

**ATTACHMENT D
INFRASTRUCTURE & OPERATION**

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D.1 Infrastructure

D.1.a Site security arrangements including gates and fencing

The existing waste management site is located in Kilrane Business Park.

The western boundary of the site (front facing side of the existing site) is opened onto the Business Park. There are no walls or fences separating the front of the existing site with the neighbouring units of the Business Park (see plate 1 for view of existing waste management site from the Business Park).

The southern boundary of the site consists of a concrete wall (approximately 3 metres high) which is part of Kilrane Business Park and the entrance to the Business Park (see plate 2 for view from south of the Goff Recycling Ltd site).

The northern boundary of the site is currently open un-used land and end at the existing land drain.

The east boundary of the site is partly comprised of the building walls and also some concrete wall fencing. The east boundary of the presently disused area is unfenced and this area will be sufficiently fenced as part of future site developments.

During facility operation all visitors to the site report to reception in the administration building of the existing site. The site is supervised by the Facility Manager.

During facility closure the roller shutter doors of all Unit buildings are locked shut and a CCTV System is installed to effectively monitor the site.

D.1.b Design for Site Roads

There will be one access points to the Goff Recycling Ltd site as follows:

Access to the existing waste management site is directly off the Country road from Kilrane village and via the Business Park. This route is fully tarmaced, is of adequate width and is maintained by Wexford County Council. The entrance to the Business Park is considered to be of appropriate size for vehicles movements in and out of the facility.

D.1.c Design of Hardstanding Areas

Presently the site surface is a mixture of concrete and hardcore surface. Goff Recycling Ltd propose to cover all areas where waste handling and storage activities will occur with a concrete surface.

The Site Layout Plan attached to this application showing the existing and proposed hardstanding areas of the site.

D.1.d Plant

The plant to be used at the Goff Recycling Ltd facility is as follows:

- 2 x Fork Lift Trucks
- 1 x Teleporter (with optional grab)
- 1 x 'Boa Baler' unit for cardboard and plastic (max of 15tonne/hour working capacity)
- 1 x 'Miltek' polystyrene shredder and baler unit
- 2 x forty foot articulated truck ejector trailers
- 2 x forty foot articulated truck curtain side trailers
- 1 x facility weighbridge
- 1 x 14 cubic yard open-top skip for scrap metal storage
- 1 x 14 cubic yard open-top skip for timber waste storage
- 2 x 6 cubic yard skips for storing C&D rubble and soil
- 1 x truck washing area

Waste collection fleet vehicles are as follows:

Vehicle Type & Reg

Hino 05 WX 2148
 Daf xf 530 01 WX 6535
 Volvo 98 WX 3064
 Daf xf 480 03 WX 5722
 Iveco Stralis 05 WX 4298
 Volvo 99 WX 7048
 Volvo 99 WX 7056
 Leyland Daf 95 WX 4737
 Leyland 98 WX 6177
 Scania R.E.L 98 WX 6203
 Leyland 95 WX 4704
 Fiat Ducato 04 WX 4690

Vehicle Use

Used for Roll on Roll of Skips
 Articulated Lorry
 Articulated Lorry
 Articulated Lorry
 Articulated Lorry
 Used for transporting skips
 Used for transporting skips
 Used for transporting Mini Skips
 Bin Lorry for collection of wheelie bins / bags
 Collection of bins and skips
 Bin Lorry for collection of wheelie bins / bags
 Collection of cardboard and plastic recyclables

D.1.e Wheel Wash

There is no wheel cleaner on site. Most of the site where current waste operations take place is on a concrete/hardstanding area. The yard and vehicle access areas are cleaned on a regular

basis using a mini sweeper unit. Vehicles are regularly cleaned off-site to control potential mud and dust generation.

D.1.f Laboratory Facilities

Goff Recycling Ltd do not propose to handle liquid wastes or hazardous wastes which may need testing prior to on-site acceptance. Waste loads arriving on site found to contain liquids or other unacceptable wastes will be quarantined in a proposed quarantined area at the site.

