2. Description of the Project

The Proposed Development involves the construction of an extension to the existing protected structure Newbridge Library to provide a new Kildare County library, cultural centre and archives. The proposal also involves the demolition of an existing 1970's extension to the protected structure. The proposed structure will range from one to three storeys in height with a floor area of 2,320 sqm. Landscaping, public realm works and ancillary works are also proposed as part of the development. External works include the relocation of the courtyard entrance from Main Street to Athgarvan Road, modifications to the existing car park and modifications to the Main street public realm to provide service bay for deliveries, bus stop and accessible car parking alongside the provision of a new cycle lane.

The site location is shown in Figure 1 below, with the proposed ground floor layout as shown in Figure 2.

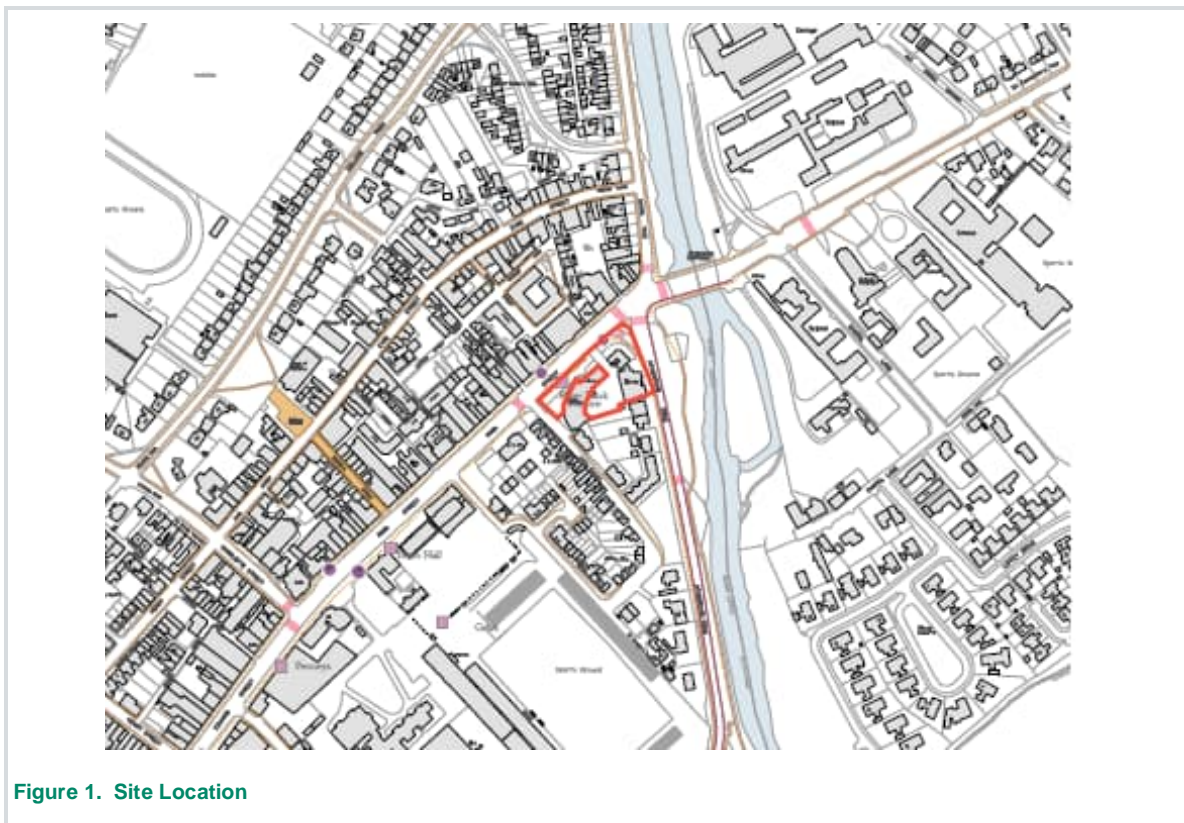


Figure 1. Site Location

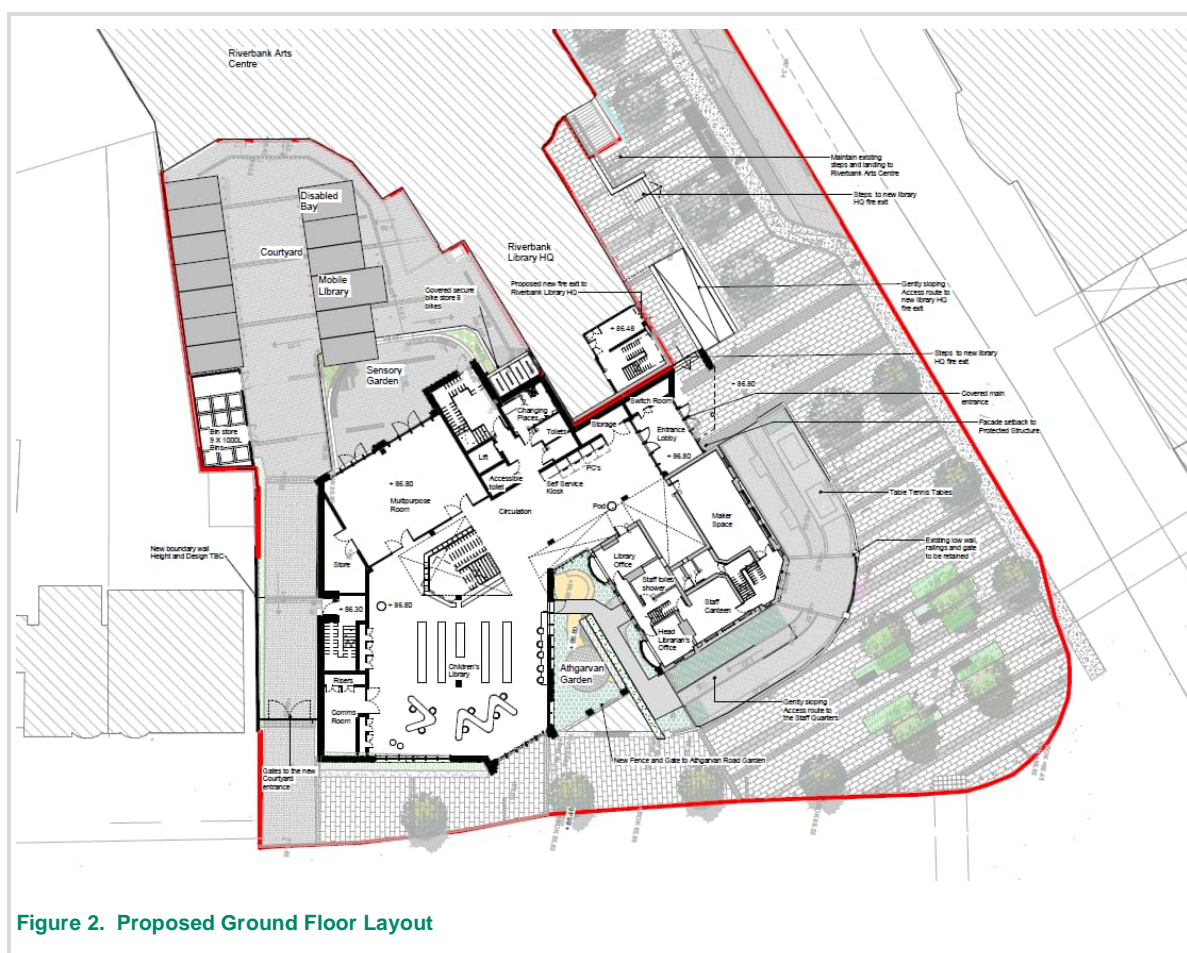


Figure 2. Proposed Ground Floor Layout

3. Site Logistics

3.1 Construction Program & Phasing

The construction programme and any phasing proposals will be agreed with KCC in advance of the construction stage commencing.

3.2 Working Hours/Periods

The Contractor will include in their CEMP working hours, which are to be in line with Council requirements and/or planning conditions and are to be agreed in advance with KCC. The hours are likely to be as follows, subject to approval:

- 08:00 hours to 18:00 hours Monday to Friday
- 08:00 hours to 14:00 hours Saturday
- It is envisaged that no works will be permitted during night-time, Sundays or bank holidays without prior written approval.

3.3 Site Housekeeping

Good housekeeping is an important part of good environmental practice and helps maintain a more efficient and safer site. The site should be tidy, secure, and have clear access routes that are well signposted. The appearance of a tidy, well-managed site can reduce the likelihood of theft, vandalism, complaints and/or specific hazards that could affect the safe operation of the other businesses in the area, such as access/egress of pedestrians from businesses.

In the fourth edition of the CIRIA C741 'Environmental Good Practice on Site Guide', when considering good housekeeping, the Contractor will implement the following steps:

- Adequately plan the site with designated areas of materials and waste storage;
- Segregate different types of waste as it is produced and arrange frequent removal;
- Keep the site tidy and clean;
- Ensure that no wind-blown litter or debris leaves the site, use covered skips to prevent wind-blown litter;
- Keep hoardings tidy – repair and repaint when necessary, removing any fly posting or graffiti;
- Frequently brush-clean wheel washing facilities;
- Keep roads free from dirt by using a road sweeper; and,
- Ensure site is secure, with appropriate fencing and hoardings.

