

Appendix 2. Project Description

2.5. Outline Construction & Operational Resource and Waste Management Plan (AtkinsRealis, 2026)

AtkinsRéalis



Outline Construction & Operational Resource and Waste Management Plan

Bord Gáis Energy Ltd.
February 2026
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CASHLA PEAKER PLANT

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1. Introduction

This Outline Construction & Operational Resource and Waste Management Plan (RWMP) has been prepared by AtkinsRéalis on behalf of Bord Gáis Energy Ltd. (the applicant) for the Cashla Peaker Plant project, hereafter referred to as at 'Proposed Project', as presented in Figure 1-1 and outlined in Section 3 of this report.

1.1 Aim of the Plan

The purpose of this plan is to provide sufficient information to ensure that the management of resources and waste is undertaken in accordance with all relevant legislation and best practice standards (as set out in Section 2 of this document).

The principal aim of this plan is to ensure efficient use of material resources, reduce waste at source and reduce the quantity of waste that requires final off-site disposal to landfill in accordance with the waste hierarchy. A secondary aim is to facilitate the transition to a more circular economy thereby minimising the need for new inputs of virgin materials and energy, while reducing environmental pressures linked to resource extraction, emissions and waste management.

The principal objective of the RWMP is to provide a framework for the Proposed Project to facilitate the development of a project specific Detailed Construction RWMP by the Contractor.

1.2 Methodology

This document has been prepared in accordance with the relevant industry standard guidance document; *'Best Practice Guidelines for the preparation of resource & waste management plans for construction & demolition projects'* (EPA, 2021). This guidance supersedes the *'Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects'* (Department of Environment, Heritage and Local Government (DoEHLG), 2006).

In addition, the following relevant best practice guidance documents have also been consulted:

- 'Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous' (EPA, 2018);
- 'A review of Design and Construction Waste Management Practices on Selected Case Studies – Lessons Learned' (EPA, 2015);
- Galway County Development Plan 2022–2028 (Galway County Council, 2022);
- Connacht-Ulster Region Waste Management Plan 2015–2021 (Mayo County Council, 2015)¹;
- The Circular Economy Programme 2012–2027 (EPA, 2021);
- 'Design out Waste: Preparation of Waste Reduction Factsheets for Design Teams' (EPA, 2015); and,
- 'Development of an Audit Methodology to Generate Construction Waste Projection Indicators for the Irish Construction Industry' (EPA, 2009).

1.3 Structure

Section 3.1 of the EPA, (2021) guidance states *'it is recommended that planning authorities stipulate that a Resource and Waste Management Plan (RWMP) shall be submitted for all construction and demolition projects*

¹ [Final Draft Part 1-3 CUR F02 EDITS](#)

as best practice to inform the planning consent process. It is recommended that all planning permissions granted include compliance with the RWMP as a standard condition of planning.'

This document applies to the construction & demolition, and operational stages of the Proposed Project.

1.4 Format of the Plan

This is a live document that will be updated and added to throughout the project lifecycle. This document provides a framework for waste management and will clearly identify the processes that will be implemented on site, whilst also seeking to ensure compliance with relevant waste legislation, government policy objectives and project specific waste objectives. The Plan provides a mechanism for monitoring and auditing waste management performance and compliance for the duration of the project.

The evolution of a single plan through a project lifecycle is recommended to ensure that preventative, and resource efficiency initiatives are undertaken; data are captured, and; targets are set and measured throughout the project. This plan will evolve throughout the project from initial pre-construction phase followed by implementation at construction phase.

This RWMP will be added to by the contractor. The RWMP needs to be regularly revisited throughout a project's lifecycle so that opportunities to maximise waste reduction/ efficiencies are exploited throughout, and that data is added on an ongoing basis so that it is as accurate as possible.



Figure 1-1 – Site Location Map



2. Policies, Legislation and Guidance

2.1 National Level

The implementation of the Waste Management Act in 1996 provided a legal basis for waste management, practice and infrastructure in Ireland. Following the implementation of this Act, government policy moved from primarily relying on landfill disposal towards a more sustainable system of waste treatment through the promotion of recycling and recovery. The policy document entitled 'Changing our Ways' (DoEHLG, 1998) set specific targets for recycling and consolidated the, now familiar, waste hierarchy of prevention, minimisation, reuse/recycling, energy recovery and disposal. This approach was supported by subsequent legislation.

In 2002, the policy statement 'Preventing and Recycling Waste: Delivering Change' (DoEHLG, 2002) specifically focused on waste prevention and recycling. This document emphasised the importance of adopting a hierarchical approach, with prevention highlighted as the most desirable option. Various national waste prevention programmes and best practice guidance documents were subsequently delivered by government.

The relevant guidance document in respect of the preparation of waste management plans for the construction sector was subsequently published by the DoEHLG in 2006, entitled 'Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects'. The purpose of these guidelines was to promote an integrated approach to the management of Construction and Demolition (C&D) waste which all parties from planners, designers, contractors and regulators can adopt throughout the project lifecycle, to ultimately minimise the generation of C&D waste and to establish specific thresholds for the requirement of Waste Management Plans.

In 2011 the revised EU Waste Framework Directive was transposed into Irish law by the European Commission (Waste Framework Directive) Regulations 2011 (S.I. 126 of 2011) (EC, 2008). The Waste Framework Directive focussed on sustainable and efficient materials management strategy and provides a legal basis for the waste hierarchy. Therefore, the waste hierarchy presented in Figure 2-1 should be applied as a priority in Ireland.

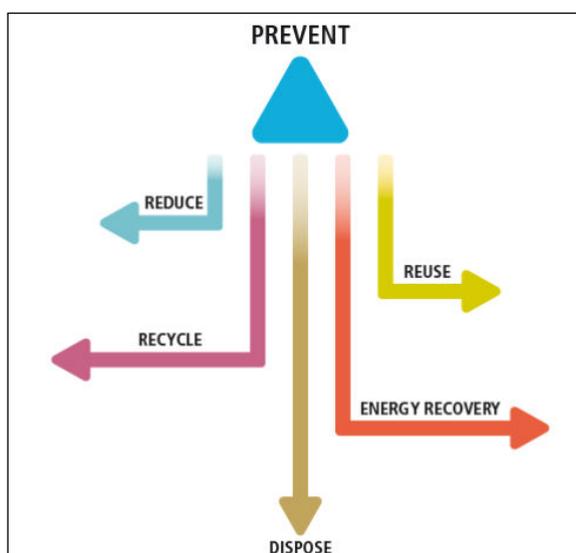


Figure 2-1 - Accepted Best Practice Waste Hierarchy (EPA, 2018)

In 2012 the Government published a new policy document entitled 'A Resource Opportunity Waste Management Policy in Ireland' (DoECLG, 2012). This document set out the steps to be implemented on a national scale to make further progress on resource efficiency and sought elimination of landfill by municipal waste in Ireland. This

approach is further supported by subsequent guidance, including the EPA publication ‘Green Procurement: Guidance for the Public Sector’ (EPA, 2014) which clearly states the following Core Green Public Procurement (GPP) requirements for the Construction sector:

- Preparation of a Construction Environmental Management Plan (CEMP);
- Appropriate Staff training;
- Management of fuel and hazardous substances onsite;
- Use of secondary aggregate and recycled materials;
- Water Management; and,
- Waste Management.

The EPA (2014) clearly sets out the responsibility of the Contractor with regards to waste management and disposal, as follows: ‘The Contractor must apply appropriate measures in order to reduce and recover waste that is produced during the construction activity. The Contractor shall prepare and submit a waste management plan with its tender which shall form part of the Construction Management Plan to be agreed with the Contracting Authority in advance of the commencement of works. The waste management plan must be prepared in accordance with the Department of Environment, Community and Local Government ‘Best practice guidelines on the preparation of waste management plans for construction and demolition projects’.

‘Contractors are responsible for disposing of all waste generated under the contract in accordance with the Waste Management Act 1996 as amended. The Contractor must have full use of, or access to, waste disposal facilities with appropriate licenses and permits. The Contractor must provide copies of valid EPA Waste licences and Local Authority Waste Permits (including those relating to their subcontractors or brokers, where applicable) for collection and waste treatment/disposal/export facilities.’

The Department of Communication, Climate Action and Environment published ‘A Waste Action for a Circular Economy – Ireland’s National Waste Policy 2020-2025’ report, in September 2020. This document was prepared in response to the ‘European Green Deal’ and sets out a roadmap for the transition to a new economy, where climate and environmental challenges are instead seen as opportunities. This report replaces the previous National Waste Management Plan ‘A Resource Opportunity Waste Management Policy in Ireland’ (2012). The ‘Waste Action for a Circular Economy’ report focuses on transition to a circular economy, shown in Figure 2-2 and the need to plan for C&D waste management at the earliest possible stage in a construction project, ideally at concept stage.

