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CIVIL & STRUCTURAL



Proposed Strategic Housing Development on the
Former Player Wills Site and Undeveloped Land
Owned by Dublin City Council at South Circular
Road, Dublin 8.

Construction and Demolition Waste Management
Plan

**PROJECT: PROPOSED STRATEGIC HOUSING DEVELOPMENT ON THE FORMER
PLAYER WILLS SITE AND UNDEVELOPED LAND OWNED BY DUBLIN
CITY COUNCIL AT SOUTH CIRCULAR ROAD, DUBLIN 8.**

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PLAN**

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**CONSTRUCTION & DEMOLITION WASTE MANAGEMENT PLAN
FOR
PROPOSED PLAYER WILLS SHD
AT
SOUTH CIRCULAR ROAD,
DUBLIN 08**

TABLE OF CONTENTS

1.0 INTRODUCTION	3
2.0 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT IN IRELAND	4
2.1 NATIONAL LEVEL	4
2.2 REGIONAL LEVEL	5
2.3 LEGISLATIVE REQUIREMENTS	5
3.0 DESCRIPTION OF THE DEVELOPMENT	7
3.1 PROPOSED DEVELOPMENT	7
3.2 DETAILS OF THE NON-HAZARDOUS WASTES TO BE PRODUCED	9
3.3 POTENTIALLY HAZARDOUS WASTES TO BE PRODUCED	10
3.4 MAIN C&D WASTE CATEGORIES.....	11
4.0 WASTE MANAGEMENT	12
4.1 DEMOLITION WASTE GENERATION	12
4.2 CONSTRUCTION WASTE GENERATION	13
4.3 EXCAVATION QUANTITIES	14
4.4 PROPOSED WASTE MANAGEMENT OPTIONS	15
4.5 TRACKING AND DOCUMENTATION OF PROCEDURES FOR OFF-SITE WASTE.....	18
4.6 CONTROL OF TRAFFIC VOLUMES.....	18
5.0 ESTIMATED COST OF WASTE MANAGEMENT.....	18
5.1 REUSE.....	18
5.2 RECYCLING.....	18
5.3 DISPOSAL.....	19
6.0 DEMOLITION PROCEDURES	19
6.1 CHECK FOR HAZARDS	19
6.2 REMOVAL OF COMPONENTS.....	19
6.3 REMOVAL OF ROOFING.....	19
6.4 EXCAVATION OF SERVICES, DEMOLITION OF WALLS AND CONCRETE.....	19
7.0 TRAINING PROVISIONS	19
7.1 WASTE MANAGER TRAINING AND RESPONSIBILITIES	19
7.2 SITE CREW TRAINING	20
8.0 RECORD KEEPING.....	20
9.0 OUTLINE WASTE AUDIT PROCEDURE	20
9.1 RESPONSIBILITY OF WASTE AUDIT	20
9.2 REVIEW OF RECORDS AND IDENTIFICATION OF CORRECTIVE ACTIONS.....	20
10.0 CONSULTING WITH RELEVANT BODIES.....	21
10.1 LOCAL AUTHORITY	21
10.2 RECYCLING/SALVAGE COMPANIES	21
11.0 REFERENCES.....	22

APPENDIX I – EPA WASTE GUIDELINES

1.0 INTRODUCTION

Barrett Mahony Consulting Engineers (BMCE) has prepared this Construction and Demolition Waste Management Plan (CDWMP) on behalf of the application, DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV to support the planning application for the proposed strategic housing development on the former Player Wills site and undeveloped land owned by Dublin City Council at South Circular Road, Dublin 8. Refer to Figure 1.1 for the site location map.

This report provides information necessary to ensure that the management of construction and demolition (C&D) waste at the site is undertaken in accordance with current legal and industry standards including the Waste Management Acts 1996 - 2011 and associated Regulations¹, *Protection of the Environment Act 2003* as amended², *Litter Pollution Act 1997* as amended³ and the *Eastern-Midlands Region Waste Management Plan 2015 – 2021* ⁴. In particular, this plan aims to ensure maximum recycling, reuse and recovery of waste with diversion from landfill, wherever possible. It also seeks to provide guidance on the appropriate collection and transport of waste from the site to prevent issues associated with litter or more serious environmental pollution (e.g. contamination of soil and/or water).

This CDWMP includes information on the legal and policy framework for C&D waste management in Ireland, estimates of the type and quantity of C&D waste to be generated by the proposed development and makes recommendations for management of different waste streams.



Figure 1.1: Site Location Map – Player Wills SHD Site & Players Park Site (Red) and DCC, Bailey Gibson and Player Wills Masterplan (Red and Black)

2.0 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT IN IRELAND

2.1 National Level

The Irish Government issued a policy statement in September 1998 known as '*Changing Our Ways*'⁵, which identified objectives for the prevention, minimisation, reuse, recycling, recovery and disposal of waste in Ireland. The target for C&D waste in this report was to recycle at least 50% of C&D waste within a five-year period (by 2003), with a progressive increase to at least 85% over fifteen years (i.e. 2013).

In response to the *Changing Our Ways* report, a task force (Task Force B4) representing the waste sector of the already established Forum for the Construction Industry, released a report entitled '*Recycling of Construction and Demolition Waste*'⁶ concerning the development and implementation of a voluntary construction industry programme to meet the Government's objectives for the recovery of C&D waste.

The most recent national policy document was published in July 2012, entitled '*A Resource Opportunity - Waste Management Policy in Ireland*'⁷. This document stresses the environmental and economic benefits of better waste management, particularly in relation to waste prevention. The document sets out several actions in relation to C&D waste and commits to undertake a review of specific producer responsibility requirements for C&D projects over a certain threshold.

The National Construction and Demolition Waste Council (NCDWC) was launched in June 2002, as one of the recommendations of the Forum for the Construction Industry, in the Task Force B4 final report. The NCDWC subsequently produced '*Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects*'⁸ in July 2006 in conjunction with the then Department of the Environment, Heritage and Local Government (DoEHLG). The guidelines outline the issues that need to be addressed at the pre-planning stage of a development all the way through to its completion. These guidelines have been followed in the preparation of this document and include the following elements:

- Predicted C&D wastes and procedures to prevent, minimise, recycle and reuse wastes;
- Waste disposal/recycling of C&D wastes at the site;
- Provision of training for waste manager and site crew;
- Details of proposed record keeping system;
- Details of waste audit procedures and plan; and
- Details of consultation with relevant bodies i.e. waste recycling companies, Dublin City Council etc.

Section 3 of the Guidelines identifies thresholds above which there is a requirement for the preparation of a C&D Waste Management Plan for developments. This development requires a C&DWMP under the following criterion:

- New residential development of 10 houses or more.
- Demolition/renovation/refurbishment projects generating in excess of 100m³ in volume, of waste.
- New developments, other than above, including institutional, educational, health and other public facilities, with an aggregate floor area in excess of 1,250m².

Other guidelines followed in the preparation of this report include '*Construction and Demolition Waste Management – a handbook for Contractors and Site Managers*'⁹ published by FÁS and the Construction Industry Federation in 2002.

These guidance documents are considered to define best practice for C&D projects in Ireland and describe how C&D projects are to be undertaken such that environmental impacts and risks are minimised and maximum levels of waste recycling are achieved.