D.1.g Design and location of Fuel Storage areas

There will be no diesel fuel storage at the facility. All diesel fuelling of site and waste collection vehicles will occur off-site at Glen Fuel Services Ltd (located in the same Business Park). There will be no heating oil tanks located at the facility (all internal heating of offices and buildings is supplied by electricity in the form of storage heaters).

D.1.h Waste Quarantine Areas

There will be one waste quarantine area at the waste management facility (at Unit 3 where municipal waste is accepted and processed). This is described as follows:

At the **existing waste management area** liquid or hazardous waste will not be accepted or handled at the facility. However, should an unsuitable waste load arrive at the facility, it will be kept separate from the rest of the waste and dealt with appropriately i.e. sent off site for suitable alternative treatment or disposal.

Goff Recycling Ltd will develop waste acceptance, handling and quarantine procedures for the site. As part of these procedures, **waste quarantine areas** will be established in Unit 3 for the following wastes:

- Lead acid batteries
- Liquid wastes eg. Oils, chemicals, old paints etc
- Unacceptable solid wastes e.g. tyres, gas bottles, fluorescent tubes, fridges etc.

Goff Recycling Ltd propose to only handle the following non hazardous wastes at the municipal waste management area.

Table D.1 Types of waste handled at Goff Recycling Ltd waste management site (refer to Appendix 8 for EWC codes of wastes)

Waste Source	Waste Types
Commercial	Cardboard, Plastics, Glass
Industrial	Paper, Cardboard, Plastics, Timber, Metal
C&D	Plastics, Metal, Timber, Glass, Soil, Brick, Concrete, Rubble, Ceramics etc
Household	Domestic and refuse waste from collection of wheelie bins and similar sourced waste

All separated recyclable waste streams e.g. cardboard, plastics, timber, metal, glass etc are segregated into suitable containers/bays and stored on site prior to transportation off site for further reprocessing.

In addition, Goff Recycling Ltd propose to only handle the following WEEE wastes at the facility.

Table D.1 Types of WEEE waste to be handled at Goff Recycling Ltd site (refer to Appendix 8 for EWC codes of wastes).

Waste Source	Waste Types
Commercial	WEEE waste
Industrial	WEEE waste

D.1.i Waste Inspection Areas

All drivers inspect each waste consignment/skip prior to collection. Any consignment/skip found to contain obvious or significant quantities of liquid, hazardous or unauthorised wastes will not be collected by the driver.

All waste coming into the site will be visually inspected at the weighbridge and also in Unit 3 building (as per Site Layout Plan). Any waste load arriving at the facility that is found to be unacceptable, will be quarantined and arrangements made for appropriate off site disposal to a fully licensed/permitted contractor as soon as is practicable.

All waste inspection areas at the site will be adequately provided with lighting and lineated to show their existence at the facility.

D.1.j Traffic Control

Goff Recycling Ltd is situated in a purpose built Business Park close to Kilrane village about 5km south east of Rosslare town. Road access to the site is adequate to prevent any traffic problems. During the course of a normal day there are the following traffic movements into and out of the site.

- Employee and visitors cars,
- Goff Recycling Ltd waste collection/delivery vehicles,

These vehicles move into and out of the site all day between the hours of 8am to 6pm (Mon-Fri) and between 8am and 1pm Saturday. The site does not operate on Sundays or Bank Holidays.

The access road to the site is off the Country road to Kilrane village. At the end of each day the waste collection vehicles are parked at the rear of the site on hard standing areas over night.

Access routes and car/vehicle parking areas are provided for as per Site Layout Plan attached to this application.

D.1.K Sewerage and Surface Water Drainage Infrastructure

Goff Recycling Ltd propose to operate a waste management facility for municipal waste and also for some WEEE waste materials.

At the waste management site at the Business Park the 5 potential effluents generated on site are;

- Clean rainwater (uncontaminated) from building roofed areas (Unit 1, 2 and 3) is directed by gullies along the front of the buildings to a surface water attenuation tank with 100m³ capacity. The outflow from this tank will be discharged to the existing land drain which runs the northern boundary of the site.
- Surface water runoff from the existing concreted site yard and proposed further concreted yard areas is directed through a silt trap and 3 stage interceptor unit (to detail, see appendix 6) prior to entering the surface water attenuation tank. The outflow from this tank will be discharged to the existing land drain which runs the northern boundary of the site.
- A waste water treatment system is proposed on site to deal with domestic sewage and effluent from the canteen at the site. The effluent from this plant is then subject to release to a percolation area (soak-away) in the north direction of the Unit 3 building.
- All effluent from the truck washing area at the site will flow through the silt trap followed by the 3 stage interceptor unit treatment prior to discharge to the existing land drain.