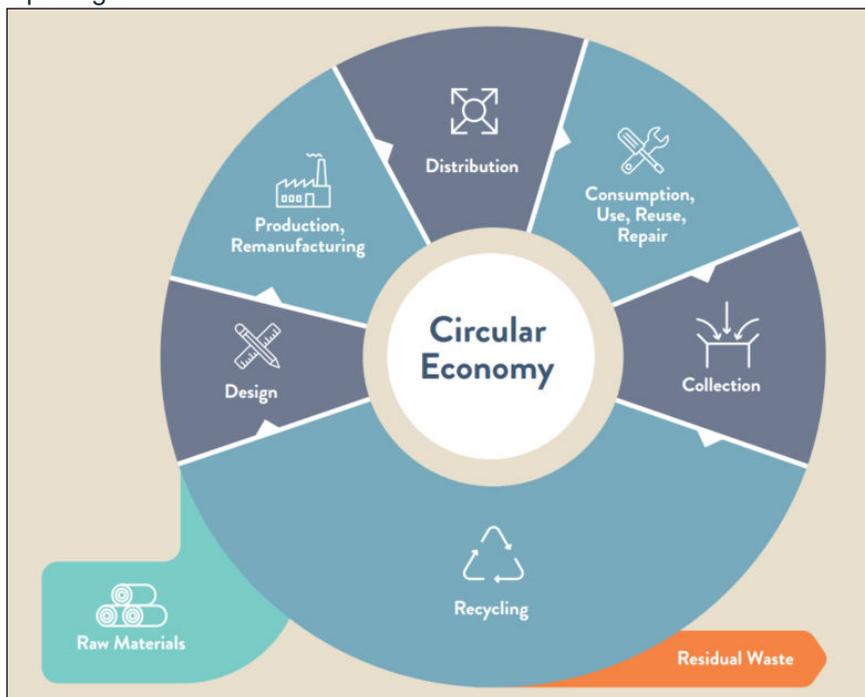


Figure 2-2 - The Circular Economy (DoCCA, 2020)

The overarching objectives of this action plan are to:

- Shift the focus away from waste disposal and treatment to ensure that materials and products remain in productive use for longer thereby preventing waste and supporting reuse through a policy framework that discourages the wasting of resources and rewards circularity;
- Make producers who manufacture and sell disposable goods for profit environmentally accountable for the products they place on the market;
- Ensure that measures support sustainable economic models (for example by supporting the use of recycled over virgin materials); harness the reach and influence of all sectors including the voluntary sector, R&D, producers / manufacturers, regulatory bodies, civic society; and,
- Support clear and robust institutional arrangements for the waste sector, including through a strengthened role for Local Authorities (LAs).

The headline points on C&D waste in the Waste Action Plan are as follows:

- Project Ireland 2040 sets out the State's development goals over the next 14 years which allows for the opportunity to forecast large, specific C&D waste streams with a focus on preventing or efficiently managing the waste from these areas;
- Prevention of soil arisings which are a significant financial burden on the sector are to progress by placing value on the used material where possible. There is a strong focus on Article 27 by-product and Article 28 end-of-waste decision making process. These processes are to be streamlined and detailed guidance will be developed for specific problematic materials;
- The use of recycled construction materials will be incentivised (potentially by introducing a levy on virgin aggregates);
- The plan looks to make national end-of-waste decisions for specific construction and demolition waste streams at the earliest possible stage; and,
- The 2006 Best Practice Guidelines for construction and demolition waste will be revised to improve the Preparation of Waste Management Plans for Construction and Demolition Waste Projects.

The Green Public Procurement Strategy and Action Plan 2024-2027 (Department of Climate, Energy and the Environment; Office of Government Procurement, 2024) was published in April 2024, replacing the '*Green Public Procurement: Guidance for the Public Sector*'. This Plan includes information, and actions, on the following:

- Policy and Legislative context at national and EU level
- A mandate to accelerate Green Public Procurement implementation
- A focus on key sectors with associated Green Public Procurement related targets
- Monitoring and reporting
- Training and awareness
- EU and international partnership
- Market engagement, networks and knowledge sharing
- Research and innovation
- Green Public Procurement Strategy and Action Plan monitoring, evaluation and review.

2.1.1 National Waste Management Plan for a Circular Economy

Galway County Council operates under the National Waste Management Plan for a Circular Economy 2024 - 2030². The key objectives of this plan are as follows:

- Promote sustainable consumption and prevent waste
- Strengthen national waste collection and treatment capacity
- Support the transition to a circular economy
- Deliver action through collaboration and shared ownership

2.2 Relevant Guidance

'Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects' (EPA, 2021) supersedes the 'Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects' (Department of Environment, Heritage and Local Government (DoEHLG), 2006).

Since the publication of DoEHLG (2006) guidelines, waste policy in Europe has shifted from the established linear economic model to a circular economic model. Circular economy-inspired interventions focus not only on increasing recycling quantitatively but also on:

- Reducing the use of virgin resources;
- Keeping materials in the economy as long as possible;
- Maintaining their intrinsic value/quality as high as possible; and,
- Reducing hazardous substances in products and waste (EPA, 2021).

The resource and waste management approaches presented in the EPA (2021) guidelines are based on international principles of optimising resources and reducing waste on construction projects through:

- Prevention;
- Reuse;
- Recycling;
- Green Procurement Principles;
- Off-Site Construction;
- Materials Optimisation; and,
- Flexibility and Deconstruction.

These principles are applied to the RWMP through both the pre-construction phase and the construction phase. The evolution of a single plan through a project lifecycle is recommended to ensure preventative and resource efficiency initiatives are undertaken, data is captured, and targets set and measured throughout the project. The evolution of the plan through the project from initial pre-construction phase (in green) followed by implementation at construction phase (in orange) is illustrated in Figure 2-3 below.

² <https://mywaste.ie/wp-content/uploads/2024/05/National-Waste-Management-Plan-for-a-Circular-Economy-Executive-Summary.pdf>

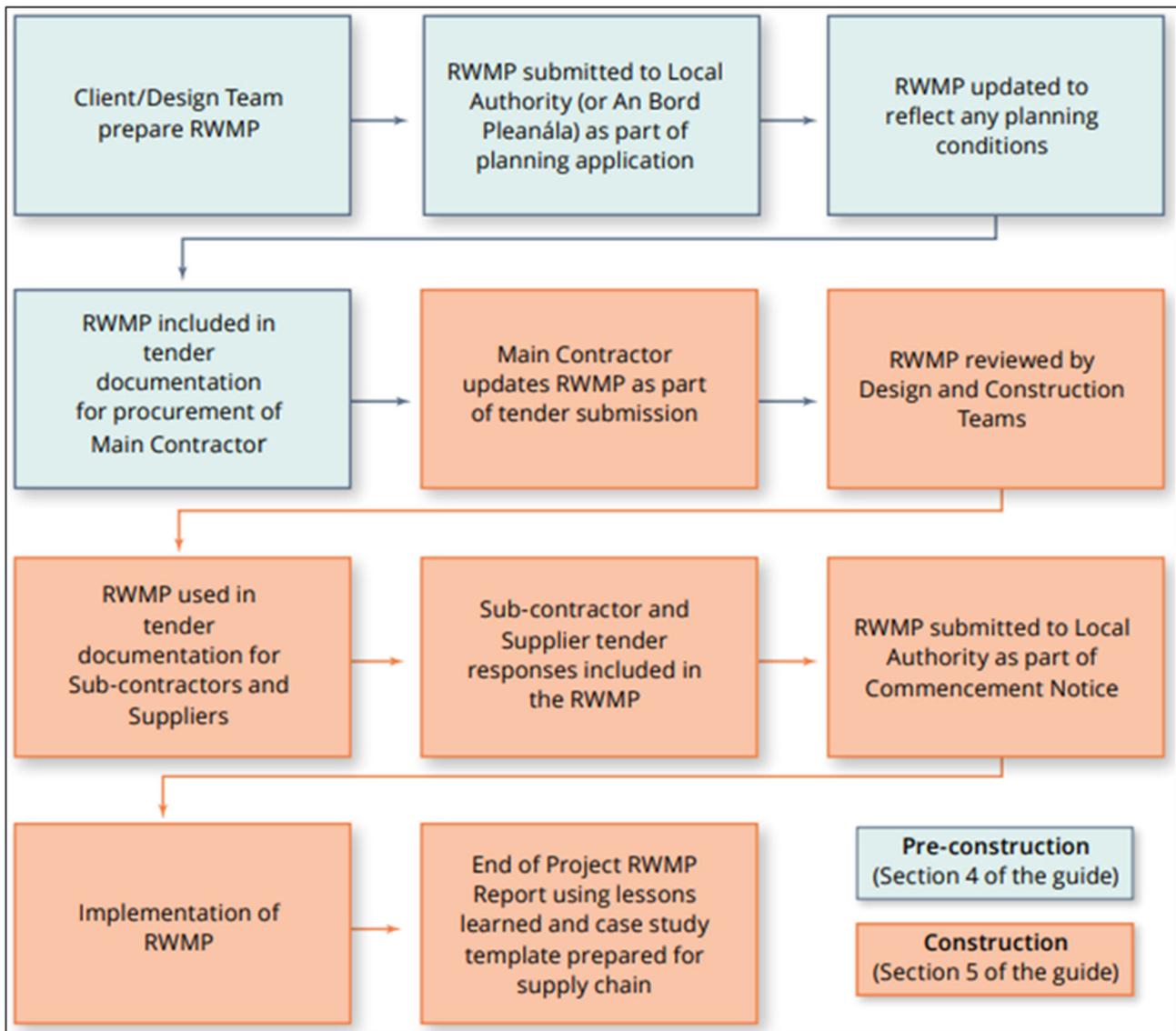


Figure 2-3 - Project Life Cycle of the RWMP (EPA, 2021)

According to the EPA (2021) the level of detail presented in the RWMP should be reflective of the scale and complexity of the project.