2.2 Regional Level

The proposed development situated within the Local Authority area of Dublin City Council (DCC). The *Eastern-Midlands Region Waste Management Plan 2015 – 2021* is the regional waste management plan for the DCC area published in May 2015. This Plan replaces the previous Dublin region plan due to changing National policy as set out in *A Resource Opportunity: Waste Management Policy in Ireland and changes being enacted by the Waste Framework Directive (WFD) (2008/98/EC)*¹⁰. The Regional Plan sets out the strategic targets for waste management in the region but does not set a specific target for C&D waste. However, the *Waste Framework Directive* sets Member States a target of “70% preparing for reuse, recycling and other recovery of construction and demolition waste” (excluding natural soils and stones and hazardous wastes) to be achieved by 2020.

The Dublin City Development Plan 2016-2022 sets out several policies for the Dublin City area in line with the objectives of the regional waste management plan. The plan identifies the development of recycling in order to minimise the use of landfill as the main destination of waste from the County. Waste policies and objectives with particular relevance to the proposed development are:

Section 9.5.5 – Waste Management policies include:

- *SI19: To support the principles of good waste management and the implementation of best international practice in relation to waste management in order for Dublin city and the region to become self-reliant in terms of waste management.*
- *SI20: To prevent and minimise waste and to encourage and support material sorting and recycling.*
- *SI21: To minimise the amount of waste which cannot be prevented and ensure it is managed and treated without causing environmental pollution.*
- *SI22: To ensure that effect is given as far as possible to the ‘polluter pays’ principal.*

2.3 Legislative Requirements

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

- Waste Management Act 1996 (No. 10 of 1996) as amended 2001 (No. 36 of 2001), 2003 (No 27 of 2003) and 2011 (No. 20 of 2011). Sub-ordinate legislation includes:
 - European Communities (Waste Directive) Regulations 2011 (SI 126 of 2011) as amended 2011 (S.I. No. 323 of 2011) and 2016 (S.I 315 of 2016)
 - Waste Management (Collection Permit) Regulations (S.I No. 820 of 2007) as amended 2008 (S.I No 87 of 2008), 2015 (S.I. No. 197 of 2015) and 2016 (S.I. No. 24 and 346 of 2016)
 - Waste Management (Facility Permit and Registration) Regulations 2007,(S.I No. 821 of 2007) as amended 2008 (S.I No. 86 of 2008) as amended 2014 (S.I No. 320 and No. 546 of 2014) and as amended 2015 (S.I. No. 198 of 2015)
 - Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004) as amended 2010 (S.I. No. 350 of 2010)
 - Waste Management (Packaging) Regulations 2014 (S.I. 282 of 2014) as amended 2015 (S.I No 542 of 2015)
 - Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997) o Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015)

- European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014)
- European Union (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014) as amended 2014 (S.I. No. 349 of 2014) and 2015 (S.I. No. 347 of 2015)
- Waste Management (Food Waste) Regulations 2009 (S.I. 508 of 2009), as amended 2015 (S.I. 190 of 2015) and European Union (Household Food Waste and Bio-waste) Regulation 2015 (S.I. No. 191 of 2015)
- Waste Management (Hazardous Waste) Regulations, 1998 (S.I. No. 163 of 1998) as amended 2000 (S.I. No. 73 of 2000)
- Waste Management (Shipments of Waste) Regulations, 2007 (S.I. No. 419 of 2007) as amended by European Communities (shipments of Hazardous Waste exclusively within Ireland) Regulations 2011 (S.I. No. 324 of 2011)
- Waste Management (Movement of Hazardous Waste) Regulations, 1998 (S.I. No. 147 of 1998)
- The European Communities (Transfrontier Shipment of Hazardous Waste) Regulations, 1988 (S.I. No. 248 of 1988)
- European Union (Properties of Waste which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015)
- Planning and Development Act 2000 as amended (S.I. No. 30 of 2010) as amended (S.I. No. 310 of 2015)¹²
- Protection of Environment Act 1992 as amended (S.I. No. 413 of 2003) as amended
- Planning and Development Act 2000 (S.I. No. 30 of 2000) as amended⁽¹¹⁾.
- Litter Pollution Act 1997 (S.I. No. 12 of 1997) as amended by Protection of the Environment (amendment) Act 2003 as amended.

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

One of the guiding principles of European waste legislation, which has in turn been incorporated into the *Waste Management Act 1996 - 2001* and subsequent Irish legislation, is the principle of “*Duty of Care*”. This implies that the waste producer is responsible for waste from the time it is generated through until its legal recycling, recovery or disposal (including its method of disposal). As it is not practical in most cases for the waste producer to physically transfer all waste from where it is produced to the final destination, waste contractors will be employed to physically transport waste to the final destination. Following on from this is the concept of “*Polluter Pays*” whereby the waste producer is liable to be prosecuted for pollution incidents, which may arise from the incorrect management of waste produced, including the actions of any contractors engaged (e.g. for transportation and disposal/recovery/recycling of waste).

It is therefore imperative that the client ensure that the waste contractors engaged by construction contractors are legally compliant with respect to waste transportation, recycling, recovery and disposal. This includes the requirement that a contractor handle, transport and recycle/recover/dispose of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities.

A collection permit to transport waste must be held by each waste contractor which is issued by the National Waste Collection Permit Office (NWCPO). Waste receiving facilities must also be appropriately permitted or licensed. Operators of such facilities cannot receive any waste, unless 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 or IED licence granted by the EPA. The COR/permit/licence held will specify the type and quantity of waste able to be received, stored, sorted, recycled, recovered and/or disposed of at the specified site.

3.0 DESCRIPTION OF THE DEVELOPMENT

3.1 Proposed Development

DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV intend to apply to An Bord Pleanála for permission for a mixed-use Build to Rent Strategic Housing Development at the former 'Player Wills' site (2.39 hectares) and adjoining lands (0.67 hectares) under the control of Dublin City Council. A public park, public road and works to South Circular Road and to facilitate connections to municipal services at Donore Avenue are proposed on the Dublin City Council land. The former 'Player Wills' site incorporates Eircode's: D08 T6DC, D08 PW25, D08 X7F8 and D08 EK00 and has frontage onto South Circular Road, St. Catherine's Avenue and Donore Avenue, Dublin 8. The Dublin City Council undeveloped land adjoins the former 'Player Wills' site to the west and the former 'Bailey Gibson' site to the east. The total area of the proposed development site is 3.06 hectares.

The design rationale is to create and deliver a high quality, sustainable, residential led mixed use strategic housing development within this inner city brownfield site which respects its setting and maximises the site's natural attributes while achieving maximum efficiency of existing infrastructure. The Proposed Site Layout is illustrated on Drawing No. PL0003 contained within the architectural suite of drawings.