3.4 Site Compound

The location of the site compound to be used by the Contractor is to be agreed with KCC and other stakeholders prior to the works commencing. A plan of the site compound will clearly show construction site offices, staff facilities, parking areas, refuelling areas, crane locations, wheelwash locations, waste storage and materials storage. The location of the compound should be removed by an appropriate distance from any trees to be retained and water features. The location of the compound will consider the ongoing operation of the adjacent Riverbank Arts Centre.

4. Traffic Management

4.1 General

This Outline CTMP deals directly with the impacts of construction of the development. As with any construction project, the appointed contractor will be required to prepare a comprehensive CTMP for the construction phase. The purpose of such a plan is to outline measures to manage the expected construction traffic activity during the construction period.

This Outline CTMP will provide an overview of the likely routing of construction vehicles, based on a most likely scenario of construction. It should be noted that the impacts of the construction will be temporary and it will be the appointed contractor's responsibility to prepare a CTMP for the approval of KCC and key other stakeholders such as bus operators in advance of any works.

4.2 Policy Guidance

Guidance for the temporary control of traffic at road works to facilitate the safety of the public during the works is provided below:

- Traffic Signs Manual Chapter 8 Temporary Traffic Measures and Sign for Roadworks (2019);
- Traffic Management Guidelines, Department of Transport (2003); and
- Requirements of KCC and other stakeholders.

4.3 Likely Construction Programme and Phasing

The construction programme and any phasing proposals will be agreed with KCC in advance of the construction stage commencing. The anticipated construction may commence in 2023 subject to planning approval.

4.4 Construction Route

To minimise construction impacts upon the surrounding road network, it is recommended that all construction traffic access and exits the site from the M7 Junction 12 joining R445 Ballymany at the grade separated dumbbell roundabout and then utilising R416 Athgarvan Road to avoid the high street area. From exiting the M7, this route is approximately 3.5 km to / from the site. This routing has been illustrated in Figure 3.

Figure 3. Proposed Construction Route



Base Map Source: Google Earth, 2022

4.5 Parking

All contractor vehicles will park within the development site area, as part of the construction management plan the contractor designates an area within the confines of the site dedicated to operative car parking.

If the works are to take place at off peak times sufficient on-site parking should be available for staff and visitors. If works are taking place at peak times or during times of high site attendance, off-site parking will be provided by the Contractor to avoid long term on-street parking by workers. Construction staff will also be encouraged to use public transport and information on local transportation will be published on site.

4.6 Mitigation Measures

A full CTMP will be developed by the contractor prior to the commencement of work on site and will be prepared in consultation with KCC.

No works shall commence until such time that the full CTMP has been approved by KCC and the Project Supervisor Construction Stage (PSCS). Details of anticipated vehicle volumes will be within this plan.

The Contractor and PSCS should be aware that the proposed works will be undertaken in an area comprising a number of existing residential premises. Therefore, the Contractor will be required to accommodate and make provision for access and egress to these premises at all times paying particular attention to the provision of pedestrian/disabled/cyclist safe access and egress also. The CTMP should include alternative routes for pedestrians and vehicles in the event that public roads or right of ways are closed during works. The CTMP will include measures to limit the amount of queuing required by construction vehicles outside the site boundaries.

All licensing and administration matters should be directed through the Roads Department in KCC.

Construction debris particularly site clearance, spoil removal and dirty water run off can have a significant impact on footpaths and roads adjoining a construction site, if not adequately dealt with and these matters will require to be fully addressed in the contractors CTMP.

4.7 Hours of Operation

The Contractor will include in their full CTMP working hours, which are to be in line with Council requirements and/or planning conditions and are to be agreed in advance with KCC. The hours are likely to be as follows, subject to approval:

- 08:00 hours to 18:00 hours Monday to Friday
- 08:00 hours to 14:00 hours Saturday
- It is envisaged that no works will be permitted during night-time, Sundays or bank holidays without prior written approval.

4.8 Traffic Management Measures

Below is a list of the proposed traffic management measures to be adopted during the construction works. Please note that this is not an exhaustive list, and that it will be the appointed contractor's responsibility to prepare a detailed CTMP.

- Warning signs / Advanced warning signs will be installed at appropriate locations in advance of the construction access locations;
- Construction and delivery vehicles will be instructed to use only the approved and agreed means of access; and movement of construction vehicles will be restricted to these designated routes;
- Consideration will be given to reduce the volume of construction traffic accessing the site through reduce – reuse and recycle methods. Delivery control will also be adopted to reduce potential heavy vehicle convoys.
- Appropriate vehicles will be used to minimise environmental impacts from transporting construction material, for example the use of dust covers on trucks carrying dust producing material;
- Speed limits of construction vehicles to be managed by appropriate signage, to promote low vehicular speeds within the site;
- Parking of site vehicles will be managed and will not be permitted on the public road, unless proposed within a designated area that is subject to traffic management measures and agreed with KCC;
- A road sweeper will be employed to clean the public roads adjacent to the site of any residual debris that may be deposited on the public roads leading away from the construction works;
- On site wheel washing will be undertaken for construction trucks and vehicles to remove any debris prior to leaving the site, to remove any potential debris on the local roads;
- All vehicles will be suitably serviced and maintained to avoid any leaks or spillage of oil, petrol or diesel. Spill kits will be available on site. All scheduled maintenance carried out off-site will not be carried out on the public highway; and
- Safe and secure pedestrian facilities are to be provided where construction works obscure any existing pedestrian footways. Alternative pedestrian facilities will be provided in these instances, supported by physical barriers to segregate traffic and pedestrian movements, and to be identified by appropriate signage. Pedestrian facilities will cater for vulnerable users including mobility impaired persons.

The mitigation measures will therefore ensure that the presence of construction traffic will not lead to any significant environmental degradation or safety concerns in the vicinity of the proposed works. Furthermore, it is in the interests of the construction programme that deliveries, particularly concrete deliveries are not unduly hampered by traffic congestion, and as a result continuous review of haulage routes, delivery timings and access arrangements will be undertaken as construction progresses to ensure smooth operation.

4.9 Summary

This plan shall be further refined and expanded by the Contractor into a full Contractor CTMP as more information becomes available and more certainty in terms of the proposed layout, construction methods and programme. The full Contractor CTMP will be prepared prior to commencement of construction and with the approval of KCC.

A summary of measures to be provided are:

- A temporary car parking area will be provided on the site within the contractors compound. Parking will therefore be contained within the site and no parking will occur on the local highway network;
- Warning signs / Advanced warning signs will be installed at appropriate locations in advance of the construction access locations;
- On site wheel washing will be undertaken for construction trucks and vehicles to remove any debris prior to leaving the site, to remove any potential debris on the local roads; and
- Speed limits of construction vehicles to be managed by appropriate signage, to promote low vehicular speeds within the site.

5. Outline Construction Environmental Management Plan

5.1 Roles & Responsibilities

The Contractor shall prepare a Construction Environmental Management Plan (CEMP)

The Contractor shall employ a suitably experienced and qualified Construction Environmental Management Plan Co-ordinator (CEMPC) or Environmental Site Representative (ESR) to undertake co-ordination and implementation of the Contractor's CEMP, in respect of all environmental requirements. The CEMPC or ESR shall be present on-site whenever work is in progress.

The CEMPC/ESR shall be the point of contact for dealing with environmental issues for KCC, the Contractor's employees, sub-contractors, relevant authorities/environmental bodies, and members of the public. The CEMPC/ESR will also be responsible for controlling the construction impacts arising from the activities of the Contractor and their sub-contractors in accordance with the CEMP.

The CEMPC/ESR should be a Chartered Member (CEnv or CEcol) of the Chartered Institute of Ecology and Environment Management (CIEEM), the Institute of Environmental Management and Assessment (IEMA), Chartered Institution of Water and Environmental Management (CIWEM) or hold an equivalent professional qualification in the ecological and environmental field. Whilst the CEMPC/ESR may have specialist experience in one particular field, they shall also be experienced generally, in wider aspects of ecology and environmental management.

A CEMPC/ESR shall be 'on call', available 24 hours per day and shall be aware at all times of activities being undertaken on site. They shall maintain a daily log, recording all environmental issues, events and dealings with third parties. The ESR(s) need not be as widely experienced as the CEMPC but shall be equally well qualified.

The CEMPC/ESR shall prepare, implement, manage, review and revise the versions of the CEMP with the sole purpose of ensuring that the environment is safeguarded at all times from anticipated or unexpected adverse impacts during construction.

Details of the proposed CEMPC/ESR shall be included within the CEMP. Should the Contractor wish to appoint an alternative member of staff to the role of CEMPC/ESR, details shall be submitted to KCC for approval at least 28 days prior to the proposed date for the change in personnel and included within the CEMP.

In general, the duties of the CEMPC/ESR shall include the following:

- Implementation of the CEMP procedures;
- Routine environmental monitoring, recording and reporting;
- Maintaining and auditing the CEMP and documents that underpin it;
- Environmental training including daily toolbox talks to site staff and design staff; and
- Any other activities that may be necessary in order to protect wildlife and the environment during the works.

Some of the indicative key contractor team roles and responsibilities are set out below in.