- Spillages/floor washings and possible leachate from inside Unit 3 building will be collected in an underground tank (3,000 litre capacity). These liquids can be pumped out at required intervals and sent off-site for treatment a licensed treatment facility.

In summary, the maximum volume of surface water and effluent that will be discharged from the waste management facility has been calculated based on site area, annual rainfall and estimates of site water usage.

The following tables show an estimated breakdown of the quantities of surface water/effluents that may be discharged from each waste management areas.

Table D.1a Estimated Quantities of surface water / effluent generated at the municipal waste management area.

Source	Estimated Volume/yr.	Make Up	Treatment	Destination
Roof rainwater run-off	2,254m ³ note 1	Uncontaminated rainwater	Drainage gullies only	Existing land drain
Site surface water run off	5,507m ³ note 1	Contaminated rainwater	Drainage gullies, silt trap and interceptor unit for concrete covered areas only	Existing land drain
Toilets and canteen area	100m ³	Domestic Sewage and canteen wash water	Waste water treatment plant and percolation area	Soak away
Spillages/floor washings and leachate from Unit 3 building	Unknown, volume will vary	Water, leachate, washings etc	Blind sump in Unit 3	Off-site disposal
Truck washing area	Unknown, volume will vary	Dirty wash water	Drainage gullies, silt trap and interceptor unit	Existing land drain

note 1 : The volume and rate of surface water to be discharged from the site is dependent on rainfall. The area of the whole site is approximately 0.88ha (8,850m²). The annual rainfall in the area is approximately 877 mm (mean rainfall scenario for 2004 and 2005). Assuming 100% run-off, the maximum quantity of surface water to drain from the site will be 7,761m³/annum or 21.3m³/day.

D.1.L All Other Services

The following services are connected to the existing waste management facility ; single and three-phase electricity, municipal water mains supply, telephone, an interceptor unit and surface water attenuation tank.

Proposed future services for the site includes additional concrete surface areas, surface/storm water drains and perimeter security fencing.

D.1.m Plant Sheds, Garages and Equipment Compound

The following buildings are presently located on the site.

Administration building - reception, offices, toilets, canteen

Unit 1 building – garage, workshop area and store

Unit 2 building – storage of segregated and/or baled recyclable wastes (cardboard, paper, plastics, aluminium cans) and WEEE storage.

Unit 3 building – municipal waste acceptance and processing and storage of timber, baled polystyrene and glass packaging.

D.1.n Site Accommodation

As above.

D.1.o Fire Control System and Water Supply

There is a municipal water supply at the facility with Hydrants located at strategic site locations (ref to Site Layout Plan). Only small amounts of flammable materials (oils etc) will be stored in the workshop / garage area. Any potential fire breakout here will be controlled locally and any associated firewater will be controlled remotely at this location. There will be no heating oil or site diesel stored at the site.

D.1.p Civic Amenity Sites

Presently, Goff Recycling Ltd do not operate a civic amenity facility and it is not their future intention to set up the same.

D.1.q Any Other Waste Recovery Infrastructure

Future planned site buildings, equipment and infrastructure include;

- A concrete apron for the empty skip storage area north of Unit 3 building.
- Waste collection vehicle parking areas at the municipal waste management site.
- It is proposed to build an additional unit next to unit 3 to handle the same wastes on-site if required. Planning permission will be applied for prior to construction of this unit and its location will be within the site boundary.

D.1.r Composting Infrastructure

Goff Recycling Ltd do not propose any composting at the waste management facility.

D.1.s Construction and Demolition Waste Infrastructure

The vast majority of construction and demolition waste arriving at the facility will be sourced from builders skips. All construction and demolition waste arriving at the waste management facility will be accepted and handled at Unit 3 building only.