The development will consist of;

- i. the demolition of all buildings (15,454 sq.m GFA), excluding the original fabric of the former Player Wills Factory, to provide for the development of a mixed use(residential, community, arts and culture, creche, food and beverage and retail) scheme comprising predominantly build to rent apartment dwellings (492 no.) together with a significantly lesser quantity of single occupancy shared accommodation private living areas (240 no.), with an average private living floor area of 24.6 sq.m (double the minimum private living space size required for single occupancy shared accommodation) and a arts/culture/community hub within the repurposed ground floor of the former factory building;
- ii. change of use, refurbishment, modifications and alterations to the former Player Wills Factory building (PW1) to include the removal of 1 no. later addition storey (existing 4th storey) and the later addition rear (northern) extension, retention and modification of 3 no. existing storeys and addition of 2 no. storeys set back on the building's south, east and west elevations with an 8-storey projection (max. height 32.53m) on the north eastern corner, with a cumulative gross floor area of 17,630 sq.m including ancillary uses, comprising;
 - a. at ground floor 852 sq.m of floor space dedicated to community, arts and cultural and exhibition space together with artist and photography studios (Class 1 and Class 10 Use), 503 sq.m of retail floor space (Class 1 Use), 994 sq.m of café/bar/restaurant floor space, 217 sq.m of co-working office floor space (Class 3 Use) and ancillary floor space for welfare facilities, waste management and storage;
 - b. 240 no. single occupancy shared accommodation private living areas, distributed over levels 1-4, including 2 no. rooms of 30 sq.m, 49 no. rooms of 25 sq.m; 14 no. rooms of 23 sq.m, 58 no. rooms of 22.5 sq.m, 8 no. rooms of 20 sq.m, 104 no. rooms of 19 sq.m and 5 no. disabled access (Part M) rooms (3 no. 32 sq.m and 2 no. 26 sq.m); 21 no. kitchen/dining areas, and, 835 sq.m of dedicated shared accommodation services, amenities and facilities distributed across levels 1-4, to accommodate uses including lounge areas, entertainment (games) area, 2 no. external terraces (Level 03 and 04), laundry facilities, welfare facilities and waste storage;
 - c. 47 no. build-to rent apartments distributed across levels 1-7 including 12 no. studio apartments; 23 no. 1 bed apartments, 8 no. 2 bed apartments: and, 4 no. 3-bed apartments;

- d. 1,588 sq.m of shared (build to rent and shared accommodation) services, amenities and facilities including at ground floor reception/lobby area, parcel room, 2 no. lounges and administration facilities; at Level 01 entertainment area, TV rooms, entertainment (games room), library, meeting room, business centre; at Level 02 gym and storage and at Level 07, a lounge area.
 - e. Provision of communal amenity outdoor space as follows; PW1 - 450 sq.m in the form of roof terraces dedicated to shared accommodation and 285 sq.m roof terrace for the proposed apartments .
 - f. a basement (190 sq.m) underlying the proposed 8-storey projection to the northeast of PW1 to accommodate plant.
 - iii. the construction of 445 no. Build to Rent apartment units, with a cumulative gross floor area of 48,455 sq.m including ancillary uses distributed across 3 no. blocks (PW 2, 4 and 5) comprising;
 - a. PW2 (45,556 sq.m gross floor area including ancillary uses) - 415 no. apartments in a block ranging in height from 2-19 storeys (max. height 63.05m), incorporating 16 no. studio units; 268 no. 1 bed apartments, 93 no. 2 bed apartments and 38 no. 3-bed apartments. At ground floor, 2 no. retail units (combined 198 sq.m) (Class 1 use), and a café/restaurant (142 sq.m). Tenant services, amenities and facilities (combined 673 sq.m) distributed across ground floor (lobby, mail room, co-working and lounge area), Level 06 (terrace access) and Level 17 (lounge). Provision of communal amenity open space including a courtyard of 1,123 sq.m and roof terraces of 1,535 sq.m
 - b. Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
 - c. PW4 (1,395 sq.m gross floor area including ancillary uses) - 9 no. apartments in a part 2-3 storey block (max. height 10.125m) comprising, 2 no. 2-bed duplex apartment units and 7 no. 3-bed triplex apartment units. Provision of communal amenity open space in the form of a courtyard 111 sq.m
 - d. PW5 (1,504 sq.m gross floor area including ancillary uses) - 21 no. apartments in a 4 storey block (max. height 13.30m) comprising 12 no. studio apartments, 1 no. 1-bed apartment, 5 no. 2-bed apartments, and 3 no. 3-bed apartments. Provision of communal amenity space in the form of a courtyard 167sq.m. Provision of communal amenity open space in the form of a courtyard 167 sq.m
 - iv. the construction of a childcare facility (block PW4) with a gross floor area of 275 sq.m and associated external play area of 146 sq.m;
 - v. the provision of public open space with 2 no. permanent parks, 'Players Park' (3,960 sq.m) incorporating active and passive uses to the northwest of the former factory building on lands owned by Dublin City Council; 'St. Catherine's Park' (1,350 sq.m) a playground, to the north east of the Player Wills site adjacent to St. Catherine's National School. A temporary public park (1,158 sq.m) to the northeast of the site set aside for a future school extension. The existing courtyard (690 sq.m) in block PW1 (former factory building) to be retained and enhanced and a public plaza (320 sq.m) between proposed blocks PW and PW4.
 - vi. 903 no. long-stay bicycle parking spaces, with 861 no. spaces in the PW2 basement and 42 no. spaces at ground level in secure enclosures within blocks PW4 and PW5. 20 no. spaces reserved for non-residential uses and 110 no. short-stay visitor bicycle spaces provided at ground level.
 - vii. 4 no. dedicated pedestrian access points are proposed to maximise walking and cycling, 2 no. from South Circular Road, 1 no. from St. Catherine's Avenue and 1 no. from Donore Avenue.
 - viii. in the basement of PW2, 148 no. car parking spaces to serve the proposed build to rent apartments including 19 no. dedicated disabled parking spaces and 6 no. motorcycle spaces. 20 no. spaces for a car sharing club ('Go Car' or similar). 10% of parking spaces fitted with electric charging points.

- ix. in the basement of PW2, use for 81 no. car parking spaces (1,293 sq.m net floor area) including 5 no. dedicated disabled parking spaces, 3 no. motorcycle spaces and 10% of parking spaces fitted with electric charging points to facilitate residential car parking associated with future development on neighbouring lands. The area will not be used for carparking without a separate grant of permission for that future development. In the alternative, use for additional storage (cage/container) for residents of the proposed development.
- x. 37 no. surface level car parking spaces including 3 no. disabled access and 3 no. creche set down spaces and 10% fitted with electric charging points. 2 no. loading bays and 2 no. taxi set-down areas.
- xi. development of internal street network including a link road (84m long x 4.8m wide) to the south of the proposed 'Players Park' on land owned by Dublin City Council that will provide connectivity between the former 'Bailey Gibson' site and the 'Player Wills' site.
- xii. vehicular access will be provided via Donore Avenue with a one-way exit provided onto South Circular Road to the east of block PW1(the former factory building);
- xiii. replacement and realignment of footpaths to provide for improved pedestrian conditions along sections of Donore Avenue and South Circular Road and realignment of centreline along sections of Donore Avenue with associated changes to road markings;
- xiv. a contra-flow cycle lane is proposed at the one-way vehicular exit to the east of PW1 (former factory building) to allow 2-way cycle movements via this access point;
- xv. decommissioning of existing 2 no. ESB substations and the construction of 2 no. ESB substations and associated switch rooms, 1 no. single ESB substation in PW 1 (43.5 sq.m) and 1 no. double ESB substation in PW2 (68 sq.m);
- xvi. the construction of a waste and water storage building (combined 133 sq.m, height 4.35m) to the west of building PW1;
- xvii. all ancillary site development works; drainage, rooftop solar photovoltaics (20 no. panels total), landscaping, boundary treatment and lighting.

3.2 Details of the Non-Hazardous Wastes to be Produced

There will be waste materials generated from the demolition of the existing buildings and hardstanding areas on site, as well as from the excavation of the building's basements and foundations, general site clearance and construction of buried services. The volume of waste generated from demolition will be more difficult to segregate than waste generated from the construction phase, as many of the building materials will be bonded together or integrated i.e. plasterboard on timber ceiling joists, steel embedded in concrete etc.