Table 1. Key Contractor Team Roles and Responsibilities (Indicative)

Role	Responsibilities
Contractor's Project Director	<ul style="list-style-type: none"> Assign specific environmental duties to competent member of the Contractor's Team. Identify the environmental training needs of personnel under their control and arrange appropriate training programmes and ensure records are being maintained. Ensure that significant environmental aspects identified for the proposed development are managed. Promote the continual improvement of environmental performance.
CEMP Coordinator	<ul style="list-style-type: none"> Develop, maintain and audit the CEMP (and supporting documents/plans) to ensure all aspects, impacts, statutory requirements and Environmental Statement commitments etc. are reflected in the Plan. Develop and implement a programme of regular environmental inspections, monitoring, recording and reporting by the Environmental Site Representative(s) in accordance with procedures set out in the CEMP. Ensure that the works are constructed in line with the CEMP. Liaise with KCC. Attend regular construction meetings to ensure environmental issues are discussed and addressed by the Contractor's Team. Comply with duties under relevant legislation and company procedures in relation to environmental incident investigation and reporting. Provide support and training to the workforce with regard to understanding environmental aspects, impacts, regulatory requirements, best practice, constraints and methods of working. Nominate the Environmental Site Representative(s). Appoint environmental specialists as required. Ensure identified environmental specialists are in attendance on-site as required by the CEMP. Review non-conformance reports provided by the Environmental Site Representative(s) and/or KCC's Environmental Advisors to identify any underlying issues or patterns to identify suitable ameliorative measures.
Environmental Site Representative(s)	<ul style="list-style-type: none"> Provide an on-call 24hr resource as a first point of contact for environmental issues/incidents. Complete programme of regular environmental inspections, monitoring, recording and reporting in accordance with the CEMP. Provide direction on corrective action to be taken by the Site Manager in response to identified non-conformances. Report all identified non-conformances separately to KCC and the CEMPC. Ensure that corrective actions are completed fully by the Site Manager. Maintain daily records of environmental issues, events and consultations with third parties. Ensure identified environmental specialists are in attendance on-site as required by the CEMP. Maintain records of environmental awareness training/inductions delivered to site staff.
Contractor's Project Manager	<ul style="list-style-type: none"> Ensure that the CEMP is produced, maintained and implemented and distributed to all relevant parties. Monitor the completion of corrective actions by the Site Manager and take action as required to expedite completion. Ensure that all personnel for whom they are responsible are aware of the CEMP and implement the relevant requirements. Evaluate the competence of all sub-contractors and suppliers and ensure that they are made aware of and comply with the CEMP and associated procedures. Establish a consultation and communication system with all relevant interested parties associated with the proposed development, including employees, partners, sub-contractors, designers and third parties, etc., where relevant.
Ecological Clerk of Works (where identified as necessary)	<ul style="list-style-type: none"> The ECoW shall hold a relevant degree in ecology and have appropriate relevant experience Provision of specialist input and supervision (licensed or otherwise), where necessary, of construction in relation to protected species including roosting bats. Training of construction staff regarding measures to protect nesting birds and roosting bats. Attend site as required to monitor the protection of asset in accordance with the requirements of relevant legislation, the construction contract and the CEMP. Identify potential risks to wildlife and develop suitable control measures. Provide status reports and updates to the Environmental Site Representative(s) in the completion of their activities. Liaison with the NPWS, KCC and other nature conservation agencies on ecological matters where required.
Site Manager	<ul style="list-style-type: none"> Ensure that all personnel undergo suitable and sufficient environmental induction before starting work, and periodic refresher environmental awareness training throughout the construction phase. Ensure staff attend the appropriate environmental courses that are organised by the Environmental Manager (CEMPC). Ensure the Environmental Manager is maintaining records of training delivered to site staff.

Role	Responsibilities
	<ul style="list-style-type: none"> • Monitor the performance of personnel and activities under their control and ensure arrangements are in place so that all personnel can work in a manner which minimises risks to them and to the environment. • Undertake a programme of regular environmental inspections in liaison with the Environmental Site Representative(s). • Provide resources and support to complete corrective actions identified by the Environmental Site Representative(s) and provide status reports as required to KCC. • Assist and support the Environmental Manger (CEMPC) and statutory bodies in the investigation of any incidents. • Notify the Environmental Site Representative(s) of all environmental issues or incidents arising over the course of operations.

5.1.1 Awareness and Training

Environmental training should be provided to site construction personnel to inform them of their responsibilities and liabilities with reference to protection of water quality. Training should include office-based workshops prior to commencement of site works, site-based Toolbox talks prior to or during the works, or the use of notice boards in site offices to display important information.

All site personnel shall have a valid 'Safe Pass' card and follow the instructions set out in the Operational Health & Safety (OH&S) Management Plan. Training records (including toolbox talks) shall be retained and available for inspection upon request.

The Client is to appoint a Project Supervisor Construction Stage (PSCS) prior to any construction works taking place.

5.1.2 Interaction with Licensing and other Plans

The CEMPC/ESR shall oversee and advise the Contractor on compliance with additional requirements to the CEMP including licensing requirements, mitigation measures and monitoring requirements specified in documents that may include but are not limited to, the following:

- Air Quality Management Plan;
- Biodiversity Management Plan;
- Water Quality Management Plan;
- Noise and Vibration Management Plan;
- Construction Traffic Management Plan;
- Resource & Waste Management Plan;
- Invasive Species Management Plan;
- Landscape Management Plan.

5.2 Land, Soils, Geology, Hydrogeology, Hydrology

If material exported or excavated from the site is not properly managed or handled correctly it could impact on the water and soil environments. Groundwater can become contaminated with pollutants from the construction activities that take place on site and there is the potential for silt water to arise from any excavations, exposed ground, stockpiles, and access roads if the proper mitigation measures are not in place.

The proposed development site is located approximately 50m from the River Liffey.

If peat is encountered, a peat storage, handling and reinstatement management plan shall be prepared by the Contractor.

5.2.1 Water Quality Management Plan

The Contractor shall be responsible for developing a Water Quality Management Plan (WQMP) that relates to its construction activities. The WQMP should be included within the CEMP. The Plan shall apply to all works carried out by the Contractor and any sub-contractors under its control, and should be agreed between the Contractor, KCC and relevant stakeholders.

The WQMP will also address licensing requirements, monitoring requirements, discharge points and maintenance requirements in relation to the management of surface water during the construction phase. Construction works will be undertaken in accordance with all relevant guidance, including the following:

- Inland Fisheries Ireland's Requirements for the Protection of Fisheries Habitat during Construction and Development Works. CIRIA (Construction Industry Research and Information Association) Guidance Documents.
- Control of water pollution from construction sites (C532).
- Control of water pollution from linear construction projects: Technical Guidance (C648). Control of water pollution from linear construction projects: Site Guide (C649).
- Environmental Good Practice on Site (C692).
- NRA Guidance Documents. Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes.

The WQMP should include specifics on the technical specification, installation, and maintenance of any pollution control tools used, as well as monitoring and sampling requirements. Any deviation from the agreed WQMP should be reviewed and agreed by all parties.

In terms of specific mitigation measures relating to sedimentation, the CEMP must include:

- Procedures for dewatering the site during construction works including licensing requirements, monitoring requirements, discharge points and maintenance requirements of any water treatment plants.
- Put in place measures that will minimise erosion by reducing disturbance and stabilising exposed materials.
- Consider and document, control measures to minimise the release of mobilised sediment which results, despite the erosion control measures.
- Preventing of silt pollution from the Project shall be carried out by minimising the generation of silt-laden runoff. This can be achieved by the Contractor carefully planning the site works so that activities likely to generate silt-laden runoff are carried out during drier weather and erosion of surface soils and excavations is controlled.
- Stockpiles will be kept to a minimum, to control erosion areas of exposed ground. Stockpiles shall be minimised to reduce silty runoff and located well away from watercourses, drains and dewatering points.
- Consideration shall be given to ground water level and ground saturation to prevent excessive overland flow and associated scouring and mobilisation of suspended solids. The area to be stripped shall be kept to a minimum and phased during the planning and construction phase to reduce the amount of land exposed.
- Mud shall be controlled at entry and exits to the site using wheel washes and road sweepers, and tools and plant must be washed out and cleaned in designated areas. Consideration of containment of wheel washings for treatment prior to discharge shall be given; and,
- A silt fence will be erected along the watercourse to prevent silt entering these watercourses.

These silt fences will include the following: -

- Geotextile fabric buried to a maximum of 100mm below the surface
- Overlapping any joins in the fabric
- Turning up on the ends for a length of 1 metre to prevent volumes of suspended solids escaping in a storm event.
- All exposed earth areas where it may be possible for runoff to transport silt down slopes shall be protected with a sediment and erosion control silt fence generally installed along the boundaries of the site.

5.2.2 Refuelling and Storage Practices

Proper use and storage of oils, fuels and other materials shall include the following measures:

- Plant/machinery shall be re-fuelled at the site compound at the start of each working day and additionally as required (refuelling will take place at least 50m from watercourses). Drip-trays will be employed at the refuelling location within the compound, and the spill kit will be kept there for the duration of the contract and be checked daily if fit-for-purpose.