2.3 Circular Economy Programme

According to the EPA (2021), the Circular Economy Programme 2021-2027 builds upon the previous National Waste Prevention Programme to support national-level strategic programmes to prevent waste and drive the Circular Economy in Ireland and responds to the commitment within the national policy document The Waste Action Plan for a Circular Economy to reconfigure the National Waste Prevention Programme into Ireland's Circular Economy Programme.

The programmes objectives are to:

- Provide leadership on the circular economy to improve coherence and alignment of national, regional and local circular economy activities and ensure maximum impact;
- Maintain a competitive programme of supports to drive the circular economy through providing innovation grants and seed-funding to nationally relevant initiatives;

- Implement actions that build knowledge and an evidence base to inform circular economy development in Ireland, and to report on progress towards greater circularity; and,
- Realise the enterprise opportunity of a circular economy by supporting new business models; promoting resource efficiency; and retaining material value through enhanced use of secondary/ recycled materials, applying the appropriate regulatory framework.

2.4 Regional Waste Management Plans

2.4.1 Galway County Development Plan 2022 – 2028

The Galway County Development Plan 2022 - 2028 specifically sets out the following with regards to Resource Management and the Circular Economy approach to construction, demolition and operational waste management.

DM Standard 40: Construction and Demolition Waste

Where significant construction and demolition waste is envisaged arising from a proposed development, the Council will seek the submission of a waste management plan for the construction phase of the development for the written agreement of the Council, which shall be in compliance with the Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects, by the DRHLG. All waste materials generated during both the construction and operational phases of development must only be collected by appropriately licensed waste contractors and disposed of in licensed waste facilities. Construction and Demolition Waste Management Plans shall be required as part of any planning application in excess of the following thresholds:

- New residential development of 10 houses or more;
- Developments including institutional, educational, health and other public facilities, with an aggregate floor area in excess of 1,250 m²;
- Demolition/renovation/refurbishment projects generating in excess of 100 m³ in volume, of Construction and Demolition waste;
- Civil engineering projects producing in excess of 500 m³ of waste, excluding waste materials used for development works on the site.

DM Standard 20: Industrial/Commercial

Industrial Development - Waste Management/Storage - Provision shall be made on site in a screened compound for short-term waste and segregation storage pending collection and disposal. There must be adequate provision for storage of segregated waste (bio-waste/dry recyclables/residual waste) pending collection.

WM 2: Requirements for Waste Management

Support and promote the circular economy principles, prioritizing prevention, reuse, recycling and recovery, and to sustainably manage residual waste. New developments will be expected to take account of the provisions of the Waste Management Plan for the Region and observe those elements of it that relate to waste prevention and minimisation, waste recycling facilities, and the capacity for source segregation.

WM 3: Waste Recovery and Disposal Facilities

Support and facilitate the provision of adequate waste recovery and disposal facilities for the county.

WM 4: Waste Legislation

To require that all waste disposal shall be undertaken in compliance with the requirements of the Environmental Protection Agency and relevant Waste Management Legislation.

WM 5: Construction and Environmental Management Plans

Construction Environment Management Plans shall be prepared in advance of the construction of relevant projects and implemented throughout. Such plans shall incorporate relevant mitigation measures which have been integrated into the Plan and any lower tier Environmental Impact Statement or Appropriate Assessment.

WM 8: Sustainable Waste Management Practices

Promote and facilitate communities to become involved in environmental awareness activities and community based recycling initiatives or environmental management initiatives that will lead to local sustainable waste management practices.

2.5 Waste Legislation

It will be the Contractor's responsibility to ensure that they are familiar with and comply with the requirements of all relevant waste legislation for the duration of the project. The following non-exhaustive list of legislative requirements typically apply to the construction stage of major developments:

- Waste Framework Directive 2008/98/EC of the European Parliament and Council on waste, as amended, 2018 (S.I. 2018/851);
- European Union (Waste Directive) Regulations Directive 2020 (S.I. No. 323 of 2020), as amended 2025 (S.I. 166 of 2025);
- Waste Management Act of 1996, as amended;
- Litter Pollution Act of 1997, as amended in 2009;
- Litter Pollution Regulations 1999 (S.I. No. 359 of 1999);
- European Communities (Waste Electrical and Electronic Equipment) Regulations 2011 (S.I. 355 of 2011), as amended 2011 (S.I. No. 397 of 2011), 2013 (S.I. No. 32 of 2013), 2014 (S.I. No. 149 of 2014), as amended 2019 (S.I. No. 233 of 2019) and 2025 (S.I. No. 427 of 2025);
- Waste Management (Facility Permit and Registration) Regulations 2007 (S.I. No. 821 of 2007), as amended, 2008 (S.I. No. 86 of 2008), 2015 (S.I. No. 198 of 2015), 2019 (S.I. No. 250 of 2019), 2023 (S.I. No. 471 of 2023);
- Waste Management (Collection Permit) Regulations 2007 (S.I. No. 820 of 2007), as amended, 2015 (S.I. No. 197 of 2015), 2016 (S.I. No. 24 of 2016), 2023 (S.I. No. 104 of 2023);
- Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004) as amended 2010 (S.I. No. 350 of 2010) and 2019 (S.I. No. 618 of 2019);
- Waste Management (Miscellaneous Provisions) Regulations, 1998 (S.I. No. 164 of 1998);
- Waste Management (Landfill Levy) Regulations 2008 (S.I. No. 199 of 2008), as amended 2009, (S.I. No. 550 of 2009), 2010 (S.I. No. 31 of 2010), 2012 (S.I. No. 221 of 2012), 2013 (S.I. No. 194 of 2013), 2015 (S.I. No. 189 of 2015), 2019 (S.I. No.182 of 2019), 2023 (S.I. No. 398 of 2023), 2024 (S.I. No. 442 of 2024);
- Waste Management (Hazardous Waste) (Amendment) Regulations, 2000 (S.I. No. 73 of 2000);
- Waste Management (Shipment of Waste) Regulations 2007 (S.I. No. 419 of 2007);
- Waste Management (Movement of Hazardous Waste) Regulations, 1998 (S.I. No. 147 of 1998);
- European Communities (Shipments of Hazardous Waste Exclusively within Ireland) Regulations 2011,(S.I. No 324 of 2011);

- European Communities (Transfrontier Shipment of Waste) Regulations 1994 (S.I. No. 121 of 1994);
- Waste Management (Transfrontier Shipment of Waste) Regulations 1998, (S.I. No. 149 of 1998);
- Waste Management (Tyres and Waste Tyres) Regulations 2017 (S.I. No. 400 of 2017), as amended 2018 (S.I. No. 96 of 2018);
- European Union (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014), as amended, 2014 (S.I. No. 349 of 2014), 2015 (S.I. No. 347 of 2015);
- Waste Management (Registration of Brokers and Dealers) Regulations 2008 (S.I. No. 113 of 2008);
- Waste Management (Prohibition of Material Disposal by Burning) Regulations 2009 (S.I. No. 286 of 2009), as amended 2013, 2015, 2017, 2020, 2022, 2023;
- European Waste Catalogue (EWC) and Hazardous Waste List 2002;
- Waste Management (Food Waste) Regulations 2009 (S.I. No 508 of 2009), as amended, 2015 (S.I. No. 430 of 2015), 2024 (S.I. No. 294 of 2024);
- European Union (Properties of Waste Which Render It Hazardous) Regulations 2015 (S.I. No. 233 of 2015), as amended 2018 (S.I. No. 383 of 2018);
- Air Pollution Act, 1987 (Emission Limit Values for use of Asbestos) Regulations, 1990 (S.I. No. 28 of 1990),
- Air Pollution Act 1987 (Emission Limit Values for Combustion Plant) 1996 (S.I. No. 264 of 1996);
- EC (Control of Emissions of Gaseous & Particulate Pollutants from Non-Road Mobile Machinery) Regulations 2007 (S.I. No.147 of 2007) as amended, 2011 (S.I. No. 263 of 2011), 2012 (S.I. No. 407 of 2012), 2013 (S.I. No. 417 of 2013);
- The EU Regulation 2037/2000 (CFC's, HCFC's, Halons) - Ozone Depleting Substances.
- Control of Substances that Deplete the Ozone Layer Regulations 2011 (S.I. No. 465 of 2011);
- Circular Economy and Miscellaneous Provision Act 2022;
- Environmental Protection Agency (2021) Best Practice Guidelines for Resource & Waste Management Plans for Construction and Demolition Projects;
- European Union (Packaging) Regulations 2014 (S.I. No. 282 of 2014), as amended 2015 (S.I. No. 542 of 2015) and 2025 (S.I. No. 167 of 2025);
- Planning and Development Acts 2000 to 2025, as amended;
- Protection of Environment Act 1992 as amended 2003 and 2017;
- European Union (Ship Recycling) (Waste) Regulations 2019 (SI. No. 13 of 2019);
- European Union (Environmental Impact Assessment) (Waste) Regulations 2013 (SI. No. 505 of 2013) as amended 2020 (S.I. No. 130 of 2020);
- Industrial Emissions Directive 2010/75/EU; and,
- Landfill Directive 1999/31/EC.