There will also be soil, stones, made ground and rock to be excavated to facilitate site clearance, construction of new building foundations and installation of services. The volume of material to be excavated has been estimated at c. 59,092m³. Refer to section 4 of this report for further detail. It is anticipated that most, if not all excavated soil, stone, rock and made ground will be required to be removed offsite.

During the construction phase there may be a surplus of building materials, such as timber off-cuts, broken concrete blocks, plastics, metals and tiles generated. There may also be excess concrete during construction which will need to be disposed of. Plastic and cardboard waste from packaging and oversupply of materials will also be generated.

Waste will also be generated from construction workers e.g. organic/food waste, dry mixed recyclables (waste paper, newspaper, plastic bottles, packaging, aluminium cans, tins and Tetra Pak cartons), mixed non-recyclables and potentially sewage sludge from temporary welfare facilities provided onsite during the construction phase.

3.3 Potentially Hazardous Wastes to be Produced

3.3.1 Contaminated soil

Intrusive Site investigations were carried out by Ground Investigations Ireland Ltd. (GII) under O'Callaghan Moran Associates (OCM) supervision in May and June 2019, which included the collection and analysis of soil and groundwater samples and gas monitoring. OCM prepared an Environmental Risk Assessment and Waste Characterisation Report for the proposed development. The report is included as an Appendix to the Construction Environmental Management Plan submitted with this application and contains Waste Classification Dig Plans prepared in accordance with the Environmental Protection Agency (EPA) Guidelines on the Classification of Waste (2015). Based on the details of the proposed development and the Dig Plans in the OCM report, BMCE have prepared an estimate of the volume of excavated material by waste classification, as shown in table 3.1.

Table 3.1 – Volume of Soil Waste by Category

Item	Meets Inert WAC (m ³)	Non-Hazardous Contains Asbestos (<0.001%) (m ³)	Meets Inert WAC Contains Asbestos (0.001%) (m ³)	Meets Increased IMS Landfill Limits (m ³)	Non-Hazardous (m ³)	Exceeds Inert WAC Contains Asbestos (0.001%) (m ³)	Hazardous (m ³)	Total (m ³)
Site Strip	5,790	955	-	2,914	2,033	392	160	12,244
Basement Bulk Excavation	40,303	891	782	111	75	42	-	42,204
Foundations	828	137	-	417	291	56	23	1,752
Buried Services	340.5	56	-	172	120	23.1	9.4	721
Total	47,261.5	2,039	782	3,614	2,519	513.1	192.4	56,921
*Number of Truck Movements	1,313	57	22	101	70	15	6	1,584

* No. of truck movements calculated on basis of using a 4-axle trucks with an 18.0 tonne capacity (36m³).

While it is noted in the OCM report that the spread of sample locations did facilitate a comprehensive assessment of conditions across the site, the exact quantities may be subject to some degree of change and variation during the construction process. Hence, all excavations should still be carefully monitored by a suitably qualified person to ensure that potentially contaminated soil is identified and segregated. In the event that any potentially contaminated material is encountered, it will need to be segregated from clean/inert material, tested and classified as either non-hazardous or hazardous in accordance with the EPA publication entitled 'Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous'¹² using the HazWasteOnline application (or similar approved classification method). The material will then need to be classified as clean, inert, non-hazardous or hazardous in accordance with the EC Council Decision 2003/33/EC¹³, which establishes the criteria for the acceptance of waste at landfills.

3.3.2 Fuel / oils

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

3.3.3 Other known hazardous substances

Paints, glues, adhesives and other known hazardous substances will be stored in designated areas. They will generally be present in small volumes only and associated waste volumes generated will be

kept to a minimum. Wastes will be stored in appropriate receptacles pending collection by an authorised waste contractor.

In addition, WEEE (containing hazardous components), printer toner/cartridges, batteries (Lead, Ni-Cd or Mercury) and/or fluorescent tubes and other mercury containing waste may be generated from during C&D activities or temporary site offices. These wastes (if encountered) will be stored in appropriate receptacles in designated areas of the site pending collection by an authorised waste contractor.

3.3.4 Asbestos

Asbestos Containing Materials (ACM's) have been identified on site by United Metals Recycling. The ACM's are contained in large structural areas such as the roof, external cement panels, asbestos cement shutters casings, corrugated sheeting, cement flue pipes, insulation boards along with other building fabrics. There are other inaccessible areas where ACM's are strongly presumed. Before hard demolitions commence, these areas will be inspected by a specialist to verify the presence of any ACM's. All Asbestos containing material will be removed prior to demolition phase commencing. Removal of asbestos or ACMs will be carried out by a suitably qualified contractor and ACM's will only be removed from site by a suitably permitted/licenced waste contractor in accordance with S.I. No. 386 of 2006 Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010. All material will be taken to a suitably licensed or permitted facility.

3.4 Main C&D Waste Categories

The main non-hazardous and hazardous waste streams that could be generated by the construction and demolition activities at a typical site are shown in Table 3.1. The List of Waste (LoW) code (as effected from 1 June 2015) (also referred to as the European Waste Code or EWC) for each waste stream is also shown.

Table 3.2 Typical waste types generated and EWCs

Waste Material	LoW Code
Concrete, blocks, tiles, ceramics	17 01
Wood, glass and plastic	17 02
Bituminous mixtures, coal tar and tarred products	17 03
Metals (including their alloys)	17 04
Soil and stones	17 05
Gypsum based construction material	17 08
Paper and cardboard	20 01 01
Mixed C&D waste	17 09
Green waste	20 02 01
Electrical and electronic components	20 01 35 & 36
Batteries and accumulators	20 01 33 & 34
Liquid fuels	13 07
Chemicals (solvents, pesticides, paints, adhesives, detergents etc.)	20 01 13, 19, 27-30
Insulation materials and asbestos-containing construction materials	17 06

4.0 WASTE MANAGEMENT

4.1 Demolition Waste Generation

Demolition works at the site will involve the removal of the existing buildings on site, bituminous and concrete surfaces, grubbing up existing buried services, and bulk excavation for basements areas, as well as general site strip and foundation excavations. Demolition figures published by the EPA in the 'National Waste Reports'¹⁴ and data from previous projects have been used to estimate the approximate break down of demolition waste by type and estimates have also been made for indicative reuse (onsite and/or offsite), recycling and disposal targets. This breakdown is shown in Table 4.1.

List of buildings currently on site:

- Building A – Factory Building – 8,446m² (GF-3rd – to be retained) + 8,865m² (GF-4th – to be demolished) = approx. 17,311m² GIA.
- Building B – Factory Building = approx. 285m² GIA.
- Building C – Office Building = approx. 2,094m² GIA.
- Building D – Warehouse Factory = approx. 1,215m² GIA.
- Building E – Warehouse Factory = approx. 5,398m² GIA.
- Building F – Warehouse Factory – approx. 100m² GIA.
- Building G – Warehouse Factory – approx. 17m² GIA.
- Total GIA for demolition – approx. = 17,974m²
- Total building GIA – approx. = 26,420m²



Figure 4.1 – Aerial view of site showing buildings to be demolished & building footprints.