- The Contractor and ESR will inspect the refuelling area at the compound at least daily during operation of the compound to verify that drip-trays are being used consistently by site staff (and are being regularly emptied to a bowser).
- Refuelling of plant and machinery shall take place at least 50 m away from drains using a mobile fuel bowser and restricted to designated areas on hard standing. Only double bunded fuel bowsers shall be used. Vehicles must not be left unattended during refuelling operations, and drip trays must be placed under the fuelling point during fuelling.
- All fuel/oil storage areas shall be covered and bunded to 110% storage capacity.
- Drip trays will be used underneath mobile plant and drums whilst in use on site.
- There will be no stockpiling of excavated materials by watercourses, to avoid any runoff entering them. Stockpiles should also be located well away from drains to reduce silty runoff.
- Leaking or empty oil drums shall be removed from site immediately and disposed of via an appropriately licensed waste disposal contractor.
- All hazardous substances on-site shall be controlled within enclosed storage compounds that shall be fenced off and locked when not in use to prevent theft and vandalism.
- Care must be taken whilst using shuttering oils when preparing formwork. This requires operatives to be trained in the proper handling of materials, the sensitive nature of the wider drainage system, and the consequences of accidental spillage.
- Concrete mixing must be undertaken in designated impermeable areas, at least 10 m away from drainage points to reduce the risk of runoff entering a watercourse, or the sub-surface, or groundwater environment.
- Where dewatering is required during the construction phase, dirty water will be fully and appropriately attenuated, through silt bags, before being appropriately discharged to vegetation or surface water drainage feature.
- Welfare facilities will be provided for the contractors on site during the construction works. During construction, portable sanitary facilities will be provided with waste collected and disposed of appropriately.

5.3 Resources and Waste

An Outline Construction and Demolition Waste Management Plan (oCDWMP) has been prepared for the project by AECOM and is included as Appendix A. The Contractor shall be responsible for developing the Resource & Waste Management Plan (RWMP) related to its construction activities. The RWMP shall apply to all works carried out by the Contractor and any sub-contractors under its control. In preparing the plan, the Contractor shall take into account any measures set out in any planning consent document, the relevant legislation, and industry best practice, to include the EPA's 2021 publication 'Best Practice Guidelines on the Preparation of Resource & Waste Management Plans for Construction and Demolition Projects'.

Certain uncontaminated materials (excavated from the site during the works which will primarily be concrete rubble and road surfacing) may be reused in the works, and therefore would not require removal from the site. In developing the RWMP, the Contractor shall consider the reuse of materials where practicable, where permitted under the relevant waste legislation, and where the material meets the engineering requirements.

5.3.1 Waste Identification & Classification

The Contractor shall establish a procedure to identify and classify all waste arising at the site in accordance with the European Waste Catalogue (EWC) Code. For each waste stream identified by the Contractor, and for each additional waste stream that may arise during the course of the works, the Contractor shall identify the following:

- The appropriate EWC Code;
- A suitable Waste Collection Contractor in possession of a valid Waste Collection Permit for the collection of the particular waste;
- The waste recovery or disposal site, including the transfer station where the waste may be transferred to upon leaving the site, in possession of a valid Waste Facility Permit or Waste License, as appropriate; and,
- The recovery or disposal method for the waste.

Only contractors in possession of a valid Waste Collection Permit shall collect wastes from the site. The Contractor responsible for the waste shall ensure that the Waste Collection Contractor:

- Is permitted to collect the particular waste;
- Uses a waste collection vehicle identified on the Waste Collection Permit; and,
- Transfers the waste to a waste facility identified on the Waste Collection Permit.

Prior to the commencement of the proposed development, the Contractor shall determine the quantity of waste expected to arise from its works, and KCC or its representatives shall be advised accordingly.

The Contractor shall advise KCC or its representatives in advance if it proposes to act as the Waste Collection Contractor, subject to agreement. In the event that the Contractor acts as the Waste Collection Contractor, it shall ensure that it has the relevant Waste Collection Permit(s) in place prior to commencement of the proposed development.

5.3.2 Management of Excavated Materials

Where the Contractor proposes to maximise the reuse of excavated material in order to minimise the generation of waste, it shall set out how it proposes to manage and document this reuse. This shall include the following:

- Identification and recording of the location from where the material was excavated;
- Delineation of areas where excavated materials is intended for reuse (where permitted); If unexpected obvious contamination is detected during the site works, works should immediately cease until this contamination is investigated.
- Delineation of areas of contaminated and uncontaminated materials (if present);
- Sampling of excavated material (the number and location of samples);
- The proposal for the laboratory to carry out the testing;
- The suite of parameters for which the material is to be tested; and,
- The criteria for assessing whether the material is contaminated or uncontaminated.
- The Contractor shall establish controls necessary to manage the generation, handling and storage of waste at the site.

These controls may rely on the other Plans within the CEMP, for example the protection of stockpiles of material against rainwater ingress and leachate runoff, the bunding of hazardous waste storage areas containing liquids (e.g. oils, paints), and the management of waste collection vehicles both within the site and when leaving the site (dust and noise).

A Soil Management Plan should be developed or included in the RWMP for the site if excavated materials will include soil. This Plan would indicate waste soil classifications to enable the Contractor to identify appropriate disposal/transfer routes for proposed excavated material, based on the nature of the material i.e. made ground or natural soil.

Prior to the transfer of material from the site for export or to a specific waste permitted/licensed site, the appropriate waste classification data should be submitted to the receiver to confirm the suitability of the material in writing for the transfer to their facility.

In order to control off-site material movements and undertake appropriate waste disposal/recovery, a comprehensive docketing system should be detailed in the site RWMP and implemented on the site. A daily record (including preparing and reconciling waste transfer notes) of soil excavation at the site should be maintained by the Contractor.

A Waste Documentation System will be prepared by the Principal Contractor and included in their RWMP.

The Principal Contractor will be responsible for implementation and auditing the Waste Documentation System on a regular basis. The Client's Representative may also undertake verification auditing.

The documentation to be maintained, as a minimum, shall be the following:

- The names of the agent(s) and transporter(s) of the wastes;

- The name(s) of the person(s) responsible for the ultimate recycling, recovery or disposal of the wastes;
- The ultimate destination(s) of the wastes;
- Written confirmation of the acceptance and recovery, recycling or disposal of any waste consignments;
- The tonnages and LoW code for all waste materials;
- Details of any rejected waste consignments;
- Waste Transfer Forms (WTF) for hazardous wastes transferred from site and associated appendices;
- Completed Transfrontier Shipment Forms (TFS) for hazardous wastes transferred abroad;
- Written documentation of waste classifications, including any related analyses; and
- Certificates of Recycling, Recovery, Reuse or Disposal for all wastes transferred from the site.

All waste records will be maintained for at least a period of 3 years and must be subject to verification and validation.

All waste documentation will be maintained by the Principal Contractor and made available for inspection. This will be stored in a safe place, preferably on site, during the project implementation phase. Electronic records will be placed on a secure server that is backed up regularly.

Allowance of time and resources will be made to collate outstanding waste records once the project implementation phase has been completed. Plant and vehicles transporting soils and resources around the site, as well as to and from the site, should not be overfilled. This is to mitigate against spillages of materials onto roads and haul routes.

5.4 Air Quality

Fugitive emissions of airborne particulate matter are readily produced through the action of abrasive forces on materials and therefore a wide range of site preparation and construction activities have the potential to generate this type of emission, including:

- Earthworks, including the handling, working and storage of materials;
- Construction activities; and,
- The transfer of dust-making materials from the site onto the local road network.

Some of the general construction activities and the corresponding possible dust control measures are set out below in Table 2.

Table 2. Possible Dust Control Measures

Activity	Possible Dust Control Methods
Cutting of concrete and road surface	<ul style="list-style-type: none"> • Dampen material. • Ensure the cutting saw is fitted with a wet system. • Cover exposed area. • Ensure cutting only takes place within hoarding areas where possible.
Loading/Unloading	<ul style="list-style-type: none"> • Reduce drop heights wherever practicable. • Ensure activities take place within hoarding areas where possible.
Material Storage	<ul style="list-style-type: none"> • Dampen material. • Protect from wind and store under cover. • Screen material to remove dusty fractions prior to external storage.
Transport by vehicle within and off-site	<ul style="list-style-type: none"> • Restrict vehicle speed. • Water unsurfaced roads and paved roads. • Wheel or body wash at an appropriate distance within the site. • Minimise drop heights. • Sheet or cover loaded vehicles. • Use water sprays/spray curtains to moisten material. • Sweep/wash paved roads.

Air quality measurements should be taken within the site and surrounding air to ensure the particulate matter levels are in accordance with planning conditions.

5.5 Noise and Vibration

During the construction works the Contractor shall comply with relevant legislation and guidance including:

- BS 5228: 2009 Code of Practice for Noise and Vibration Control on Construction and Open Sites, Part 1 and Part 2.
- Safety, Health and Welfare at Work (General Application) Regulations 2007, Part 5 Noise and Vibration.

The development has the potential to increase noise levels at noise sensitive locations surrounding the site. With the impact from the construction phase depending on the number and type of equipment employed during the works.

BS 5228 standard document sets out the noise limits to be applied for the duration of infrastructure works, these limits will be agreed between The Contractor and KCC during the post planning stage prior to any works commencing on site.

Any deviation from the threshold noise levels agreed with KCC will generally only be allowed in exceptional circumstances and when prior written approval has been received from KCC.

The Contractor will undertake vibration monitoring in line with best-practice guidance.