2.6 Waste Soils Classification

According to EPA (2018) 'Waste Classification, List of Waste & Determining if Waste is Hazardous or Non-Hazardous' *correct classification is the foundation for ensuring that the collection, transportation, storage and treatment of waste is carried out in a manner that provides protection for the environment and human health and in compliance with legal requirements.*

The waste classification system within EPA (2018) applies across the EU and is the basis for all national and international waste reporting obligations.

Since 2015, waste classification is based on:



- Commission Decision of 18 December 2014, amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European parliament and of the Council (2014/955/EEC) (referred to hereafter as 'The List of Waste (LoW)'); and,
- Commission Regulation (EU) No 1357/2014 of 18 December 2014, replacing Annex III to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives.

Soils requiring offsite disposal should be appropriately characterised, prior to transport and disposal, as follows:

- Representative chemical analytical results are input into a waste classification tool (to determine the relevant List of Waste (LoW) Code) and if the waste soils are hazardous or non-hazardous;
- Representative Waste Acceptance Criteria (WAC) analytical results are then separately screened against the relevant screening values (as established under the European Communities Council Decision (EC) 92003/33/EC) 'COUNCIL DECISION of 19 December 2002 establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC); and,
- All waste soils removed from site must be transported by appropriately permitted hauliers and must be disposed of to an appropriately authorised disposal / recovery facility (via. valid Certificate of Registration, Waste Facility Permit, or Waste Facility Licence).



3. Project Description

3.1 Site Location and Surrounding Land Use

The Proposed Project boundary is presented in Figure 1-1, which includes a gas fired power plant (named Cashla Peaker Plant), as detailed further below, as well as the construction of an ESB substation compound within the Peaker Plant site, and associated infrastructure, the construction of approximately 8.1 kilometres (km) of an underground grid connection route and laying of cable from the proposed ESB Substation (in the Cashla Peaker Plant Site) to the Cashla 220 kV Substation, along the L7109, L71093, L7108 and L3103 roads. The construction methodology includes three horizontal directional drilling (HDD) operations beneath the M6 and M17 motorways to minimise surface disruption.

3.2 Proposed Project

The following provides a summary description of the project assessed as part of the EIAR. The overall project is subject to two separate planning applications: one for the proposed Cashla Peaker Plant and one for the electricity transmission infrastructure. The project will function as a balancing asset, operating intermittently during periods of low renewable energy generation and high electricity demand. Notwithstanding the dual consenting approach, the developments constitute a single, integrated project, whereby the peaker plant will generate electricity for supply to the national grid. The submission of separate planning applications arises solely from planning legislation requirements, which necessitate distinct applications for Strategic Infrastructure Development.

Each application will seek a 10-year permission and detail on the relevant statutory development description is set out in the planning application form.

The proposed operational life is up to and including the 31st of December 2050, which is tied to Ireland's Climate Action Plan 2025.

The project site is approximately 19.17 hectares. This is broken down into the 'Cashla Peaker Plant Site' which is approximately 11.54 hectares and is located within the townlands of Pollnagroagh and Rathmorrissy, Athenry, Co. Galway. The balance, 7.63 hectares, relates to the grid connection and substation and is located across the townlands of Rathmorrissy, Pollnagroagh, Moanbaun, Castlelambert, Knocknacreeva, Caraunduff, Caherbriskaun, Lisheenkyle East, Barrettspark, Cashla, Athenry, Co. Galway. The grid connection route traverses approximately 8.1km including along the L7109, L71093, L7108 and L3103 roads.

The project comprises the following infrastructure:

- a) The construction of an open-cycle gas turbine (OCGT) and generator with ancillary equipment including a 30m high stack and emissions monitoring unit, fuel storage and supply systems, cooling and air systems, compressed air and gas handling skids, a grid step-up transformer within a bund, an auxiliary transformer, a generator circuit breaker and an emergency low sulphur diesel generator. The construction of ten buildings on-site including one single-storey administration building (approximately 390sqm), one single storey ESB Substation building (approximately 32.5sqm), one single-storey workshop building (approximately 750.5sqm), one single storey water treatment plant building (approximately 104sqm), fuel forwarding and unloading area (approximately 104sqm), one single-storey electrical control building (approximately 243.5sqm), one single storey gas analyser kiosk (approximately 6.25sqm), one single-storey boiler house kiosk (approximately 37sqm), one single-storey ancillary pressure reduction kiosk (approximately 26sqm) and a single-storey electrical and instrumentation kiosk (approximately 19sqm). The installation of five above-ground tanks including two banded fuel tanks (approximately 11.1m

high), one fire and service water tank (approximately 13m high), one demineralised water tank (approximately 15.4m high) and one demineralised waste tank (approximately 5m high).

- b) The construction of a Gas Networks Ireland (GNI) above ground pressure regulating installation, known as an Above Ground Installation (AGI). The AGI (named Rathmorrissy AGI) will connect to the mains transmission gas network which exists within the site. The AGI infrastructure will occupy an enclosed area of approximately 2,500 sq.m. It encompasses five single-storey buildings: the gas analyser kiosk (approximately 6.25 sqm), the boiler house kiosk (approximately 37 sqm) including 10 no boiler flues approximately 5.67 m above ground level and emergency generator, two pressure reduction kiosks – main (approximately 72 sqm) including approximately 5.24 m high vents, and ancillary (approximately 21.7 sqm) including approximately 3.72 high vents – and the electrical and instrumentation kiosk (approximately 19 sqm). Ancillary infrastructure will include a gas meter, filters, heat exchangers, and above-ground pipework. The compound will include lighting, 3 no. parking spaces, internal access routes, concrete bases to support the infrastructure, and stone-chipped surfacing. It will be secured by an approximately 2.4 m high fence with an access gate.

It is noted that the connection to the existing mains gas network (Mayo–Galway pipeline (BGE/85)) will be undertaken via a new transmission pipeline (named GNI146). The GNI146 gas pipeline is subject to Section 39A Consent under the Gas Act 1976, as amended.

- c) Ancillary works including the provision of a new gated vehicular entrance off the L3103, the construction of an access road from the proposed Cashla Peaker Plant Site entrance to the new entrance off the L3103, the demolition of one farm outbuilding (in ruin), construction of internal access roads, hardstanding, security fencing (2.4m high), CCTV and gates, provision of a wastewater treatment system and associated underground wastewater storage tanks, drainage (foul and storm), soakaway retention pond, propane tank, construction of underground firewater retention tanks, provision of parking (12 no. spaces including mobility and EV Parking) and laydown area, 20 no. cycle parking spaces, landscaping and all ancillary on-site development works.
- d) The electricity transmission infrastructure comprises the construction of an ESB substation compound within the Cashla Peaker Plant site. The infrastructure will include a 4-bay 220 kV substation incorporating a single-storey Air-Insulated Switchgear (AIS) substation building (approximately 388sqm) and access road; a 36m high telecommunications mast; a shunt reactor, ancillary works including lighting, security fencing (2.4m high), internal tracks, and 4 no. carparking spaces. It also consists of the construction of approximately 8.1 kilometres of an underground grid connection route and laying of cable from the proposed ESB Substation in the Cashla Peaker Plant Site to the Cashla 220kV Substation. The construction methodology includes three horizontal directional drilling (HDD) operations beneath the M6 and M17 motorways to minimise surface disruption.

The Cashla Peaker Plant involves an activity that will require an Industrial Emission Licence from the Environmental Protection Agency (EPA). This ensures that the project meets all necessary environmental standards related to emissions and other factors impacting the surrounding area. This does not apply to the electricity transmission infrastructure.

Additionally, the Cashla Peaker Plant includes the establishment of a facility where safety measures under the Major Accident Directive (Seveso) will apply. These regulations are designed to prevent and limit the consequences of potential industrial accidents, ensuring the project is both safe and compliant with industry best practices. This does not apply to the electricity transmission infrastructure.

Taking into account the overlapping construction, operational and decommissioning phases of the project, this outline construction and operational resource waste management plan has been prepared as a framework plan in respect of the project as a whole to inform the EIAR.



3.3 Construction and Demolition Phase

Localised demolition works will take place prior to construction. Two stone-walled structures (shed and adjacent smaller shed) will be demolished, using hand and mechanical methods appropriate to the scale of the structures. Stone material will be salvaged where practicable for reuse or recycled as hardcore. Waste materials will be disposed of in compliance with the Waste Management Act, and the project specific RWMP.

3.3.1 Details of Non-Hazardous Wastes to be Produced

In accordance with good practice, excavated soils will be reused onsite wherever feasible, including for boundary treatment and landscaping purposes, if suitable. Any surplus soils will be disposed of offsite in accordance with all relevant waste management legislation and best practice requirements. The estimated native non-contaminated soil volumes to be removed from the site and estimated recycling targets are discussed in Section 6.4.

Should any ground contamination be encountered during the construction phase of the proposed project the Employer and Employers Representative, and the Resource Manager will be immediately notified and consulted with. Appropriate measures will be put in place, as set out below, including appropriate transport and disposal of such waste materials to a suitably licenced facility in accordance with all relevant waste legislation.