Estimated waste quantities per 100m² of gross floor area as follows:

- Industrial Building 35 tonnes / 100m² (single storey building with sheet metal roof and concrete slab on grade)
- Commercial Offices 60 tonnes/ 100m² (multi-storey building with concrete floor slabs and lightweight roof)

The resulting total tonnage of demolition waste is as follows:

1. Industrial: (15,880m²/100m²) x 35 tonnes = 5558 tonnes
 2. Commercial: (2,094m²/ 100m²) x 60 tonnes =1256 tonnes
- Total = 6814 tonnes.

The demolition waste breakdown on a typical construction site, based on the BRE document is typically as follows in table 4.1:

Table 4.1 – Typical Breakdown of Demolition Waste

Waste Material	% by weight	Tonnes	Reuse/Recovery		Target Recycle		Disposal	
			%	Tonnes	%	Tonnes	%	Tonnes
Glass	3	204	0	0	85	173.4	15	30.6
Concrete, Masonry, Tiles, Ceramics	46	3134	95	2977	0	0	5	156.7
Plasterboard	4	273	0	0	80	218.4	20	54.6
Metals	20	1363	5	68	80	1091	15	204
Timber	13	886	20	177	60	531.6	20	177
Asphalts	6	409	50	205	25	102.3	25	102.3
Slate	8	545	0	0	85	463.3	15	81.8
Total	100	6814		3427		2580		807

The appointed demolition contractor will be required to prepare a demolition management plan prior to work commencing which will refine the above estimated waste figures.

4.2 Construction Waste Generation

Table 4.2 shows the breakdown of C&D waste types produced on a typical site based on data from the EPA *National Waste Reports*.

Table 4.2 Waste materials generated on a typical Irish construction site

Waste Types	%
Mixed C&D	33
Timber	28
Plasterboard	10
Metals (including their alloys)	8
Concrete	6
Other	15
Total	100

Table 4.3 shows the predicted construction waste generation for the proposed development based on the information available to date along with the targets for management of the waste streams. The

predicted waste amounts are based on an average large-scale development waste generation rate per m², using the waste breakdown rates shown in Table 4.2.

Table 4.3 Predicted on and off-site reuse, recycle and disposal rates for construction works

Waste Material	Tonnes	Reuse/Recovery		Recycle		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Mixed C&D	465	10	46.5	80	372	10	46.5
Timber	395	40	158	55	217.25	5	19.75
Plasterboard	141	30	42.3	60	84.6	10	14.1
Metals	113	5	5.65	90	101.7	5	5.65
Concrete	85	30	25.5	65	55.25	5	4.25
Other	212	20	42.4	60	127.2	20	42.4
Total	1411		320.35		958		132.65

It should be noted that until final materials and detailed construction methodologies have been confirmed, it is difficult to predict with a high level of accuracy the construction waste that will be generated from the proposed works as the exact materials and quantities may be subject to some degree of change and variation during the construction process.

4.3 Excavation Quantities

The existing Player Wills site consists entirely of concrete surfacing, while the proposed Players Park site is an unpaved green field. The bulk earthworks are associated with the basement bulk excavation, site strip, new foundations and trenches for buried services. Table 4.4 shows the estimated excavations quantities for the proposed development.

A geotechnical site investigation was been carried out by Ground Investigations Ireland between June and July 2019. The typical sequence of stratigraphy was consistent across the site and generally comprised as follows;

Surfacing - Tarmac surfacing was present typically to a depth of 0.10m BGL in all the exploratory holes.

Made Ground - Made Ground deposits were encountered beneath the Surfacing and was present to a relatively consistent depth of between 1.1m and 1.8m BGL.

Cohesive Deposits - Cohesive deposits were encountered beneath the Made Ground. The secondary sand and gravel constituents varied across the site and with depth, with granular lenses occasionally present in the glacial till matrix. These deposits had some, occasional or frequent cobble and boulder content where noted on the exploratory hole logs.

Bedrock - The rotary core boreholes recovered medium strong to strong light grey fine-grained LIMESTONE interbedded with extremely weak to weak dark grey fine grained MUDSTONE. This is typical of the Calp Formation, which is noted on the geological mapping of the area. The depth to rock varies from 5.1m BGL in MW01 to a maximum of 6.1m BGL in MW03.

Table 4.4 – Estimated Excavation Quantities

Item	Topsoil (m ³)	Surfacing and Fill Volume (m ³)	Made-Ground Excavation Volume (m ³)	Cohesive Deposits Volume (m ³)	Bedrock Volume (m ³)	Total (m ³)
*Site Strip	2,169	2,449	9,797	0	0	14,415
**Basement Bulk Excavation	0	0	4,242	22,271	15,691	42,204
Foundations	0	0	1,008	0	744	1,752
***Buried Services	0	0	144	577	0	721
Total	2,169	2,449	15,191	22,848	16,435	59,092

* Assumed 500mm site strip of entire surface area, which is taken to be 20% surfacing and fill & 80% made-ground.

** 8m overall excavation depth of entire basement surface area under PW2 which is taken to be 9.5% made-ground, 52.7% cohesive deposits and 37.8% bedrock and 3.5m excavation of entire basement surface area under PW1 and, which is taken to be 43% made-ground, 57% cohesive deposits.

*** Assumed 1.0m excavation of 2.5% of total site area.

Any suitable excavated material will be temporarily stockpiled for reuse as fill, where possible, but reuse on site is expected to be limited and most of the excavated soil, rock and made ground is expected to be removed off site for appropriate reuse, recovery and/or disposal.

Using 4-axle trucks with an 18.0 tonne capacity (36m³), this equates to approximately 1641 truck movements.

4.4 Proposed Waste Management Options

Waste materials generated will be segregated on site, where it is practical. Where the on-site segregation of certain wastes types is not practical, off-site segregation will be carried out. There will be skips and receptacles provided to facilitate segregation at source. All waste receptacles leaving site will be covered or enclosed. The appointed waste contractor will collect and transfer the wastes as receptacles are filled. There are numerous waste contractors in the Dublin Region that provide this service.

All waste arising's will be handled by an approved waste contractor holding a current waste collection permit. All waste arising's requiring disposal off-site will be reused, recycled, recovered or disposed of at a facility holding the appropriate registration, permit or licence, as required.

Written records will be maintained by the contractor(s) detailing the waste arising throughout the C&D phases, the classification of each waste type, waste collection permits for all waste contractors who collect waste from the site and COR/permit or licence for the receiving waste facility for all waste removed and disposed off-site.

Dedicated bunded storage containers will be provided for hazardous wastes which may arise such as batteries, paints, oils, chemicals etc., if required. The management of the main waste streams are detailed as follows:

Soil & Made Ground:

The Waste Management Hierarchy states that the preferred option for waste management is prevention and minimisation of waste, followed by preparing for reuse and recycling/recovery, energy recovery (i.e. incineration) and, least favoured of all, disposal. The excavations are required to facilitate construction works so the preferred option (prevention and minimisation) cannot be accommodated for the bulk excavation phase.

It is anticipated that most excavated soil will be taken off site. When this material is removed off-site it could be reused as a by-product (and not as a waste), if this is done, it will be done in accordance with Article 27 of the *European Communities (Waste Directive) Regulations 2011*. Article 27 requires that certain conditions are met and that by-product decisions are made to the EPA via their online notification form.