This waste will be processed and handled using the site infrastructure referred to in D.1.d above – namely teleporter with grab and manual picking through the waste after tipping inside Unit 3. All segregated rubble and soil/stones will be stored in skip bins located inside Unit 3 building. All separated timber, plastics, cardboard, paper, scrap metals and non-recyclable waste will be handled as described in D2.1 of this application.

D.1.t Incineration Infrastructure

There will be no incineration of waste at the Goff Recycling Ltd site

D.1.u Any other Infrastructure

Other proposed site activities will include the installation of mechanical screening and sorting equipment to separate the non-hazardous materials to be accepted on-site into single waste streams for recovery.

D.2 Facility Operation

D.2.a Development and Operational History

Goff Recycling Ltd currently operates a municipal waste management business at a facility located in Kilrane Business Park, Kilrane, Rosslare, Co Wexford.

The existing site has one reception and administration building, a unit building for routine vehicle maintenance (Unit 1 garage area), a building for segregated waste storage (Unit 2) and a building for waste acceptance and processing (Unit 3). Retention planning permission was obtained in July 2005 for these buildings and all ancillary services.

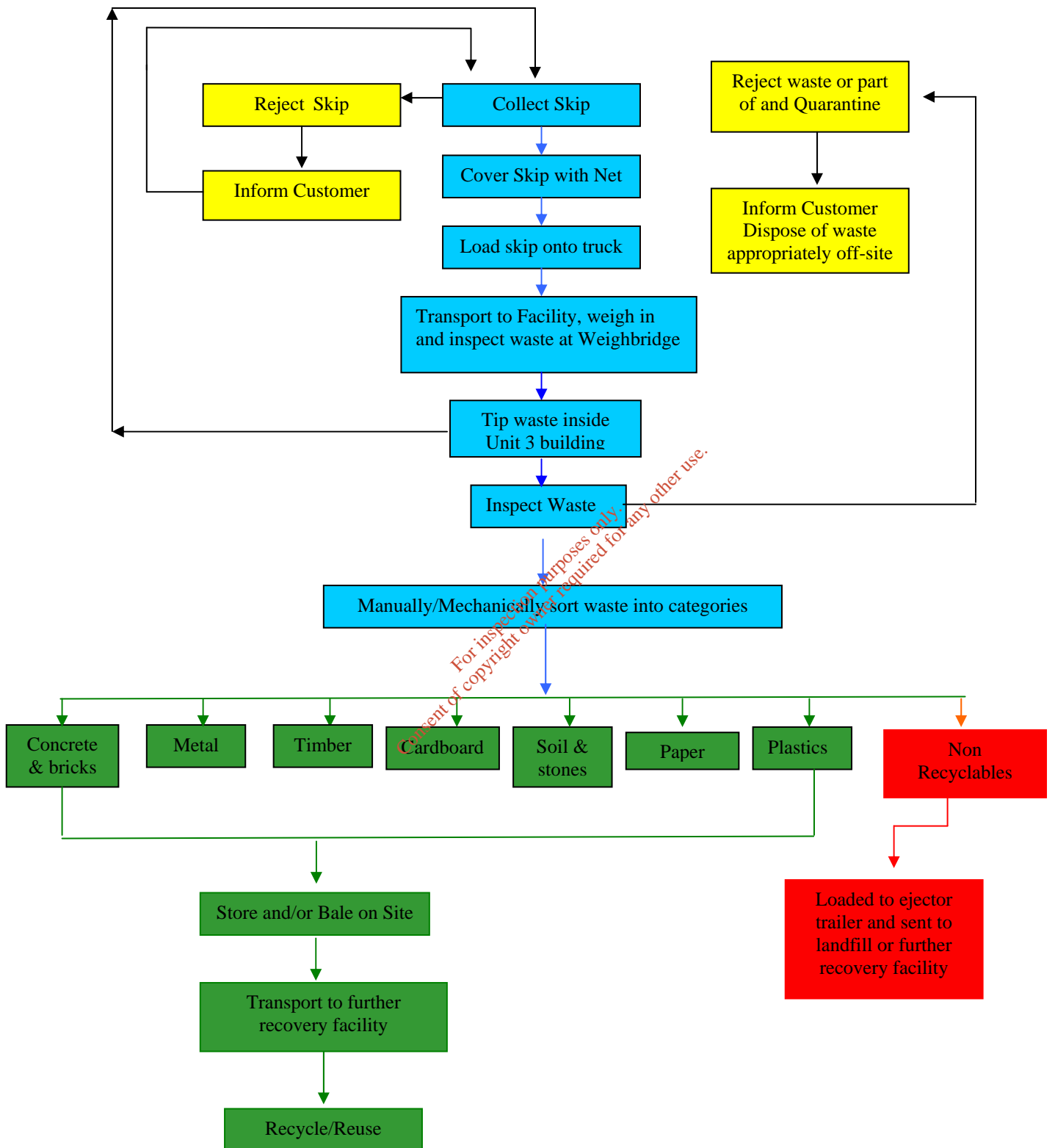
Goff Recycling Ltd currently collects and handles approximately 6,650 tonnes of non hazardous commercial / industrial / construction and demolition skip waste per year and collects commercial waste (municipal waste similar in nature to household waste) from businesses (approximately 4,205 tonnes/year). Municipal waste is transferred from the customer sites directly to the landfill and does not enter the site. Occasionally municipal waste in refuse trucks may be stored for short periods of time at the site (usually during landfill closure or if the truck breaks down). In this instance, the refuse is not tipped on the site.