According to the EPA '*Correct classification is the foundation for ensuring that the collection, transportation, storage and treatment of waste is carried out in a manner that provides protection for the environment and human health and in compliance with legal requirements*'. Hence soils requiring offsite disposal must be characterised as per the requirements of the relevant Waste Acceptance Criteria (WAC) under the European Communities Council Decision ((EC) 92003/33/EC) 'COUNCIL DECISION of 19 December 2002 establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC'. Soils requiring offsite disposal will also require waste classification in strict accordance with the requirements of the EPA as set out in the following document 'Waste Classification List of Waste & Determining if Waste is Hazardous or Non-hazardous' (EPA, 2018). All waste soils removed from site must be transported by appropriately permitted hauliers and must be disposed of to an appropriately authorised disposal / recovery facility (via. valid Certificate of Registration, Waste Facility Permit, or Waste Facility Licence).

Surplus construction materials, including metals, plastics, packaging, and timber, will also be generated during the Construction Phase. Additional waste generated by onsite personnel during the construction works will broadly include the following: canteen waste, waste arising from temporary onsite self-contained welfare facilities, and a minor volume of waste electrical and electronic equipment. Such materials will be segregated and recycled where possible and all other materials will be disposed of offsite in accordance with all relevant waste management legislation and best practice requirements.

A summary of the main non-hazardous waste streams which could arise during the Construction Phase are presented in Table 6-1 and Table 6-2, along with the relevant List of Waste (LoW) code.

3.3.2 Details of Potentially Hazardous Waste to be Produced

3.3.2.1 Fuels, Oils and Chemicals

Hazardous materials (fuels, oils and chemicals) will be used at the Site during the Demolition & Construction Phases. As per industry standards, any fuel and oils temporarily stored onsite will be stored in double skinned / appropriately bunded storage tanks, in a secure dedicated fuel storage location onsite. All other chemicals, including paints, varnishes, glues, adhesives, degreasing agents and cleaning agents, will be securely stored in a dedicated temporary bunded chemical store onsite. All machinery, including any generators / pumps used

onsite, should be checked at the start of each work shift for evidence of any fuel or oil leaks (and removed offsite for any repairs as may be required).

Fuel, oil and chemical spill kits will be made available at designated storage areas, along with the relevant Safety Data Sheet (SDS). SDS documents contain information on the potential hazards (health, fire, reactivity and environmental) and how to work safely with the relevant chemical. All site operatives should receive training in appropriate refuelling methods and machinery checks, and chemical handling methods to be implemented onsite. Taking account of these control measures, along with the fact that the volumes of paints, varnishes, glues, adhesives etc. will be minor, it is not expected that any waste fuel, oil or chemicals will be generated during the Construction Phase.

3.3.2.2 Contaminated Soils

Based on available information no potential sources of significant onsite ground contamination associated with current or previous land-use (greenfield) have been identified. Nonetheless, excavation works during the Construction Phase should be monitored and in the highly unlikely event that contaminated materials are encountered, they will need to be segregated from all uncontaminated soils, temporarily stored (any stockpiles should be lined and covered by heavy duty 1000-gauge plastic), sampled and analysed for relevant parameters (Waste Acceptance Criteria suite e.g., Rilita Disposal Suite).

Any contaminated soils must be characterised as per the requirements of the relevant Waste Acceptance Criteria (WAC) under the relevant European Communities Council Decision (EC) (92003/33/EC) and classified in accordance with the requirements of the EPA as set out in the following documents 'Waste Classification List of Waste & Determining if Waste is Hazardous or Non-hazardous' (EPA, 2018). Any contaminated soils must be transported by appropriately permitted hauliers and disposed of to an appropriate EPA licensed Waste Facility in accordance with all relevant waste management legislation.

4. Project Roles and Responsibilities

For the purposes of clarity, the roles and responsibilities of the project team for the proposed project should be determined at the very outset of the Construction Stages of this project. Key roles are listed below. These are typically performed by the Client, Engineer, and Contractor as presented below. Specific details will be determined upon the Detailed Design and Contract Stage.

Table 4-1 - Roles and Responsibilities

Employer		Planning Agents	
The Client:	Bord Gáis Energy Ltd.	The Planner:	TBC
Contact:	TBC	Contact:	TBC
Tel:	TBC	Tel:	TBC
Employers Representative		Civil, Structural and Environmental Team	
The Engineer:	TBC	Consultant:	TBC
Contact:	TBC	Contact:	TBC
Tel:	TBC	Tel:	TBC
Project Supervisor for the Design Process (PSDP)		Contractor	
The Engineer:	TBC	The Contractor:	TBC
Contact:	TBC	Contact:	TBC
Tel:	TBC	Tel:	TBC
Project Supervisor Construction Stage (PSCS)			
The Contractor:	TBC		
Contact:	TBC		
Tel:	TBC		

4.1 The Client/Employer

The responsibilities of the client / employer are as follows:

- Require the preparation and submission of an updated RWMP as part of the construction tendering process;
- Ensure that the RWMP is agreed and submitted to the local authority prior to commencement of works on site; and,
- Request the end-of-project RWMP from the Contractor.

4.2 Design Team

The responsibilities of the design team are as follows:

- Drafting and maintaining the RWMP through the design, planning and procurement phases of the project;



- Appointing a Resource Manager (RM) to track and document the design process, inform the Design Team and prepare the RWMP;
- Include details and estimated quantities of all projected waste streams;
- Incorporate relevant conditions imposed in the planning permission into the RWMP;
- Handover of the RWMP to the Contractor at commencement of construction for the proposed project of the RWMP in a similar fashion to how the safety file is handed over to the Contractor; and,
- Work with the Contractor as required to meet the performance targets for the project.

4.3 Contractor

The responsibilities of the contractors are as follows:

- Adding to, implementing and reviewing the RWMP through construction (including the management of all suppliers and sub-contractors) as per the requirements of these guidelines (EPA, 2021);
- Identifying a designated and suitably qualified Resource Manager (RM) who will be responsible for implementing the RWMP;
- Identifying all hauliers to be engaged to transport each of the different kinds of resources / wastes off-site;
- End-of-waste and by-product notifications addressed with EPA where required;
- Clarification of any other statutory waste management obligations, which could include on-site processing; Full records of all resources (both wastes and other resources) should be maintained for the duration of the project;
- Carry out training and site inductions; and,
- Preparing a RWMP Implementation Review Report at project handover.

5. Design Approach

5.1 Design for Reuse and Recycling

In accordance with good practice, excavated soils will be reused onsite wherever feasible, including for boundary treatment and landscaping purposes, if suitable. Any excess topsoil to be transported offsite will be transported to an appropriately licenced, permitted or registered facility. The soil will be characterised in accordance with EPA, 'Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous' and Council Decision, 2003 on establishing criteria and procedures for the acceptance of waste at landfills.

An application may be made to the EPA under Article 27 of the European Communities (Waste Directive) Regulations 2011 for the use of excess soil or materials as a by-product if a definite use and need for this material can be determined. Also, an application may be made to the EPA under Article 28 which sets out the grounds by which a material, recovered or recycled from waste, can be deemed no longer a waste and complies with a set of end-of-waste criteria (substance/ object to be used for specific purposes, a market or demand exists, fulfils technical requirements and no overall adverse impact to human health or the environment).

During the construction, the contractor will review availability of recycled aggregates and other materials in the local area and decide on the most sustainable options, for example, the use of an on-site crusher for recycling of residual concrete to generate aggregates for use on site (subject to the appropriate waste consent, such as an Article 28 end of waste decision and once processing is industry standard practice, such as ensuring the aggregate outputs comply with the specifications of IS EN 13242).

The contractor will review 'new' materials to be used as part of the proposed project, which contain a recommended percentage of recycled content if they meet the functional, performance and regulatory requirements and are available locally at a reasonable cost.

Design for Reuse and Recycling is the most efficient way of designing low carbon infrastructure and feeds into the circular economy as opposed to a linear economy where product is treated as 'waste' at the end of its life.

5.2 Design for Green Procurement

When selecting suppliers, it is essential to assess the technical capabilities required for the products or services being procured. This is valuable from the buyers' point of view as suppliers that clearly cannot meet the requirements will be eliminated. In addition, it is also useful for the suppliers to get a clear understanding of how committed the Client is to protect sustainability and what will be essential for any submission to be successful.

At an early stage (pre-procurement), the client will have discussions with potential contractors, subcontractors and suppliers regarding the following:

- Waste prevention and minimisation during the construction stage;
- Proposed design solutions to encourage innovation in tenders and incentivise competitions to recognise sustainable approaches;
- Use ordering procedures that avoid waste, i.e. no over-ordering, take-back schemes for both material surplus and offcuts;
- Discuss options for packaging reduction with subcontractors and suppliers using measures such as 'Just-in-Time' delivery; and,
- Set reuse and recycling rates.

Green procurement integrates environmental considerations that include a combination of cost and quality into the procurement process. In order to help achieve this, both operational and embodied carbon targets for this project will be set out early on in collaboration with the design team in order to ensure that green procurement can take place. Through comparative data on embodied carbon, low carbon materials options will be favoured where possible. A sustainable construction plan will be developed that addresses all aspects of construction relating to design from reducing demolition, considering reuse / upcycling and recycling of existing materials to approaching suppliers for green construction materials e.g. Responsible Steel and adopt Design of Off-Site Construction. *'The use of off-site manufacturing reduces residual wastes by up to 90% (volumetric building versus traditional)'* (EPA, 2021). Low carbon additives to industry standard components will also be considered as part of this process e.g. the use of GGBS in concrete can be a way to reduce its carbon footprint whilst still achieving the structural and fire benefits of concrete.