The next option (beneficial reuse) may be appropriate for the excavated material pending environmental testing to classify the material as hazardous or non-hazardous in accordance with the EPA *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* publication. Clean material may be used as fill material in other construction projects or engineering fill for waste licensed sites. Beneficial reuse of surplus excavation material as engineering fill may be subject to further testing to determine if materials meet the specific engineering standards for their proposed end-use.

Any nearby sites requiring clean fill/capping material will be contacted to investigate reuse opportunities for clean and inert material. If any of the material is to be reused on another site as a by-product (and not as a waste), this will be done in accordance with Article 27. Similarly, if any soils/stones are imported onto the site from another construction site as a by-product, this will also be done in accordance with Article 27.

If the material is deemed to be a waste, then removal and reuse/recycling/ recovery/disposal of the material will be carried out in accordance with the *Waste Management Acts 1996 – 2011* as amended, the *Waste Management (Collection Permit) Regulations 2007* as amended and the *Waste Management (Facility Permit & Registration) Regulations 2007* as amended. The volume of waste removed will dictate whether a COR, permit or licence is required by the receiving facility. Once all available beneficial reuse options have been exhausted, the options of recycling and recovery at waste permitted and licensed sites will be considered.

There are a number of licensed facilities in the region which are suitable to accept inert and non-hazardous excavated material. There are at least five such facilities within 40km of the site i.e. Blackhall Soil Recovery (W0247-01), Huntstown Inert Waste Recovery (W0277-01), Walshestown Restoration (W0254-01) (Murphys Environmental Hollywood (W0129-02), and Murphys Concrete Manufacturing (W0151-01). These facilities are currently active and have capacity to accept excavated materials within the limits of their respective licenses. Acceptance of the waste material at any waste facility is subject to the approval of the waste facility operator.

If contaminated material is encountered and subsequently classified as hazardous, this material will be stored separately to any non-hazardous material. It will require off-site treatment at a suitable facility or disposal abroad via Transfrontier Shipment of Wastes (TFS).

Bedrock

It is anticipated that bedrock will be encountered during excavation works for the basements on the project. Excavated rock is generally expected to be clean and suitable for use as engineered fill either on the development site or on another site, subject to classification as a by product in accordance with Article 27.

Silt & Sludge

During the construction phase, standard construction phase silt and petrochemical interception will be carried out on all runoff and pumped water from site works.

Concrete Blocks, Bricks, Tiles & Ceramics

The majority of concrete blocks, bricks, tiles and ceramics generated as part of the construction and demolition works are expected to be clean, inert material and should be recycled, where possible.

Hard Plastic

As hard plastic is a highly recyclable material, much of the plastic generated will be primarily from material off-cuts. All recyclable plastic will be segregated and recycled, where possible.

Timber

Timber that is uncontaminated, i.e. free from paints, preservatives, glues etc., will be disposed of in a separate skip and recycled off-site.

Metal

Metals will be segregated into mixed ferrous, aluminium cladding, high grade stainless steel, low grade stainless steel etc., where practical and stored in skips. Metal is highly recyclable and there are numerous companies that will accept these materials.

Plasterboard

There are currently a number of recycling services for plasterboard in Ireland. Plasterboard from the demolition and construction phases will be stored in a separate skip, pending collection for recycling. The site manager will ensure that oversupply of new plasterboard is carefully monitored to minimise waste.

Glass

Glass materials will be segregated for recycling, where possible.

Waste Electrical and Electronic Equipment (WEEE)

Any WEEE will be stored in dedicated covered cages/receptacles/pallets pending collection for recycling.

Other Recyclables

Where any other recyclable wastes such as cardboard and soft plastic are generated, these will be segregated at source into dedicated skips and removed off-site.

Non-Recyclable Waste

C&D waste which is not suitable for reuse or recovery, such as polystyrene, some plastics and some cardboards, will be placed in separate skips or other receptacles. Prior to removal from site, the non-recyclable waste skip/receptacle will be examined by a member of the waste team (see Section 7.0) to determine if recyclable materials have been placed in there by mistake. If this is the case, efforts will be made to determine the cause of the waste not being segregated correctly and recyclable waste will be removed and placed into the appropriate receptacle.

Hazardous Wastes

On-site storage of any hazardous wastes produced (i.e. contaminated soil if encountered and/or waste fuels) will be kept to a minimum, with removal off-site organised on a regular basis. Storage of all hazardous wastes on-site will be undertaken so as to minimise exposure to on-site personnel and the public and to also minimise potential for environmental impacts. Hazardous wastes will be recovered, wherever possible, and failing this, disposed of appropriately.

It should be noted that until a construction contractor is appointed it is not possible to provide information on the specific destinations of each waste stream. Prior to commencement of development and removal of any waste offsite, details of the proposed destination of each waste stream will be provided to DCC by the project team.

4.5 Tracking and Documentation of Procedures for Off-Site Waste

All waste will be documented prior to leaving the site. Waste will be weighed by the contractor, either by weighing mechanism on the truck or at the receiving facility. These waste records will be maintained on site by the nominated project Waste Manager (see Section 7.0).

All movement of waste and the use of waste contractors will be undertaken in accordance with the *Waste Management Acts 1996 - 2011*, *Waste Management (Collection Permit) Regulations 2007 and Amendments* and *Waste Management (Facility Permit & Registration) Regulations 2007 and Amendments*. This includes the requirement for all waste contractors to have a waste collection permit issued by the NWCPO. The nominated project waste manager (see Section 7.0) will maintain a copy of all waste collection permits on-site.

If the waste is being transported to another site, a copy of the Local Authority waste COR/permit or EPA Waste/IED Licence for that site will be provided to the nominated project waste manager (see Section 7.0). If the waste is being shipped abroad, a copy of the Transfrontier Shipping (TFS) notification document will be obtained from DCC (as the relevant authority on behalf of all local authorities in Ireland) and kept on-site along with details of the final destination (COR, permits, licences etc.). A receipt from the destination of the material will be kept as part of the on-site waste management records.

All information will be entered in a waste management recording system to be maintained on site.

4.6 Control of Traffic Volumes

A Construction Environmental Management Plan and Construction Traffic Management Plan (CTMP) has been prepared as part of this SHD application. Referring to section 3.5 of the CTMP, work undertaken to the most onerous construction period with regards to traffic generation is expected to be HGVs during the basement excavation. This work will generate up to 87 one-way HGV trips to the site in the busiest period.

However, once excavation is complete this traffic will significantly reduce with a varying average of 24-62 HGV's travelling to site each working day.

To prevent undesirable high volumes of construction traffic during the works, construction traffic movements shall be in accordance with the requirements set out in the CTMP.

5.0 ESTIMATED COST OF WASTE MANAGEMENT

An outline of the costs associated with different aspects of waste management is provided below. The total cost of C&D waste management will be measured and will consider handling costs, storage costs, transportation costs, revenue from rebates and disposal costs.

5.1 Reuse

By reusing materials on site, there will be a reduction in the transport and recycle/recovery/disposal costs associated with the requirement for a waste contractor to take the material off-site. Clean and inert soils, gravel, stones etc. which cannot be reused on site may be used as capping material for landfill sites, or for the reinstatement of quarries etc. This material is often taken free of charge or a reduced fee for such purposes, reducing final waste disposal costs.

5.2 Recycling

Salvageable metals will earn a rebate which can be offset against the costs of collection and transportation of the skips. Clean uncontaminated cardboard and certain hard plastics can also be

recycled. Waste contractors will charge considerably less to take segregated wastes, such as recyclable waste, from a site than mixed waste. Timber can be recycled as chipboard. Again, waste contractors will charge considerably less to take segregated wastes such as timber from a site than mixed waste.