Goff Recycling Ltd currently employs 20 full time staff. It is expected that this number may grow to around 30 staff with an increase in waste management activities. The facility is operated six days a week, Monday to Friday between 8:00 am and 6:00 pm, and Saturday between 8:00am and 1:00pm. The facility is closed on Sundays and Bank Holidays.

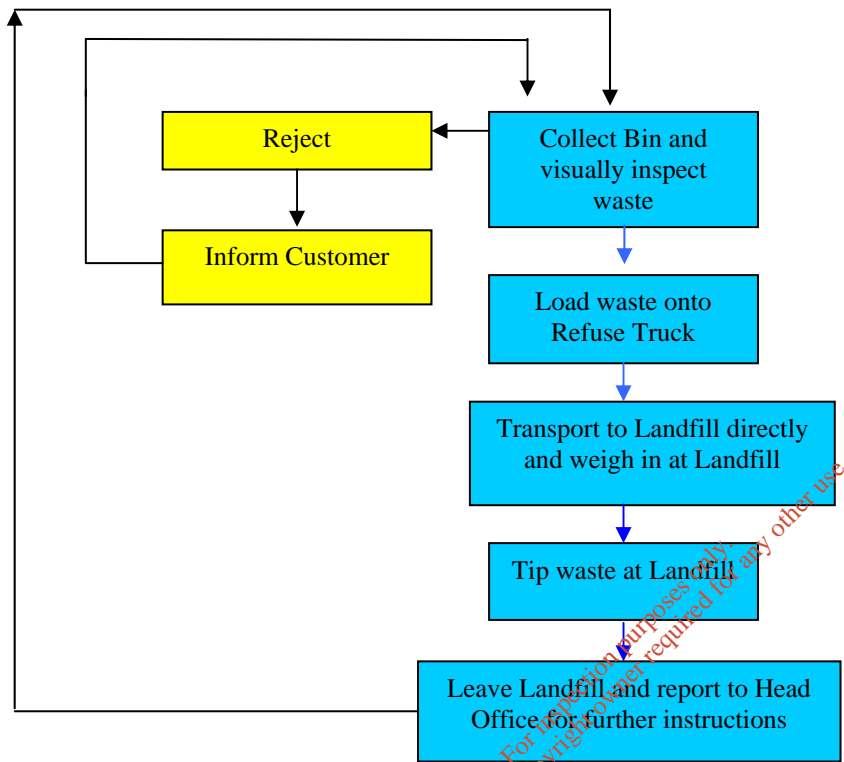
D.2.b Process Flow Diagrams

Process flow diagrams outlining the (1) current and (2) proposed procedures for the collection of waste and operation of the waste management facility are shown on the next pages. Please refer to Site Layout Plan for locations of proposed operations.

(1) **Current** process flow diagram for non-hazardous commercial / industrial / construction and demolition and household **mixed skip** waste handling at the site.