5.3 Design for Material Optimisation

As stated in the EPA (2021) guidelines the key design principle for design for material optimisation *'is to ensure manufacturers and construction companies adopt lean production models, including maximising the reuse of materials onsite. This helps to reduce the environmental impacts associated with transportation of materials and from waste management activities.'*

Design for material optimisation includes the use of standardised sizes for certain materials to help reduce the number of offcuts produced on site, focusing on promotion and development of off-site manufacture.

5.4 Design for Flexibility and Deconstruction

It will be the contractor's responsibility to ensure that all products only contain materials that can be recycled and are designed to be easily disassembled, where possible. As per the EPA (2021) guidelines, the design team will consider material efficiency for the duration and end of life of a building project; flexible, adaptable spaces that enable a resource-efficient, low-waste future change of use; durability of materials and how they can be recovered effectively when maintenance and refurbishment are undertaken and during disassembly/deconstruction.

6. Key Material & Quantities

6.1 Summary of Potential Waste Streams (LoW/EWC Codes)

All waste arising from the demolition, construction and operational phase works will be transported off site by approved waste contractors holding all necessary waste collection and transportation permits³. All the waste arisings requiring reuse, recycling, recovery or disposal will be brought to facilities holding the appropriate Certificate of Registration, Waste Licence or Waste Permit, as required.

A summary of the main hazardous and non-hazardous waste streams which could arise during the Demolition, Construction and Operational Phases are presented in Table 6-1, along with the relevant List of Waste (LoW) code. The LoW code (also referred to as European Waste Catalogue (EWC) code) serves as a common method of characterising various waste streams. Assignment of waste codes will determine how and where the generated waste can be disposed of. LoW codes must be selected for each waste type.

It should be noted that the summary list presented in Table 6-1 is a non-exhaustive list and it will be the Contractors responsibility to ensure all waste streams generated onsite during the Demolition and Construction Phase for this project are appropriately characterised, managed and disposed of in accordance with all relevant waste management legislation.

Table 6-1 - Summary list of LoW Codes, which may be relevant to the Proposed Project

Waste Material	LoW Code
Concrete, bricks, tiles and ceramics	
Concrete	17 01 01
Bricks	17 01 02
tiles and ceramics	17 01 03
mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	17 01 07
Wood, glass and plastic	
Wood	17 02 01
Glass	17 02 02
Plastic	17 02 03
Bituminous mixtures, coal tar and tarred products	
bituminous mixtures	17 03 02
metals (including their alloys)	

³ It should be noted that where possible excavated native soil from the proposed project will be reused onsite, as previously discussed. Such soil is a resource and not a waste.

mixed metals	17 04 07
Soil (including excavated soil from contaminated sites), stones and dredging spoil	
soil and stones containing hazardous substances	17 05 03*
soil and stones other than those mentioned in 17 05 03	17 05 04
Gypsum-based construction material	
Gypsum-based construction material	17 08 02
Other construction and demolition wastes	
mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	17 09 04
Wastes from electrical and electronic equipment	
discarded equipment containing chlorofluorocarbons, HCFC, HFC	16 02 11*
discarded equipment containing free asbestos	16 02 12*
discarded equipment containing hazardous components (16) other than those mentioned in 16 02 09 to 16 02 12	16 02 13*
discarded equipment other than those mentioned in 16 02 09 to 16 02 13	16 02 14
hazardous components removed from discarded equipment	16 02 15*
components removed from discarded equipment other than those mentioned in 16 02 15	16 02 16
Miscellaneous Waste	
Paper and cardboard	20 01 01
biodegradable waste (Green waste)	20 02 01
batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries	20 01 33*
batteries and accumulators other than those mentioned in 20 01 33	20 01 34
Waste fuel oil and diesel	13 07 01*
Waste petrol	13 07 02*
Waste other fuels (including mixtures)	13 07 03*
Chemicals – Solvents	20 01 13*
Chemicals – Pesticides	20 01 19*
Chemicals - paint, inks, adhesives and resins containing hazardous substances	20 01 27*
Chemicals - paint, inks, adhesives and resins other than those mentioned in 20 01 27	20 01 28
Chemicals - detergents containing hazardous substances	20 01 29*
Chemicals - detergents other than those mentioned in 20 01 29	20 01 30

fluorescent tubes and other mercury-containing waste	20 01 21*
insulation materials other than those mentioned in 17 06 01 and 17 06 03	17 06 04

Note 1: The use of an asterisk on a LoW code denotes that the material is characterised as hazardous.

6.2 Type of Waste

The waste generated onsite is surplus or waste materials arising from either the materials imported to site or from those generated on site. Imported materials are those which are imported to site for inclusion into the temporary and permanent works (such as concrete, construction aggregates, asphalt and cabling etc.). Included within this waste stream is product packaging. This waste stream is produced from a range of potentially preventable activities. Such activities include damaged materials and the over ordering of materials. This waste stream is described as construction (C) waste within the RWMP. Site generated materials are those which exist within the proposed works footprint such as topsoil and sub-soil etc. This waste stream is categorised as excavated (E) waste within the RWMP. Refer to Table 6-2 for the breakdown of types of waste. For both groups of materials there are a number of considerations to waste management such as waste reduction, segregation of waste, disposal of waste, financial impacts of waste disposal and recording, monitoring, education and reviewing data.

Table 6-2 - Breakdown of Types of Waste

Type of waste	Description
Imported material	<p>Where possible, consideration should be given to the re-use of material back into the proposed project works. Any waste produced through the importation of materials needs to be monitored and included in the RWMP under construction works.</p> <p>Where possible, consideration should be given to the use of recycled imported material such as concrete, which has a higher recycled content.</p>
Excavated materials (E)	<p>Materials such as excavated soils should be segregated during the excavation process. Appropriately experienced staff should supervise the excavation works to manage the segregation of soil materials. Site-derived materials of a similar nature should be stockpiled together and any changes in the physical and/or chemical properties should prompt further segregation.</p> <p>Soils should be placed in clearly identified stockpiles and chemical testing undertaken to confirm the potential for re-use on site, or, if considered inappropriate for re-use (due to geotechnical or chemical properties or being surplus), to inform off site treatment and/or disposal routes. Where soil materials meet the geotechnical and chemical criteria for re-use given the proposed end use scenario, such materials may be re-used on site, if required. Disposal of excavated material will be by licensed carriers, to licensed landfill sites and handled in accordance with the Waste Management Regulations.</p>
Concrete (C)	This waste will be generated by demolition works and the buildings for the Proposed Development.
Wood (C)	Packaging such as pallets.
Packaging (C)	From construction materials, etc.
Plastic (C)	Offcuts of pipework/ducting etc.
Vegetation (C)	Vegetation removal is required to facilitate the Proposed Development.
Metals (C)	<p>Offcuts from reinforced concrete for bridge foundations.</p> <p>Metal components or assets removed for site clearance.</p>

Paper and Cardboard (C)	Packaging from components delivered to site.
Segregated Hazardous Waste (C)	Nominal 1% to account for packaging that contained hazardous material such as oils, solvents, sealants etc.

In relation to the overall works, particular attention is drawn to the following waste/soil related activities:

- The site location deliveries/ removals are to phone ahead; Just-in-Time' (JIT) delivery processes; receive precise directions and named person to liaise with on site. The Contractor is to erect required signage approaching the site and ensure deliveries are programmed to cause minimal disruption;
- Hazardous manual handling operations are to be avoided so far as is reasonably practicable; and,
- Note that waste generated by the project will be managed in compliance with Waste Management Act 1996, Waste Management (amended) Act 2003 and associated Regulations.

6.3 Soil Generation

Excess⁴ excavated material will be removed and disposed offsite to a suitably permitted / licenced waste recovery / disposal facility in accordance with relevant waste management legislation (including but not limited to the Waste Management Act of 1996, 2001 and 2003 and all subsequent waste management regulations as amended).

Any soil transported off-site will be characterised in accordance with EPA guidance, '*Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous*' and Council Decision, 2003 on establishing criteria and procedures for the acceptance of waste at landfills. An application may be made to the EPA under Article 27 of the European Communities (Waste Directive) Regulations 2011 for the use of excess soil as a by-product if a definite use and need for this material can be determined.

6.4 Construction and Demolition Waste Generation

6.4.1 Demolition Waste

Demolition works will take place prior to construction; involving the demolition of two structures which will generate ca. 40 tonnes of waste. Demolition will be conducted using hand and mechanical methods appropriate to the scale of the structures. Stone material will be salvaged where practicable for reuse or recycled as hardcore. Waste materials will be disposed of in compliance with the Waste Management Act.

6.4.2 Native Non-Contaminated Soils

The estimated volume of soil generated during the construction phase (ca.: 13,000m³) will be minimised by reducing / eliminating the need for excavation and importing of capping layers. Lime stabilisation may also be used to reduce the amount of soils generated onsite. The balance of soil materials excavated from the Site will be reused where possible for landscaping purposes, and infill where appropriate, ensuring that any residual soil

⁴ It should be noted that where possible excavated native soil from the proposed project will be reused onsite, as previously discussed. Such soil is a resource and not a waste.

waste is kept to a minimum. Should any soil be required to be removed from site, then the soil will be characterised and removed offsite in accordance with all relevant waste management legislation.