5.3 Disposal

Landfill charges in the Leinster region are currently at approximately €120 per tonne which includes a €75 per tonne landfill levy specified in the Waste Management (Landfill Levy) Regulations 2015. In addition to disposal costs, waste contractors will also charge a collection fee for skips. Collection of segregated C&D waste usually costs less than municipal waste. Specific C&D waste contractors take the waste off-site to a licensed or permitted facility and, where possible, remove salvageable items from the waste stream before disposing of the remainder to landfill. Clean soil, rubble, etc. is also used as fill/capping material, wherever possible.

6.0 DEMOLITION PROCEDURES

The demolition stage will involve the removal of the existing structure and utilities on site. A formal Demolition Plan may be prepared for the site; however, in general, the following sequence of works should be followed during the demolition stage:

6.1 Check for Hazards

Prior to commencing works, buildings and structures to be demolished will be checked for any likely hazards including electric power lines or cables, gas reticulation systems, telecommunications, unsafe structures, asbestos and fire and explosion hazards, e.g. combustible dust, chemical hazards, oil, fuels and contamination.

6.2 Removal of Components

All hazardous materials will be removed first. All components from within the buildings that can be salvaged will be removed next. This will primarily include metal however may also include timbers, doors, windows, cabinets, wiring and metal ducting, etc

6.3 Removal of Roofing

Steel roof supports, beams etc. will be dismantled and taken away for recycling/salvage.

6.4 Excavation of Services, Demolition of Walls and Concrete

Services will be removed from the ground and the breakdown of walls will be carried out once all salvageable or reusable materials have been taken from the buildings. Finally, any existing foundations will be excavated.

7.0 TRAINING PROVISIONS

A member of the construction team will be appointed as the project waste manager to ensure commitment, operational efficiency and accountability during the C&D phases of the project.

7.1 Waste Manager Training and Responsibilities

The nominated waste manager will be given responsibility and authority to select a waste team if required, i.e. members of the site crew that will aid him/her in the organisation, operation and recording of the waste management system implemented on site. The waste manager will have overall responsibility to oversee, record and provide feedback to the client on everyday waste management

at the site. Authority will be given to the waste manager to delegate responsibility to subcontractors, where necessary, and to coordinate with suppliers, service providers and sub-contractors to prioritise waste prevention and material salvage.

The waste manager will be trained in how to set up and maintain a record keeping system, how to perform an audit and how to establish targets for waste management on site. The waste manager will also be trained in the best methods for segregation and storage of recyclable materials, have information on the materials that can be reused on site and be knowledgeable in how to implement this C&D WMP.

7.2 Site Crew Training

Training of site crew is the responsibility of the waste manager and, as such, a waste training program should be organised. A basic awareness course will be held for all site crew to outline the C&D WMP and to detail the segregation of waste materials at source. This may be incorporated with other site training needs such as general site induction, health and safety awareness and manual handling.

This basic course will describe the materials to be segregated, the storage methods and the location of the Waste Storage Areas (WSAs). A sub-section on hazardous wastes will be incorporated into the training program and the dangers of each hazardous waste will be explained.

8.0 RECORD KEEPING

Records will be kept for all waste material which leaves the site, either for reuse on another site, recycling or disposal. A recording system will be put in place to record the construction waste arising's on site. A copy of the Waste Collection Permits, CORs, Waste Facility Permits and Waste Licences will be maintained on site at all times. The waste manager or delegate will record the following:

1. Waste taken for reuse off-site;
2. Waste taken for recycling;
3. Waste taken for disposal; and
4. Reclaimed waste materials brought on-site for reuse.

For each movement of waste off-site, a signed docket will be obtained by the Waste Manager from the contractor, detailing the weight and type of the material and the source and destination of the material. This will be carried out for each material type. This system will also be linked with the delivery records. In this way, the percentage of C&D waste generated for each material can be determined.

The system will allow the comparison of these figures with the targets established for the recovery, reuse and recycling of C&D waste presented earlier and to highlight the successes or failures against these targets.

9.0 OUTLINE WASTE AUDIT PROCEDURE

9.1 Responsibility of Waste Audit

The appointed waste manager will be responsible for conducting a waste audit at the site during the C&D phase of the development.

9.2 Review of Records and Identification of Corrective Actions

A review of all the records for the waste generated and transported off-site should be undertaken mid-way through the project. If waste movements are not accounted for, the reasons for this should

be established in order to see if and why the record keeping system has not been maintained. The waste records will be compared with the established recovery/reuse/recycling targets for the site.

Each material type will be examined, in order to see where the largest percentage waste generation is occurring. The waste management methods for each material type will be reviewed in order to highlight how the targets can be achieved.

Waste management costs will also be reviewed.

Upon completion of the C&D phase, a final report will be prepared, summarising the outcomes of waste management processes adopted and the total recycling/reuse/recovery figures for the development.

10.0 CONSULTING WITH RELEVANT BODIES

10.1 Local Authority

Once a main contractor has been appointed and prior to removal of any waste materials offsite, details of the proposed destination of each waste stream will be provided to DCC. DCC will also be consulted, as required, throughout the excavation and construction phases in order to ensure that all available waste reduction, reuse and recycling opportunities are identified and utilised and that compliant waste management practices are carried out.

10.2 Recycling/Salvage Companies

Companies that specialise in C&D waste management will be contacted to determine their suitability for engagement. Where a waste contractor is engaged, each company will be audited in order to ensure that relevant and up-to-date waste collection permits and facility COR/permits/licences are held. In addition, information regarding individual construction materials will be obtained, including the feasibility of recycling each material, the costs of recycling/reclamation and the means by which the wastes will be collected and transported off-site, and the recycling/reclamation process each material will undergo off site.