The Contractor will address noise and vibration in the CEMP, through measures such as the following where appropriate:

- Machines will be fitted with suitable silencers;
- Equipment is to be task-specific;
- Vehicle engines to be switched off when not in use;
- Acoustic screens will be deployed if required;
- Offsite fabrication, where possible;
- Site noticeboard clearly stating allowed working hours;
- Noise levels shall be monitored and where trigger levels are exceeded and/or complaints occur both the noise level and complaint shall be recorded and held on file;
- Contractors will highlight in their method statement and/or risk assessment specific activities that will create significant noise and vibration levels. In addition to this, Contractors will demonstrate how they will mitigate/mange these emissions;
- Neighbours will be informed in advance of the activities taking place, highlighting those which may be perceived as more intrusive;
- Contractors will endeavour to programme unavoidable noisy/vibrating activities in between periods that causes the least possible disruption/nuisance to local stakeholders.

5.6 Archaeology, Architecture and Cultural Heritage

A desk-based Archaeology and Cultural Heritage assessment¹ has been prepared by AECOM. This desk-based assessment concluded that there is a potential for unrecorded heritage assets within the Site comprising the remains of former barrack buildings and possible geoarchaeological or paleoenvironmental sequences within former alluvial channels.

The assessment predicted low to moderate potential for the presence of archaeological remains associated with the 19th century infirmary stables and former alluvial channels to survive within the Proposed Development.

¹ Archaeology and Cultural Heritage. Desk-based Report. AECOM, 2022

These remains would be located under the existing modern library building. Pre-development archaeological testing is, therefore, impractical.

Consultation will be held with the KCC Heritage Officer in order to agree archaeological mitigation which would likely take the form of archaeological testing of the footprint of the modern library and the new library building in order to record archaeologically significant remains associated with the former use of the Proposed Development as a cavalry barracks and also any evidence for former alluvial channels associated with the River Liffey.

It is anticipated that the KCC Heritage Officer and the National Monuments Service (NMS) will require that a programme of archaeological test trench evaluation be undertaken as soon as the Proposed Development area is available (after demolition of the Modern Library), to assess the potential presence for below-ground archaeological remains within the Proposed Development area. Early consultation should be undertaken in order to determine the requirement for archaeological evaluation.

Following interpretation of the results of test trench evaluation, further consultation with the KCC Heritage Officer and the NMS should be undertaken to determine any requirement for further archaeological mitigation, such as a detailed, targeted strip and map (excavation) or watching brief(s) on intrusive groundworks.

Any archaeological evaluation and mitigation works should be undertaken by a suitably qualified archaeologist working under licence in accordance with an archaeological Programme of Works that sets out the scope of work and is approved in advance by the KCC Heritage Officer and the NMS.

5.7 Biodiversity

The Contractor will take due cognisance of reports and guidance, including but not limited to the following:

- Bat Suitability Assessment – Kildare County Library, NM Ecology Ltd, 2021
- Screening for Appropriate Assessment – Kildare County Library, NM Ecology Ltd, 2021
- EIA Screening Report – redevelopment of Kildare County Library, Newbridge, MacCabe Durney Barnes, 2022

The EIA Screening Report states that there are no identified habitats or species of ecological note within the site.

5.7.1 Standard Mitigation

The following are some of the standard mitigation measures which will be implemented throughout construction of the Proposed Development:

- all site personnel involved in the construction and operation of the Proposed Development will be made aware of the ecological features present and the mitigation measures and working procedures which must be adopted. This will be achieved as part of the site induction process through the delivery of a toolbox talk. In addition, briefings will be provided to all site personnel in advance of those works which are considered to present an increased risk of impacting upon ecological features.
- root protection zones will be established around retained trees, where relevant, in accordance with the relevant guidance. These will be clearly demarcated, and no machinery will enter these areas, nor will any material be stored within them.
- standard measures for protected species and wildlife in general will be implemented, including:
 - sightings of protected or notable species within the Site or immediate surrounds during the construction period will be recorded. If any evidence or sightings of protected or notable species occur within 30 m of works, then works in that area will stop immediately and advice will be sought from an ecologist.
 - any excavations will be left with a method of escape for any animal that may enter overnight, and will be checked at the start of each working day to ensure no animals are trapped within them.
 - any pipes will be capped or otherwise blocked at the end of each working day, or if left for extended periods of time, to ensure no animals become trapped.
 - as far as possible, construction works will be carried out in daylight to minimise the risk of disturbing protected species such as bats.
 - wherever possible, any tree felling and vegetation removal works which will directly impact upon areas of vegetation which could be used by nesting birds will be undertaken outside the breeding season (taken to be March to August, inclusive). Where this cannot be achieved, a pre-works check for active

nests will be conducted by a suitably experienced ornithologist. Each new construction / felling area will be checked not more than 72 hours prior to commencement of works, since nests can be quickly established. Where any active nests are identified, suitable exclusion zone(s) will be established and maintained until the ornithologist determines that the breeding attempt(s) have concluded.

5.7.2 Specific Mitigation

The Contractor shall refer to any ecological reports available ahead of works for specific mitigation measures and shall include these in their CEMP.

5.7.3 Invasive Species

Where invasive species are encountered prior to or during works, the Contractor will require to agree with KCC and implement an invasive species management strategy.

6. Summary

This plan shall be further refined and expanded by the Contractor into a full Contractor DCMP as more information becomes available and more certainty in terms of the proposed layout, construction methods, programme and potential environmental impacts. The full Contractor DCMP will be prepared prior to commencement of construction and with the approval of KCC.

Appendix A Outline Construction & Demolition Waste Management Plan

Kildare County Library



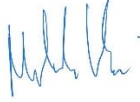
Outline Construction & Demolition Waste Management
Plan

Kildare County Council

Project number: 60650394

07 October 2022

Quality information

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3. Introduction

AECOM Ireland Limited (hereafter referred to as “AECOM”) was commissioned by Kildare County Council (the Client) to prepare an Outline Construction & Demolition Waste Management Plan (CDWMP) to support the Part 8 planning application for the proposed Kildare County Library, Archives and Cultural Centre development site. The plan presented herein is outline in nature as it has been prepared at a stage when exact quantities and volumes of waste material have not yet been determined. This document is considered to be live and is to be updated into a Resource & Waste Management Plan (RWMP) in accordance with the relevant guidance by the appointed contractor as works progress.

The proposed site is located just to the west of the intersection of Athgarvan Road (R416) with Main St (R445) in Newbridge, County Kildare. The site is located between Liffey Terrace and Athgarvan Road and is located approximately 35m to the west of the River Liffey.

The site location with approximate boundary is shown in Figure 1.

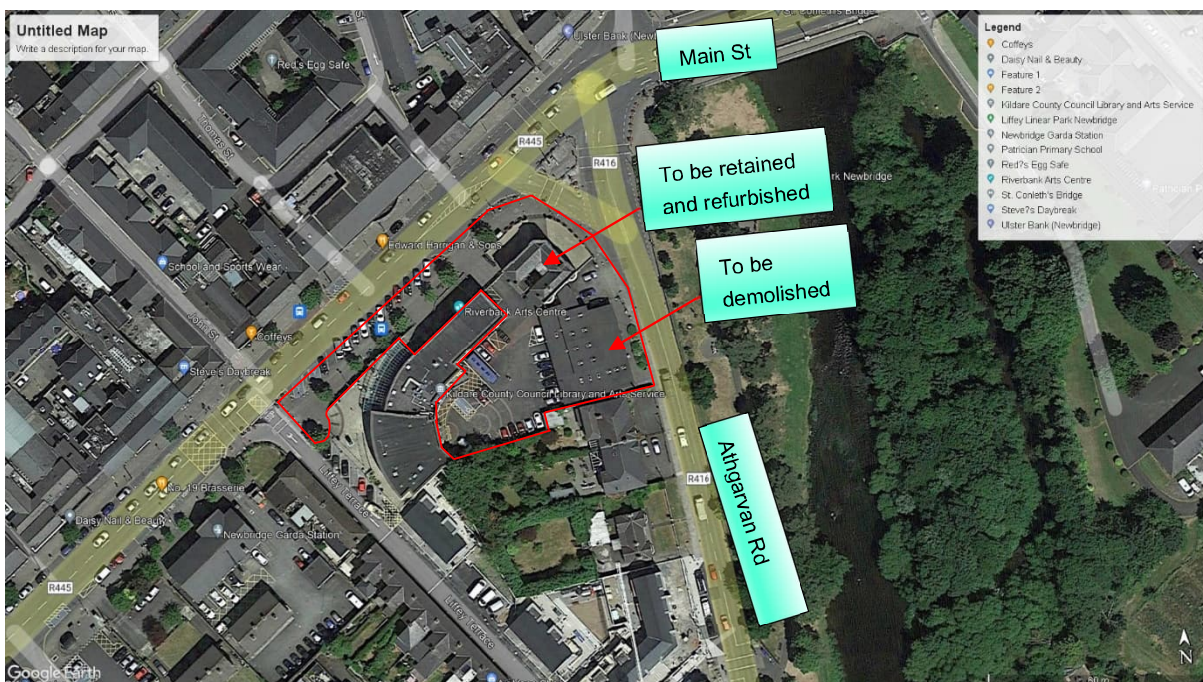


Figure 1. Site Location (Source: Google Earth Pro)

3.1 Proposed Development

The proposed development comprises the following:

- "Refurbishment and extension of existing Local Studies Building, which is a Protected Structure, to create new Kildare County library, cultural centre and Archives . The proposal involves the demolition of the existing 1970's Newbridge Library which is an extension to the protected structure The proposed development will range from one to three storeys in height. The Gross Internal Floor area for the Protected Structure is 300 sq.m and the new extension is 1960 sq.m. The total Gross Internal Floor area of the development is 2260 sq.m. Landscaping, public realm works and ancillary external works are also proposed as part of the development. External works include the relocation of the courtyard entrance from Main Street to Athgarvan Road, landscaping works to create a new external courtyard including 12 no. parking spaces, 8 no. bicycle parking spaces and areas for refuse storage. Public Realm works include - new hard landscaping to the footpaths around the library, modifications to the Main street public realm to provide loading bays, bus stop and 2 no. accessible car parking spaces alongside the provision of a new cycle lane."