6.4.3 Mixed Construction & Demolition Waste

Following segregation onsite, any residual mixed C&D waste (ca.: 26 tonnes) will be collected in containers specifically for mixed C&D waste; these will be removed offsite for subsequent offsite separation and disposal at a licenced waste disposal / recovery facility.

6.4.4 Wood/Timber

Timber waste (ca.: 51 tonnes) will be segregated in order to prevent contamination by other wastes and will be stored so as to limit the potential for this material to rot. Wooden pallets will be returned to relevant suppliers where possible. Timber offcuts will be reused onsite where feasible. A covered receptacle for waste wood will be placed in the waste storage area, prior to removal from Site for recycling. All such timber will be free from chemical treatment.

6.4.5 Metals

Metal waste (ca.: 33 tonnes) will be generated during the project, particularly arising from the use of rebar. All waste metal will be segregated offsite at the waste disposal / recovery facility for reuse and recycling. Given the significant scrap value associated with metal waste, this waste will be stored in a dedicated container within a secure part of the Site, and regular collections from Site to the waste recycling facility will limit the potential for unauthorised entry and theft.

6.4.6 Papers, Plastics and Packaging

Packaging wastes (ca.: 23 tonnes) will be removed (paper / cardboard / plastic / general waste) offsite for subsequent offsite separation and disposal at a waste disposal / recovery facility. Waste packaging will be stored in dedicated containers in the waste storage area for collection and subsequent segregation and recycling.

6.4.7 Canteen/ Office Waste

Onsite staff welfare facilities / offices will generate food and packaging waste (ca.: 34 tonnes). Dedicated containers will be provided to permit easy segregation of these wastes; brown bins will be provided for compostable food waste, green bins will be provided for dry recyclables (packaging, hard plastic, paper, cardboard, tetrapak etc.) and black bins will be provided for any residual waste.

6.4.8 Other wastes

In addition to the above waste streams, other waste materials (ca.: 9 tonnes) will be generated during the demolition and construction phase. These residual wastes will typically comprise non- recycling waste such as soiled paper / cardboard / plastics / cloth, fibreglass, polystyrene insulations and plasterboard. These materials will be stored separately to all other waste streams in order to prevent any cross contamination.

6.4.9 Recycling / Reuse Targets

The following recycling/re-use targets will be applied during the demolition and construction phases of the proposed project.



Table 6-3 - Potential Recycling/Re-use Targets

Waste type	Recycling/ (*WRAP ^{Note1} recovery rates)	Reuse best practice	%*
Imported material	70-90		
Excavated material	70-100		
Concrete etc	50-90		
Wood	90		
Packaging	95		
Plastic	95		
Metals	100		
Paper and Cardboard	100		

Note1 – Wastes and Resources Action Programme

6.4.10 Construction Waste Management Costs

Under the Waste Framework Directive 2008/98/EC and in accordance with the polluter-pays principle, there is a legal requirement that the costs of disposing of waste must be borne by the holder of waste or by the producers of the product from which the waste came, thereby placing the legal obligation for the management of the waste on the Client.

In terms of waste management and disposal costs, at this preliminary juncture it would not be feasible to estimate the total cost of waste management and disposal associated with the proposed development. Estimated costs will be determined by the Contractor.

6.5 Operational Waste Generation

The following operational waste streams may occur during the operational phase:

- Spent oils and lubricants from turbine maintenance;
- Solvent washdown fluids;
- Contaminated Firewater (in the event that this scenario arises);
- Demineralised water reject streams;
- Filter bags;
- Emergency generator low sulphur diesel waste; and,
- Propane storage and handling provisions.

6.5.1 Wastewater from Demineralized Water Production

As part of the plant's gas turbine operation requirements, demineralised water is required. Demineralised water will be injected into the gas turbine:

- For power augmentation (the injected water increases the air mass flow passing through the gas turbine) when combusting gas fuel or,

- To reduce NO_x gases when combusting low sulphur diesel fuel (i.e., the secondary fuel source), demineralised water is injected into the gas turbine combustion system in a defined ratio to the volume of low sulphur diesel (secondary fuel) fuel being combusted to control the maximum combustion temperature.

Treatment Process Details:

- Demineralised waste water reject will be generated through the process of creating and filling the water storage tank with demineralised water. A concentrated reject stream will be sent to a contaminated water tank during reverse osmosis. This waste water will be stored in a tank and removed off-site as required to a wastewater treatment plant for disposal.
- Bunded IBC containers, which are used to contain acid and alkali required for the demineralisation process, will need to be periodically removed replaced once ineffective by a licensed waste contractor. Spent regenerants from ion exchange are also directed to the contaminated water tank and removed off-site.

6.5.2 Machine Washdown Chemicals / Solvents

- Routine maintenance of the gas turbine involves cleaning the machine with solvents. These solvents are injected internally and drain down for collection beneath the machine. The collection system is closed and discharges all solvents to an underground tank, from where they are collected by tanker and disposed of off-site at a licensed waste facility capable of handling hydrocarbon waste. It is anticipated that this maintenance will occur several times a year, generating no more than 2m³ of waste hydrocarbons each time.
- Internal washdowns will be done biannually, with solvents collected via the internal pipework into underground tanks (ca. 2m³). These are emptied by tanker for licensed disposal. No further pollution controls are necessary due to the closed collection system.

6.5.3 Filter Bag Waste from Gas Turbine

The filter house contains bag filters which catch any sizeable incoming particles to prevent contamination of the gas turbine components. The filter house is expected to have a pulse cleaning system to extend the life of the bag filters. This system functions by compressing air and blowing it backwards through individual filter bags to remove some of the caught particles. These fall into a hopper for collection and removal to a licenced waste site.

6.5.4 Gas Turbine and Generator Maintenance

- During the operational phase, spent oil resulting from the lubricating oil system of the continually operating turbine will be generated. When the oil is replaced, the spent oil will be removed offsite by a licenced contractor for recycling in a suitable processing facility.
- The compressor washing system associated with the gas turbine which can operate when the gas turbine is not in operation. Under this circumstance, the cleaning fluids will be drained into a containment tank and removed off-site to a licenced treatment facility.

6.5.5 Contaminated Firewater

In the event of a fire on site, contaminated firewater will be captured via the stormwater system and directed to containment tanks for off-site treatment.

6.5.6 Spent Oils

Lubrication oil used in the gas turbine and generator is expected to require replacement after an extended period of use due to the heat related decomposition of the oil chemistry. There is also the potential for oil to be replaced



if used for pump lubrications. These spent oils will be removed from site by a licenced contractor which after treatment can be re-used in the market.

6.5.7 General Waste Collection

During the operational phase, waste collection areas for the main project site will be clearly identified, secure, have adequate lighting and drainage, and will be easily accessible for bin collection crews. General waste volumes for the Peaker Plant will be minimal.

During the operational phase waste shall be collected on a fortnightly basis by a commercial waste contractor who holds a current valid waste collection permit issued by the National Waste Collection Permit Office (NWCPO). All waste materials will be removed offsite to an appropriately permitted or licenced waste disposal / recovery facility. All such waste will be transported and disposed of in accordance with relevant waste management legislation (including but not limited to the Waste Management Act of 1996, 2001 and 2003 and all subsequent waste management regulations as amended).

Therefore, while waste will be generated during the operational phase of the Proposed Project, all such waste will be managed in accordance with statutory waste management and environmental requirements, national waste related policy, and best practice waste management guidance.

6.5.8 Wastewater Treatment Plant (WWTP) Sludge

As outlined in the Civil Planning Engineering Report (AtkinsRéalis, 2025) (Appendix 2, Volume 3 of the EIAR), the onsite foul sewer will be designed and constructed in accordance with Uisce Éireann standards, as set out below.

'It is proposed to install a small foul sewer network which will be partly gravity fed and partly pumped. The pumped section of the sewer will be to lift the effluent from the administration building to the proposed waste water treatment plant (WWTP). The proposed WWTP will be designed and installed in accordance with the current EPA Code of Practice Domestic Waste Water Treatment Systems and will consist of a small package pump station. The rising main is approximately 35m in length and will discharge to a Uisce Éireann decompression manhole before entering to a proposed WWTP.'

The proposed power plant is proposed to be remotely controlled where possible and as such the staff on site will generally be 2-3 maintenance staff or security with an expected maximum population of 10 persons at any one time.

As such the proposed WWTP will be a package domestic plant such as a 10 Person ONE2CLEAN Wastewater Treatment System by Graf G50006 (or similar). This will discharge to underground storage tanks which will be emptied by tanker once a week and taken to a nearby WWTP for disposal. The onsite WWTP is to prevent septicity occurring in the storage tanks during collection times.'