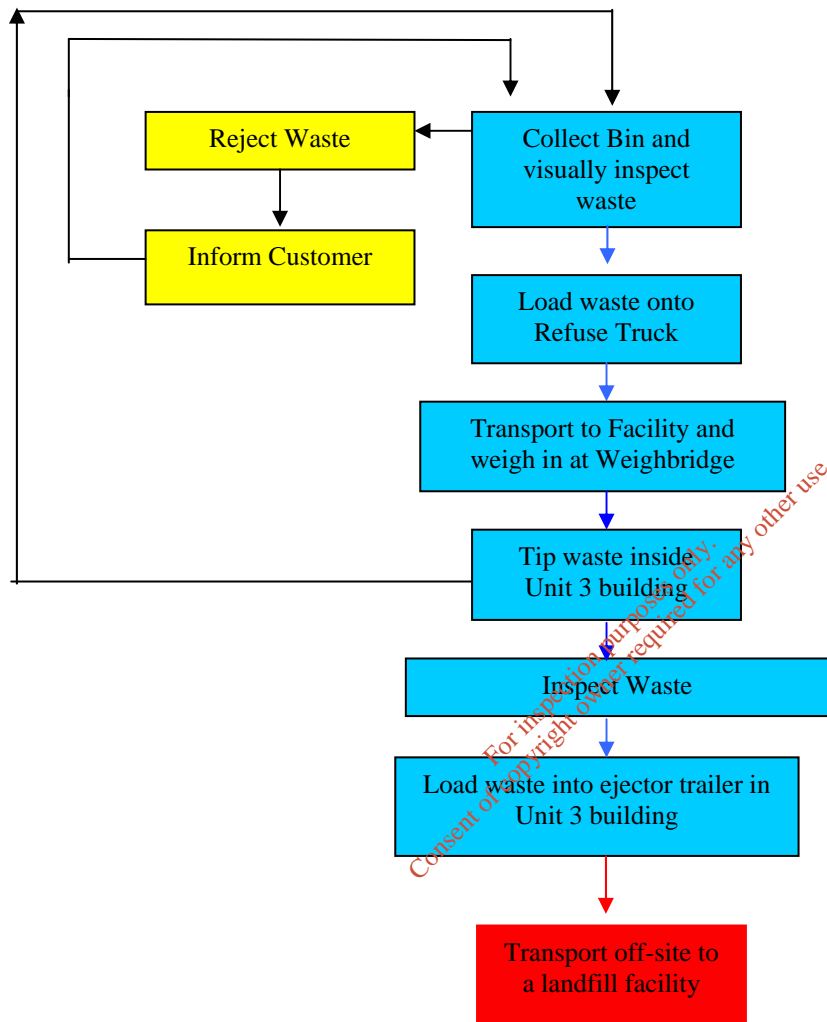


(2) **Current** process flow diagram for commercial municipal waste (similar in nature to household refuse waste) collection by Goff Recycling Ltd.