The layout of the Proposed Development is shown in Figure 2 below.



Figure 2. Proposed Development

3.2 Demolition and Asbestos Survey

An Asbestos Refurbishment Survey has been carried out by OHSS on behalf of the Client. The survey concluded the presence of asbestos in different parts of the buildings. The survey also highlighted certain parts of the buildings which weren't accessible for sampling due to the operation of the building at the time. The findings and recommendations should be circulated to the design team and the appointed demolition contractor.

3.3 Intrusive Ground Investigation

An intrusive ground investigation is currently being procured by the Client in order to investigate the foundations of the protected structure, ground conditions and also ground contamination (if present). The RWMP should take cognisance of the findings of the ground investigation exercise once these become available.

4. Rationale & Methodology

Construction and demolition (C&D) waste is defined as waste which arises from construction, renovation and demolition activities, together with all waste categories mentioned in Chapter 17 of the List of Waste (LoW)¹. Also included within the definition are surplus and damaged products and materials arising during construction work or used temporarily during the course of onsite activities.

A bespoke Resource & Waste Management Plan (RWMP) is required for any 'Tier 2' project that is likely to exceed the thresholds set out in the EPA (2021) publication 'Best Practice Guidelines on the Preparation of Resource & Waste Management Plans for Construction and Demolition Projects', which are set out as follows:

1. New residential development of 10 or more dwellings.
2. Retrofit of more than 20 dwellings.

¹ Environmental Protection Agency, *Waste Classification, List of Waste & Determining if Waste is Hazardous or Non-Hazardous*, Valid from 1st June 2015

3. New commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area 1,250m² or more.
4. Retrofit of commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area of 2,000m² or more.
5. Demolition projects generating 100m³ or more in volume of C&D waste.

This project meets the thresholds for one or more of the criteria above and thus requires a bespoke RWMP.

This outline CDWMP has therefore been prepared with reference to, and taking account of, the following legislation, plans and waste management guidance documents:

- Draft National Hazardous Waste Management Plan 2021-2027;
- The Waste Management Act 1996 – 2008, Amendments & Associated Regulations;
- CIRIA document 133 Waste Minimisation in Construction;
- The Litter Pollution Act 1997;
- The Eastern-Midlands Region Waste Management Plan 2015-2021;
- Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (DEFRA), September 2009;
- Designing out Waste: A Design Team Guide for Civil Engineering (WRAP); and
- Best Practice Guidelines on the Preparation of Resource & Waste Management Plans for Construction and Demolition Projects (EPA), 2021.

5. Objective

The objective of this report is to provide an outline of general principles underpinning the preparation of a CDWMP. The ultimate objectives of the CDWMP are to:

- Promote an integrated approach to waste management throughout the project construction stage and to set out appropriate responsibilities;
- Promote sustainable waste management in line with the waste management hierarchy;
- Provide an outline plan for the management of wastes arising from construction works for the project in accordance with the relevant Irish and EU waste management legislation; and
- Provide a framework for the designers and the Principal Contractor to appropriately manage waste generated during the course of the project. Both the designers and the Principal Contractor will be responsible for implementing the findings and recommendations of the outline CDWMP in their RWMP.

The outline CDWMP sets out methods to achieve the waste prevention, recycling and recovery of waste. It also provides recommendations for the management of the various anticipated waste streams. The plan includes recommendations on collection and transport of waste to prevent issues associated with litter or more serious environmental pollution (e.g. contamination of soil or water resources).

The outline CDWMP describes the applicable legal and policy framework for C&D waste management in Ireland (both nationally and regionally).

6. General Waste Management Regulatory and Policy Framework

General provisions on waste management policy and regulatory framework are set out as follows:

- Construction and Demolition (C&D) waste can be defined as all waste that arises from construction, renovation and demolition activities and includes all waste listed in Chapter 17 of the LoW, including hazardous and non-hazardous waste types.
- The EU Waste Framework Directive (2008/98/EC), enacted in Ireland under the Waste Directive Regulations, 2011 of the same title, requires Member States to take the necessary measures to achieve the minimum recycling/recovery target of 70% by weight for non-hazardous C&D waste, excluding naturally occurring materials, by 2020. The Directive specifies that such a target should be achieved by preparing for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other material.
- The Eastern-Midlands Region Waste Management Plan 2015 – 2021 (EMR-WMP) was published in May 2015. Notable and relevant points are:
 - There has been a sharp drop in the number of available operational landfills nationally. Historically these were a significant outlet for C&D waste. Therefore, there is a need to maximize diversion of infill of C&D waste and consider alternative uses, for example, crushing and screening of masonry, stone and concrete wastes for reuse in a variety of engineering applications subject to conformance with applicable laws governing their reuse;
 - The need to progress towards a 'circular economy' whereby raw materials, traditionally almost entirely becoming waste in a linear life cycle, instead become a much smaller input into a circular approach to materials use from design through to production, through to consumption but then maximising reuse and recycling to close the circle back to design. For example C&D wastes can become raw materials in the design phase of a project;
 - The EMR-WMP plan sets out a target of 70% of C&D waste reuse and recycling (excluding soil and stones) by year 2020; and
 - The EMR-WMP brings in the concept of 'upcycling' which is the re-purposing of items that otherwise are seen as waste or redundant products.

The primary legislative instruments that govern waste management in Ireland and are deemed applicable to the project are:

- Waste Management Act 1996 (S.I. No. 10 of 1996) as amended by the Waste Management (Amendment) Act 2001. Sub-ordinate legislation to this Act include:
 - European Communities (Waste Directive) Regulations 2011 (SI 126 of 2011) as amended 2011 (S.I. No 323 of 2011);
 - Waste Management (Collection Permit) Regulations S.I. No. 820 of 2007 as amended 2008 (S.I. No 87 of 2008);
 - Waste Management (Facility permit and Registration) Regulations, S.I. No. 821 of 2007 as amended 2008 (S.I. No. 86 of 2008);
 - Waste Management (Licensing) Regulations 2000 (S.I. No. 185 of 2000) as amended 2004 (S.I. No. 395 of 2004), 2010 and (S.I. No. 350 of 2010);
 - Waste Management (Packaging) Regulations 2003 (S.I. No. 61 of 2003) as amended 2004 (S.I. No. 871 of 2004), 2006 (S.I. No. 308 of 2006) and 2007 (S.I. No. 798 of 2007);
 - Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997);
 - Waste Management (Landfill Levy) (Amendment) Regulations 2012 (S.I. No. 221 of 2012), as amended 2015 (S.I. No. 189 of 2015);
 - European Communities (Waste Electrical and Electronic Equipment) Regulations 2011;
 - Waste Management (Registration of Brokers and Dealers) Regulations 2008 (S.I. 113 of 2008); and
 - Waste Management (Food Waste) Regulations 2009 (S.I. No. 508 of 2009), as amended 2015 (S.I. 190 of 2015).

- Protection of the Environment Act 2003 (S.I. No. 413 of 2003).
- Litter Pollution Act 1997 (S.I. No. 12 of 1997).

These Acts and subordinate Regulations enable the transposition of relevant European Union Policy and Directives into Irish law.

7. Roles and Responsibilities

All parties involved in the Project will have responsibility for waste management. Responsibility will vary at different stages of the project lifecycle. Key responsibilities are set out in **Table 1**.

Some responsibility assignments indicated in Table 1 may change, depending on the agreed project contractual arrangements and project design requirements.

The appointed Principal Contractor will be responsible for refining and implementing the findings of the outline CDWMP within their own over-arching RWMP.

Table 1. Construction Stage Waste Management - Key Responsibilities

Responsible party	Responsibility	Project Stage
Client	Establish ambition and performance targets for Project	Project initiation and subsequent tendering phases
	Appointment of competent Principal Contractor and Design Team	All project stages
	Responsibility of waste management from 'cradle to grave', including documentation of same.	
Principal Contractor	Construction & Demolition Waste Management Plan implementation	Project Implementation
	Refinement and implementation of the outline CDWMP within their own over-arching RWMP	Project Implementation
	Appoint competent and authorized waste management contractor(s)	Project tendering phase
	Appoint trained, competent Resource Manager ²	Construction phase
Resource Manager	RWMP implementation	Project implementation
	Ensure that the objectives of the RWMP are achieved.	Construction stage
	Waste characterisation. Selection of techniques and design to minimize waste and to maximize recovery and recycling of waste during the project.	Project Design Phase and during project implementation
	Maintenance of Waste Documentation for 3 years.	Post-construction stage
	Completion of Final Waste Management Report	Construction stage
	Educate colleagues, site staff, external contractors and suppliers about alternatives to conventional construction waste disposal.	Project Design Phase and during project implementation

² The Best Practice Guidelines on the Preparation of Resource & Waste Management Plans for Construction and Demolition Projects (EPA, 2021) outline that a Resource Manager should be appointed. This Resource Manager may well be a number of different individuals over the life-cycle of the Project, but in general is intended to be a reliable person chosen from within the Planning/Design/Contracting Team, who is technically competent and appropriately trained, who takes the responsibility to ensure that the objectives and measures within the Project Waste Management Plan are delivered and who is assigned the requisite authority to secure achievement of this purpose. The role will include the important activities of conducting waste checks/audits and adopting construction and demolition methodology that is designed to facilitate maximum reuse and/or recycling of waste.