6.6 Tracking and Documentation Procedures for Off-Site Waste

All waste transport and disposal / recovery must be carried out in accordance with relevant waste management legislation (outlined in Section 2) and any subsequent future legislation which may apply. A nominated Waste Manager for the project will be responsible for ensuring correct tracking and documentation procedures are undertaken for all waste removed from site during the project. Each consignment of waste removed from site will be tracked and recorded. A site record detailing the date, truck registration, waste type, estimated volume and destination will be filed onsite for each consignment, along with the corresponding truck docket and weighbridge



record at the offsite disposal / recovery destination. A copy of the relevant waste collection permits and waste permit / waste licence for the relevant disposal / recovery facilities will be available onsite. All of the above record keeping requirements apply to the construction and demolition phases, and also to the operational and decommissioning phases.



7. Site Management

7.1 Resource / Environmental Manager – Responsibilities

The Contractor will nominate a Resource Manager for the duration of the Construction Phase. The Client will nominate an Environmental Manager during the Operational Phase. The Resource / Environmental Manager will be responsible for the efficient operation of onsite waste management procedures; they will also be responsible for ensuring that all waste removed offsite is appropriately characterised (under the correct LoW / EWC code), transported and disposed of in accordance with all relevant waste management legislation. It will be the Resource / Environmental Manager's responsibility to maintain all waste management and disposal / recovery records onsite. These site records should be made available for viewing by the Client, Employers Representative and statutory consultees (Galway County Council, Environmental Protection Agency), as required.

The Resource / Environmental Manager should be appropriately trained in the correct documentary procedure, waste auditing and best practice methods in onsite waste minimisation. They should provide waste management toolbox talks with site operatives to highlight any specific waste management concerns that will also be carried out should the need arise.

7.2 Waste Storage

During the construction and demolition phases, all C&D waste materials will be segregated onsite into the various waste streams, via. labelled dedicated skips and storage areas. Waste will be removed from site by suitably permitted waste haulage contractors. The Contractor should clearly identify all proposed waste haulage contractors within the project specific RWMP. Each waste haulage contractor must hold a current valid waste collection permit issued by the National Waste Collection Permit Office (NWCPO). All waste materials must be removed offsite to an appropriately permitted or licenced waste disposal / recovery facility.

There will be 1no. site onsite during the construction and demolition works (Refer to Figure 7-1). Shared facilities on this site compound, include:

- Welfare facilities (e.g., toilets, canteen(s), drying room(s)); and
- Site offices for construction management and staff.

During the operational and decommissioning phases, all waste materials will be segregated onsite into the various waste streams, via. labelled dedicated skips and storage areas. Waste will be removed from site by suitably permitted waste haulage contractors. Each waste haulage contractor must hold a current valid waste collection permit issued by the National Waste Collection Permit Office (NWCPO). All waste materials generated must be removed offsite to an appropriately permitted or licenced waste disposal / recovery facility.

7.3 Training

All site personnel should receive waste management information and environmental induction before commencing work on the Proposed Project, which will include a module on resource management as part of their initial site briefing from the Resource / Environmental Manager. The initial briefing should include a discussion of the key points set out in the RWMP, along with the specific procedures to be implemented onsite to segregate and appropriately store the generated waste and key control measures such as refuelling procedures and oil, fuel and chemical storage requirements. This will ensure that all onsite personnel are familiar with the site-specific waste management strategy.

As a minimum the following will be included in the induction, as per the EPA (2021) guidelines:

- Scope and content of the RWMP;
- Project commitments and targets;
- List of anticipated resources and wastes and volumes to be generated;
- Procedures for the proper identification and segregation of resources and wastes;
- Temporary storage and the location of the waste storage area; and,
- Clear instruction on hazardous wastes will be incorporated into the training programme and the particular dangers of each hazardous waste.'

The environmental induction shall be tailored to suit the tasks and responsibilities of site personnel from management and supervisory level through to site operatives. Toolbox talks on resource management should be provided on a continuous basis. Regular toolbox talks shall ensure site staff are aware of the resource management practices associated with their work and the appropriate control measures that are required to carry out their work in compliance with the RWMP.

7.3.1 Proposed Management Strategy for Each Waste Stream

Key principles set out in the guidelines (EPA, 2021) include optimising resources and reducing waste on construction projects through:

- Prevention;
- Reuse;
- Recycling;
- Green Procurement Principles;
- Off-Site Construction;
- Materials Optimisation; and,
- Flexibility and Deconstruction.

These principles are applied to the RWMP through both the pre-construction phase, construction phase and the operational and decommissioning phases. Therefore, every effort should be made to prevent and limit the amount of waste generated at the very outset of the project. At the preparatory phase of the Construction Phase the following measures will aid the prevention of waste in the first instance;

- Select procurement routes to minimise unnecessary packaging – for example applying 'Just-in-Time' (JIT) delivery processes to minimise material spoilage;
- Use of 'consolidation centres' to support JIT delivery – these are strategically-located storage and distribution facilities where materials can be stored prior to JIT delivery to sites;

- Implement ordering procedures and supply chain systems that avoid waste, i.e., no over-ordering, use of take-back schemes for packaging, material surplus and offcuts;
- Select procurement routes that minimise unnecessary packaging; and,
- Plan the work sequence to reduce the potential for on-site residual resource generation.

7.4 Record Keeping

The Contractor, through the appointed Resource / Environmental Manager, will be responsible for ensuring that the full details of all materials deliveries, materials movements and C&D and operational and decommissioning waste generated is recorded. Each C&D waste consignment removed from and to site will be tracked and documented to ensure full traceability of the material from site to the final destination. A single record will be completed for each individual consignment.

The Contractor will also receive printed receipts / weighbridge records from the waste disposal / recovery facilities for each individual consignment. These records will enable the Contractor to accurately quantify the total volume of waste removed for offsite disposal / recovery for each individual waste stream. These records will be maintained onsite and will be made available for auditing.

The type of information to be recorded in the site tracking system is described below in accordance with relevant guidelines and legislation:

- For each movement of resource off-site, a signed docket/invoice will be obtained by the Resource / Environmental Manager from the haulier/contractor detailing the following:
 - Name the resource / waste stream;
 - List of Waste (Low) Code for each stream (where applicable); and,
 - Quantity of material moved off-site by the haulier/contractor (tonnes).
- The name and authorisation of the haulier to transport the material – in the case of a ‘waste’ this requires a valid Waste Collection Permit (WCP). In the case of by-product or other materials that are not a waste, no WCP is required. In both cases the vehicle registration number should also be recorded for each load of material removed from site.
- The name and authorisation of the destination site for the resource – again for a ‘waste’ this requires a valid Cert of Registration, Waste Permit or Waste Licence and in the case of by-product the relevant by-product determination.
- The waste contractors must be required to provide details of end-use or waste treatment in waste reports.
- This recording will be carried out for each resource type and the system will also be linked with the delivery records. In this way, the percentage of residual resource generated for each material can be determined.
- The system will allow the comparison of these figures with the targets established for the prevention, reuse and recovery of resources to highlight successes or failures against these targets.

7.5 Communications

The following communication tasks are recommended for the Resource Manager through the construction phase as per the EPA (2021) guidelines:

- Internal reporting of resource statistics to the Client and the Contractor management. This includes performance relative to agreed targets and objectives which should be included as an agenda item at site meetings;



- Engaging with relevant local authority on any site inspection or enforcement audits undertaken at the site. All follow-up actions and corrective actions should be logged and reported to the local authority;
- Engaging with other stakeholders (EPA, public, etc.) as appropriate in relation to the resource management on site; and,

Upon completion of construction, the Resource Manager will prepare a final report summarising the outcomes of resource management processes adopted, the total reuse and recovery figures and the final destinations of all resources taken off-site. This report will be issued to the Client, Contractor management and the local authority. The local authority may make such a requirement a condition of planning and require the formal sign-off of same by the local authority for full planning compliance.

7.6 Outline Waste Audit Procedures

According to EPA (2021) a resource Audit represents a systematic study of the waste management practices applied in the project and is required to highlight firstly, the potential issues that can arise during the waste management process and secondly, the benefits of waste prevention and minimisation. Therefore, waste audits should be carried out routinely onsite by the Resource Manager. These audits will cover work practices, record keeping, and off-site tracking as follows in accordance with the EPA (2021) guidelines:

- When materials arrive on site, they will be properly recorded including the assignment of such materials to specific uses within the works;
- A review will be undertaken of onsite waste management practices to identify any improvements which may be required and ensure the following:
 - Adequacy of site signage and need for any repairs or upgrades;
 - Adequacy of storage infrastructure and need for any repairs or upgrades;
 - Compliance with resource segregation protocols and observed contamination in any resource streams; and,
 - Assessment of observed Contractor and Sub-contractor work practices for compliance with the RWMP (EPA, 2021).
- Onsite waste management processes / material management from materials delivery through to waste disposal / recovery (including the quantity, type and composition of all waste) will be reviewed to identify any opportunities for waste reduction;
- Corrective actions will be highlighted and implemented following each audit. Such actions include applying 'lessons learned' regarding efficient waste management on this project to other projects in the future to enable further waste reduction; and
- The key steps and findings from each waste audit should be presented in a summary report.

8. Consultation with Relevant Bodies

Appropriate consultation should be undertaken with relevant bodies by various members of the project team as required throughout the project. Relevant consultees include, but are not limited to, the following:

- GCC;
- The EPA;
- NWCPO;
- Permitted hauliers; and,
- Suitably permitted / licenced waste disposal / recovery facilities.

9. References

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