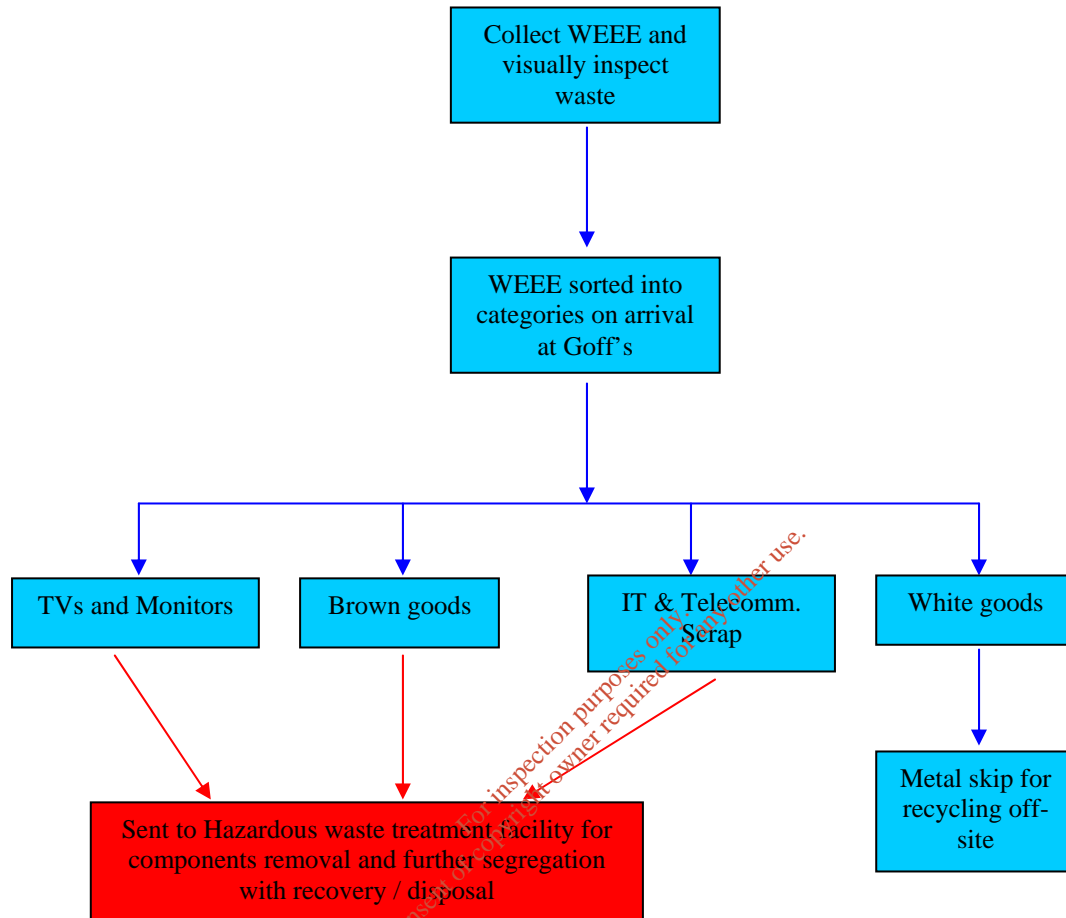


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(3) Proposed process flow diagram for commercial municipal waste and domestic waste (refuse) collection and disposal processes at Goff Recycling Ltd.



(4) Proposed process flow diagram for WEEE waste collection and recycling processes at Goff Recycling Ltd.



D.2.c List of Unit Operations

The unit operations carried out at Goff Recycling Ltd are listed below. Some of these operations will occur outside the facility e.g. skip/waste loading and removal from the customers site and are therefore not shown on any attached plans.

Table. D.2.1 List of Unit Operations (E = existing operation, P = proposed operation)

Unit Process Description	Pollution Control System
Collecting commercial, industrial, household and C&D skips from customers (E & P)	Visual inspection by driver for hazardous/liquid waste Driver covers load to avoid litter. Visual inspection to ensure safe transport and no hazards present Written procedures for activity
Collecting wheelie bins from households and commercial clients (P)	Operative loads wheelie bin onto rear of the refuse truck. Waste is compacted into the body of the enclosed truck. Written procedures for activity
Transporting municipal waste loads to the existing site (E & P)	Regular vehicle maintenance to control diesel emissions Loads covered with netting or use of enclosed skips to avoid litter problems.
Transporting WEEE waste loads to the proposed site (P)	Regular vehicle maintenance to control diesel emissions Loads will be palletised or in containers and transported in articulated trucks / vans to avoid litter problems.
Municipal and C&D waste tipping at Unit 3 building (E & P)	All waste will be tipped onto a concrete floor inside the building. Visual inspection of the waste for hazardous/liquid waste. Internal drainage to blind sump. Written procedures for activity
WEEE waste acceptance at WEEE recycling building (P)	All WEEE waste to be accepted inside Unit 2 building only. Visual inspection of the waste for hazardous/liquid/unauthorised waste. Written procedures to be developed for activity
Waste handling (municipal and C&D waste) (E)	This waste is handled inside designated enclosed buildings. Handling procedures will be developed. Waste quarantine areas will be established.