Responsible party	Responsibility	Project Stage
Design Team	Identification of Key Waste Streams	Project Design Phase
	Design to minimize waste generation in lifecycle of completed construction.	Project Design Phase
	Design of Soil Excavation Plan	Project Design Phase
	Adequately provide for waste management in tender documents and declare all relevant information & data.	Project Procurement Phase
Subcontractors	Comply with RWMP	Project Implementation

8. Waste Hierarchy

Beside the requirements that the off-site handling of waste generated by this project are subject to the required statutory authorisations under the Waste Management Act, there is also a necessity that it conforms to the Waste Hierarchy³. This hierarchy outlines that waste prevention and minimisation are the priority in managing wastes, followed by waste reuse and recycling, with disposal to landfill being considered as a last resort.

The EU Waste Directive (2008/98/EC) also mandates that hazardous waste generation should be avoided or at least limited.



Figure 3. EU Waste Hierarchy (EPA National Hazardous Waste Management Plan 2021 - 2027)

Definitions defined in the Waste Framework Directive of key terms indicated in Figure 1 are (in order of priority):

- **Prevention** includes measures taken before a substance, material or product has become waste, that reduce (a) the quantity of waste, including through the reuse of products or the extension of the lifespan of products, (b) the adverse impacts of the generated waste on the environment and human health or (c) the content of harmful substances in materials and products.
- **Reuse** is defined as any operation by which products or components that are not waste are used again for the same purpose for which they were conceived.

³ Waste Hierarchy as set out in Article 4 of the Waste Framework Directive (2008/98/EC) and transposed into Irish law via Section 21A of the Waste Management Act.

- **Recycling** is any recovery operation by which waste materials are processed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.
- **Recovery** is defined as any operation, the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy.

The Waste Hierarchy only applies to material that is defined as “waste”, so does not apply to the proportion of the spoil that is handled on-site in conformity with the statutory exclusions.

The Waste Management Hierarchy will be activated for any material which does not satisfy the exclusions; in this regard the contract documents for the detailed design/ construction project will clearly set out the staged approach which the contractor will be required to adhere to through the use of the Waste Hierarchy.

8.1 Limiting and Prevention of Waste

The following waste limiting measures will be implemented during the course of the construction works:

- A number of building features will be retained and re-used as part of the works;
- Facilitate recycling and appropriate disposal by on site segregation of all waste materials generated during construction into appropriate categories, including:
 - Topsoil, subsoil, gravel hard-core
 - Concrete, bricks, tile, ceramics, plasterboard
 - Asphalt, tar and tar products
 - Metals
 - Dry Recyclables e.g. cardboard, plastic, timber
- All waste assessed by the Resource Manager as ‘not suitable for reuse’ will be stored in skips or other suitable receptacles in a designated area of the site, to prevent cross contamination between waste streams, dispersion and leaching;
- Wherever possible, leftover materials (e.g. timber off cuts) and any suitable demolition materials will be reused on-site;
- Uncontaminated excavated material (top-soil, sub soil, etc.) will be segregated, stockpiled and reused on site in preference to importation of clean fill, where possible;
- If excavated material cannot be used on site, the potential for its transfer to another site under, for example, Article 27 of the European Communities (Waste Directive) Regulations 2011 should be explored;
- Where possible, the Resource Manager will ensure that all waste leaving site will be recycled or recovered.

9. Waste Identification, Classification, Quantification and Handling

The majority of waste generated will be demolition rubble (concrete, plasterboard, bricks etc) during the demolition works and some soil excavated during the course of the construction works. Should appropriate reuse be required and practical, clean soil will be retained on site and reused in areas of soft landscaping, backfilling, etc. A record of the volumes and reuse requirements will be maintained by the Principal Contractor as part of their RWMP.

The RWMP will identify suitability criteria for excavated soils to be reused on site or off site, as well as suitable recycling and/or recovery options where this is deemed a waste.

An asbestos survey has already been carried which identified asbestos to be present. The asbestos should be removed by a specialist contractor prior to demolition. The asbestos removal works must include a management plan put in place for their safe removal and disposal, before demolition takes place. No demolition works should be carried out prior to the asbestos removal works have been fully completed and a certificate of clearance has been issued. Where required under the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006, the works must be notified to the Health & Safety Authority at least 14 days in advance.

During the construction phase, there will be some building material and packaging waste generated. This will mainly include excess ready-mix concrete and mortar, timber off cuts, plastics, metal off cuts, cladding and tile offcuts, as well as plastic and cardboard waste from packaging and potential over-supply of materials.

Where possible, individual waste arisings shall be identified, classified, and quantified (volume, weight) as early in the project lifecycle as possible but, inevitably, unanticipated waste arisings may occur as site work progresses, necessitating the need for a procedure to provide for waste classification as the site work proceeds.

It is anticipated that the majority of non-hazardous and inert waste generated will be suitable for reuse, recovery or recycling and will be segregated to facilitate the reuse, recovery and/or recycling, as appropriate.

A non-exhaustive list of anticipated wastes from the construction phase and preliminary classification as either hazardous or non-hazardous is presented in Table 2.

Table 2. Potential Non Hazardous and Hazardous Waste Classification

Hazardous waste	Non-Hazardous Waste
<ul style="list-style-type: none"> • Excess Electrical & Electronic Components • Asphalt (bituminous) • Liquid Fuels • Batteries • Brick and stone (not contaminated with dangerous substances) • Concrete (contaminated with dangerous substances) • Excavated Soil (contaminated with dangerous substances) • Other construction and demolition wastes containing dangerous substances such as Asbestos 	<ul style="list-style-type: none"> • Asphalt (non-bituminous) • Metals (stainless steel, mild steel, copper, aluminium) • Wood (Clean), glass, plastic, paper and cardboard • Brick and stone (not contaminated with dangerous substances) • Concrete (not contaminated with dangerous substances) • Excavated soil/fill (not contaminated with dangerous substances) • Municipal waste

Waste arising for the project will be segregated, identified and classified by the Principal Contractor in accordance with applicable waste regulations and guidance.

Wastes shall not be removed from the site until properly classified, assigned a correct LoW code and all appropriate tracking and disposal documentation is in place.

For each waste stream identified and classified, and for each waste stream that may arise during the course of the works, the following shall be identified and documented by the Principal Contractor in their RWMP:

- An appropriate waste classification and correct LoW code; Where a waste type is considered a mirror entry, the classification of materials as non-hazardous and/or hazardous waste will be determined in accordance with EPA (2018) Guidance "Waste Classification, List of Waste & Determining if Waste is Hazardous or Non-hazardous" using the HazWasteOnline™ (www.hazwasteonline.com) web-based waste assessment system (as recognized by the Environmental Protection Agency) and using Waste Acceptance Criteria in accordance with the European Communities (EC) Council Decision 2003/33/EC, which establishes criteria for the acceptance of waste at landfills;
- A suitable Waste Collection Contractor in possession of a valid Waste Collection Permit for the collection of waste within the Kildare County Council area;

- Appropriate waste recovery, recycling or disposal facilities, including any required transfer stations whereupon the said facilities shall be in possession of a valid Waste Facility Certificate of Registration, permit or Waste License, as appropriate;

A recovery, recycling or disposal plan for the waste, where applicable. Where any material is being recovered onsite or offsite for reuse, the Principal Contractor will provide confirmation of any application to the EPA under Article 27 or Article 28 to classify material as a by-product or as end-of-life waste respectively; and final reconciled waste quantities generated, including details of waste disposal, reuse and recovery quantities.

9.1 Segregation and Storage

Waste generated during works will be segregated and temporarily stored on site (pending collection or for reuse on site) in accordance with a pre-determined segregation and storage strategy (to be developed by the Principal Contractor as part of their RWMP).

The following minimum segregation and storage strategy requirements will be detailed:

- Waste streams will be individually segregated; and all segregation, storage & stockpiling locations will be clearly delineated on site drawings;
- Waste storage, fuel storage and stockpiling and movement are to be undertaken with a view to protecting any essential services (electricity, gas, water) and with a view to protecting existing localised groundwater boreholes (if applicable);
- Roles and responsibilities of those managing the segregation and storage areas will be identified;
- The waste storage area should contain suitably sized containers for each waste stream and will be agreed with the waste contractors in advance of the commencement of the project;
- All segregation and waste storage areas will be inspected regularly by the appointed Resource Manager;
- Waste will be stored on site, including metals, asphalt and soil stockpiles, in such a manner as to:
 - Prevent environmental pollution (bundled and/or covered storage, minimise noise generation and implement dust/odour/pest control measures, as may be required);
 - Maximise waste segregation to minimise potential cross contamination of waste streams and facilitate subsequent reuse, recycling and recovery; and
 - Prevent hazards to site workers and the general public during construction phase (largely noise, vibration, dust and pests).

9.2 Waste Permitting, Licences & Documentation

Under the Waste Management (Collection Permit) Regulations 2007, as amended, a collection permit to transport waste, which is issued by the National Waste Collection Permit Office (NWCPO), must be held by each waste collection contractor.