11.0 REFERENCES

1. Waste Management Act 1996 (No. 10 of 1996) as amended 2001 (No. 36 of 2001), 2003 (No 27 of 2003) and 2011 (No. 20 of 2011). Sub-ordinate legislation includes:
 - European Communities (Waste Directive) Regulations 2011 (SI 126 of 2011) as amended 2011 (S.I. No. 323 of 2011) and 2016 (S.I 315 of 2016)
 - Waste Management (Collection Permit) Regulations (S.I No. 820 of 2007) as amended 2008 (S.I No 87 of 2008), 2015 (S.I. No. 197 of 2015) and 2016 (S.I. No. 24 and 346 of 2016)
 - Waste Management (Facility Permit and Registration) Regulations 2007,(S.I No. 821 of 2007) as amended 2008 (S.I No. 86 of 2008) as amended 2014 (S.I No. 320 and No. 546 of 2014) and as amended 2015 (S.I. No. 198 of 2015)
 - Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004) as amended 2010 (S.I. No. 350 of 2010)
 - Waste Management (Packaging) Regulations 2014 (S.I. 282 of 2014) as amended 2015 (S.I No 542 of 2015)
 - Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997)
 - Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015)
 - European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014)
 - European Union (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014) as amended 2014 (S.I. No. 349 of 2014) and 2015 (S.I. No. 347 of 2015)
 - Waste Management (Food Waste) Regulations 2009 (S.I. 508 of 2009), as amended 2015 (S.I. 190 of 2015) and European Union (Household Food Waste and Bio-waste) Regulation 2015 (S.I. No. 191 of 2015)
 - Waste Management (Hazardous Waste) Regulations, 1998 (S.I. No. 163 of 1998) as amended 2000 (S.I. No. 73 of 2000)
 - Waste Management (Shipments of Waste) Regulations, 2007 (S.I. No. 419 of 2007) as amended by European Communities (shipments of Hazardous Waste exclusively within Ireland) Regulations 2011 (S.I No. 324 of 2011)
 - Waste Management (Movement of Hazardous Waste) Regulations, 1998 (S.I. No. 147 of 1998)
 - The European Communities (Transfrontier Shipment of Hazardous Waste) Regulations, 1988 (S.I. No. 248 of 1988)
 - European Union (Properties of Waste which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015)
2. Environmental Protection Act 1992 (S.I. No. 7 of 1992) as amended by the Protection of the Environment Act 2003, as amended.
3. Litter Pollution Act 1997 (S.I. No. 12 of 1997).
4. Eastern-Midlands Region Waste Management Plan 2015 – 2021 (2015).
5. Department of Environment and Local Government (DoELG) Waste Management – Changing Our Ways, A Policy Statement (1998).
6. Forum for the Construction Industry – Recycling of Construction and Demolition Waste.
7. Department of Environment, Communities and Local Government (DoECLG), A Resource Opportunity - Waste Management Policy in Ireland (2012).
8. Department of Environment, Heritage and Local Government, Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (2006).
9. FÁS and the Construction Industry Federation (CIF), Construction and Demolition Waste Management – a handbook for Contractors and Site Managers (2002).
10. Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.
11. Planning and Development Act 2000 (S.I. No. 30 of 2000) as amended 2010 (S.I.No.30 of 2010) and 2015 (S.I. No. 27 and S.I. No. 413 of 2003)
12. EPA, Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous (2015)

13. Council Decision 2003/33/EC, establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC.
14. Environmental Protection Agency (EPA), National Waste Database Reports 1998 –2012.

APPENDIX I

EPA WASTE GUIDELINES

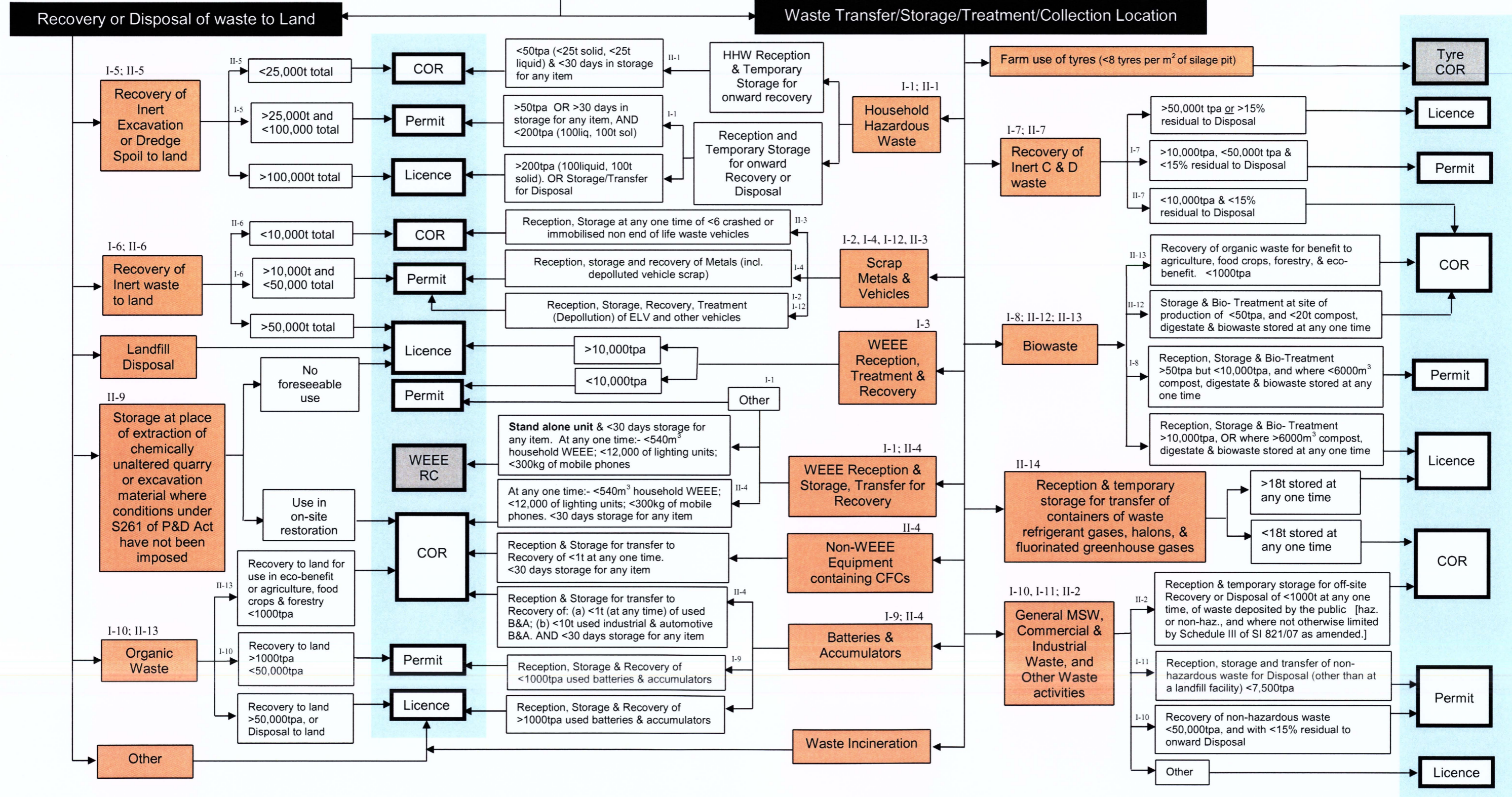


Do I need a Waste Licence, Permit or Certificate of Registration ?

KEY
 COR – Certificate of Registration under SI 821 of 2007 as amended
 Permit – under SI 821 of 2007 as amended
 Licence – under Part V of the Waste Management Act
 Tyre COR – under Tyre Regulations SI 664 of 2007
 WEEE RC – Registration Cert. under WEEE Regulations SI 340 of 2005
 P&D Act - Planning & Development Act 2000
 NB: See definitions in Article 5 of SI 821 of 2007

Exempt from requirement to hold a Waste Licence, Permit or COR:

- WMA Section 39(7):- Specified waste activities on an IPPC regulated site; deposit of litter in a bin; the disposal of specified animal by-products; the disposal of household waste within the curtilage of the dwelling where produced; transfer of waste to an authorised person for Recovery.
- WMA Section 51:- Recovery of sludge for use in agriculture; recovery of animal or poultry blood or slurry/manure.
- Temporary storage (<6 months) of waste on the site of its production (certain limitations for WEEE distribution centres, see Art 39(1a) of SI 340 of 2005).
- WEEE Regs SI 340 of 2005. Art 39(1) & (1b):- Temporary storage of certain quantities & types of WEEE at a distribution outlet; and storage by registered charities of <90m³ of certain household WEEE and <50kg mobile phones (at any one time).
- Tyre supplier temporarily storing <180m³ waste 'take-back' tyres (SI 664 of 2007, Article 33(1))
- Temp storage of waste batteries at workplaces, distributors & charity venues. Certain limits apply. See Article 44 of SI 268 of 2008



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