Waste may only be treated or disposed of at facilities that are licenced or permitted to carry out that specific activity (e.g. recovery, chemical treatment, landfill, incineration, etc.) for a specific waste type.

Operators of such facilities cannot receive any waste, unless they are in possession of a Certificate of Registration (COR) or waste permit granted by the relevant Local Authority under the Waste Management (Facility Permit & Registration) Regulations 2007 and Amendments or a waste licence granted by the EPA. The COR/permit/licence held will specify the type and quantity of waste permitted to be received, stored, recycled, recovered and/or disposed of at the specified site.

Records of all waste movements and associated documentation should be held at the site. Records management and maintenance will be the responsibility of the Principal Contractor.

Further detail on waste documentation is provided in Section 12.

10. Soil Management

There is no basement proposed as part of the development and hence minimal soils will be excavated during the laying of underground services for the new building to be constructed.

Prior to detailed design stage, if soil excavation is planned, an intrusive site investigation will be undertaken to inform soil waste classification. This will highlight any localised hotspots of contamination encountered during the site investigation. It is also possible that other hotspots of contaminated materials may be encountered during the construction stage.

Taking the above into consideration, where required the Principal Contractor will, as part of their RWMP, prepare a project-specific Soil Management Plan, which will detail the following as a minimum:

- Detail in-situ (prior to excavation) and ex-situ (post excavation) methodologies to classify waste soil for appropriate disposal, in accordance with relevant Irish and EU legislation and guidance.
- Identify reuse requirements and soils suitable for reuse on site in consultation with the design team, including assessment methodology to determine which soils are suitable for reuse onsite.
- Site management procedures, including waste reduction, stockpile management, temporary storage procedures, waste licence requirements.
- Waste Management documentation, including waste generation record keeping, waste transfer notes, confirmation of appropriate disposal and details of any rejected consignments.

10.1 Excavated Soil & Materials

The RWMP to be developed by the Principal Contractor will detail relevant procedures including further environmental sampling, testing and assessment requirements, sampling protocols and sample density targets to supplement any existing soil data.

Where any hotspots of potential contamination are encountered, and prior to disposal, further assessment will be undertaken by a suitably qualified environmental scientist to determine the nature and extent of remediation required.

Relevant guidance should be followed, for example the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (DEFRA, 2009).

10.1.1 Soil for Reuse on Site

Where the Principal Contractor proposes to reuse excavated soil within the works, e.g. as backfill, and where reuse is permitted in accordance with the relevant legislation, the Principal Contractor shall set out their proposal for its management, documentation and reuse. This shall include:

- Define the criteria by which the suitability of the soils for reuse will be assessed (e.g. analytical parameters and limits), the engineering requirements such as geotechnical parameters for the material to be used within the works;
- Delineation of areas where excavated soil is intended for disposal off-site as waste, and where it is intended for reuse on site;
- Identification and recording of the location from where the soil will be excavated and its proposed reuse location and function;
- Engineering assessment to confirm its suitability for reuse; and
- Any proposed treatment or processing required to enable its reuse, as well as any associated treatment permits or licences required.

10.1.2 Soil for Removal Off-site

Where appropriate, excavated soil and material intended for recovery or disposal offsite shall require appropriate waste classification in order to select an appropriate receiving facility for the waste.

Assessment of the excavated material shall be carried out with due regard to the following guidance and legislation:

- EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002);
- Regulation (EC) No. 1272/2008: the classification, labelling and packaging of substances and mixtures (CLP);
- Environmental Protection Agency document entitled Waste Classification; List of waste and determining if waste is Hazardous or Non Hazardous;
- Environmental Protection Agency documented entitled Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities;
- UK Environment Agency Technical Guidance WM3: Waste Classification – Guidance on the classification and assessment of waste; and
- Any other that might be applicable or relevant at the time of disposal

Waste soil and material intended for offsite disposal, recycling or recovery shall not be removed from site prior to appropriate waste classification and receiving written confirmation of acceptance from the selected waste receiving facility.

10.1.3 Transport of Waste Soils

In order to minimise potential traffic impacts of excavation activities, truck movements will be limited to designated routes and movements during peak hours will be avoided as far as possible. Details of such provisions will be included in the Traffic Management Plan (TMP) for the works.

10.1.4 Stockpile Management

Soil stockpiles might be generated as part of the operations, for example while classification and acceptance at a waste facility is pending or awaiting reuse. The contractor should consider the following measures to ensure that stockpiles are managed in an appropriate manner:

- A suitable temporary storage area shall be identified and designated;
- All stockpiles shall be assigned a stockpile number;
- Stockpiles shall not be positioned adjacent to ditches, watercourses or existing or future excavations;
- Contaminated or potentially contaminated soil shall be stockpiled only on hard-standing or high-grade polythene sheeting to prevent cross-contamination of the soil below;
- Soil stockpiles shall be covered with high-grade polythene sheeting to prevent run-off of rainwater and leaching of potential contaminants from the stockpiled material generation and/or the generation of dust; and
- Mixing of unclassified stockpiles of different origin, or of stockpiles having different classification, should not be carried out. When a stockpile has been sampled for classification purposes, it shall be considered to be complete and no more soil shall be added to that stockpile prior to disposal.

An excavation/ stockpile register shall be maintained on site showing at least the following information:

- Stockpile number;
- Origin (i.e. location and depth of excavation);
- Approximate volume of stockpile;
- Date of creation;
- Description and Classification of material;
- Date sampled;

- Date removed from site;
- Disposal/recovery destination; and
- Photograph.

11. Hazardous Materials Waste Management

A minor volume of hazardous waste (in addition to any asbestos waste) may be generated during the course of the construction stage, see Table 2 for anticipated potential material types.

Where hazardous waste is generated, the Principal Contractor will undertake the following:

- Immediate notification of the nature of the hazardous waste to the Design Team in writing;
- Submission of a revised RWMP detailing the nature and management of the hazardous waste prior to off-site waste disposal; and
- The Principal Contractor shall establish a specific procedure for the management of asbestos wastes that may arise during the construction works. The management of such wastes shall be co-ordinated with the Client representative and in accordance with the Safety and Health Plan for the overall works, in order to ensure that personnel within the construction site and the local residents are protected against exposure to asbestos. Prior to commencement of any asbestos removal works, the Principal Contractor shall identify a suitable Waste Collection Contractor with a Waste Collection Permit for the transfer of asbestos wastes from the site.

12. Waste Management Documentation

A Waste Documentation System will be prepared by the Principal Contractor and included in their RWMP.

The Principal Contractor will be responsible for implementation and auditing the Waste Documentation System on a regular basis. The Client's Representative may also undertake verification auditing.

The documentation to be maintained, as a minimum, shall be the following:

- The names of the agent(s) and transporter(s) of the wastes;
- The name(s) of the person(s) responsible for the ultimate recycling, recovery or disposal of the wastes;
- The ultimate destination(s) of the wastes;
- Written confirmation of the acceptance and recovery, recycling or disposal of any waste consignments;
- The tonnages and LoW code for all waste materials;
- Details of any rejected waste consignments;
- Waste Transfer Forms (WTF) for hazardous wastes transferred from site and associated appendices;
- Completed Transfrontier Shipment Forms (TFS) for hazardous wastes transferred abroad;
- Written documentation of waste classifications, including any related analyses; and
- Certificates of Recycling, Recovery, Reuse or Disposal for all wastes transferred from the site.

All waste records will be maintained for at least a period of 3 years and must be subject to verification and validation.

All waste documentation will be maintained by the Principal Contractor and made available for inspection. This will be stored in a safe place, preferably on site, during the project implementation phase. Electronic records will be placed on a secure server that is backed up regularly.

Allowance of time and resources will be made to collate outstanding waste records once the project implementation phase has been completed.

13. Waste Audits

Details of the inputs of materials to the project site and the outputs of wastage arising from the Project will be investigated and recorded in a Waste Audit undertaken by the Principal Contractor.

This audit will identify the amount, nature and composition of the waste generated on the site. The Waste Audit will examine the manner in which the waste is produced and will provide a commentary highlighting how management policies and practices may inherently contribute to the production of demolition waste.

The Principal Contractor will be responsible for undertaken regular waste auditing. The Design team may undertake verification audits to review the findings of the Contractor's audits during the course of the construction stage.

It is noted that the RWMP should be treated as a "live" document and regular review and update should be informed by the audit findings.

14. Resource and Waste Management Plan Awareness & Training

Copies of the RWMP and the Principal Contractor's Site Waste Management Plan will be made available to all personnel on site.

All site personnel and sub-contractors will be instructed about the objectives of these plans and informed of the responsibilities which will fall upon them as a consequence of its provisions. Where source segregation and selective material reuse techniques apply, each member of staff will be given instructions and training on how to comply with the RWMP.

Posters will be designed to reinforce the key messages within the RWMP and will be displayed prominently for the benefit of site staff. Specialist training (e.g. asbestos-containing materials handling) will be assessed and provided, as required.

15. Operational Waste

The Proposed Development will produce quantities of operational waste, which are likely to predominantly comprise domestic general waste and recyclable materials. An Operational Waste Management Plan (OWMP) will be prepared ahead of the development.

The OWMP will set out the approach to waste segregation and collection and will provide an indication of bin numbers and types, as well as access routes for waste collection vehicles