Unit Process Description	Pollution Control System
Municipal and C&D waste sorting and storage (E&P)	All waste sorting and storage (except scrap metal storage in a skip bin outside) will be carried out indoors. Segregated waste will be stored in enclosed skips and/or concrete bays (glass packaging) in Unit 2 and 3 buildings
Storing segregated recyclable waste (E&P)	This waste will be stored in Unit 2 and 3 buildings. Scrap metals to be stored in a skip bin outside in skip storage area only. Written procedures for activity
WEEE waste handling and storage (P)	All to occur inside Unit 2 building only. Designated areas to be established inside building for various WEEE categories of waste. Written procedures for activity
Storing non-recyclable waste fraction from mixed skips (see flow diagram no1 above) and household waste being accepted at the facility (E&P)	Waste will be loaded into an ejector trailer for transport to landfill for disposal along with household waste. Ejector trailer loading will occur in Unit 3 building only. Written procedures for activity
Transporting segregated waste to landfill for disposal or other facilities for further recovery (E&P)	All waste consignments will be contained in ejector trailers to reduce litter. Visual inspection to ensure safe transport. Written procedures for activity
Waste vehicle washing (E&P)	This will occur off-site only.
Vehicle movements into and out of site (E&P)	Regular site cleaning to minimise mud, dust, litter levels Adequate site entrance for safe site access Appropriate signage at facility for company waste vehicles

D.2.d Process Descriptions

A description of the existing processes at Goff Recycling Ltd's facility are detailed below.

Municipal skip waste (industrial and commercial and household sourced) and C&D Waste Acceptance

Goff Recycling Ltd only collect and accept non-hazardous solid waste at the existing waste management facility.

Commercial wheelie bins (restaurants, hotels, pubs etc) are loaded directly into the back of a refuse truck compactor vehicle and transported directly to landfill.

Before a waste skip is collected, the driver will briefly inspect it for obvious hazardous or liquid waste. If a skip contains significant quantities of unsuitable waste, the driver will inform the customer and refuse to remove the skip until the waste has been disposed off appropriately.

Goff Recycling Ltd will establish written waste acceptance procedures as part of the implementation of an environmental management system for the facility.

Waste Collection

Presently, waste collection at Goff Recycling Ltd falls into the following four categories;

- Commercial wheelie bins. These are filled with municipal waste.
- Waste skips that are hired out to commercial and industrial premises. These are filled with paper, cardboard, plastics, metal, timber, glass and some organic waste.
- Waste skips that are hired out to builders and the public. These are generally filled with construction and demolition waste, green waste, timber, cardboard and house clearance items.
- Waste glass bottles collected from bring banks, restaurants, hotels and public houses. This waste is collected at source and transported directly to a glass recycler.

Goff Recycling Ltd currently collects wheelie bins from commercial customers in Wexford. This waste is transferred directly to authorised treatment facilities for further recovery with subsequent disposal.

Goff Recycling Ltd also hires out skips in Wexford. These are dropped at customer sites and collected on request when full. Before a waste skip is collected, the driver inspects the skip for obvious hazardous or liquid wastes. If a skip contains significant quantities of unsuitable waste, the driver will inform the customer and refuse to remove the skip until the waste has been disposed off appropriately.

Prior to transport the skips are covered with netting. This prevents litter nuisance during transport. Full skips are transported to Unit 3 building where the waste is tipped inside the building.

Goff Recycling Ltd will establish written waste collection procedures as part of the implementation of an environmental management system for the waste transfer and recycling facility.

Segregated glass waste collected at source (bring banks, restaurants, hotels and public houses) is transported directly Unit 3 building and stored in designated concrete bays according to glass colour.

Waste Unloading/Sorting/Handling.

All waste transported to the facility is tipped onto a concrete floor inside Unit 3 building. Generally the waste types are dry. However should liquid spills occur it is contained internally and directed to the sump in this building. The sump is emptied as required and sent off-site for treatment as necessary.

The main segregated waste streams will include:

- Cardboard
- Metal
- Glass
- Paper
- Wood
- Rubble
- Plastic – polystyrene materials

Waste arriving at the facility that has been segregated at source eg. cardboard and paper, metals, timber, etc will be tipped and diverted directly to recycling processes within the facility. These processes are described in the flow diagrams above.

Goff Recycling Ltd will establish written waste handling procedures as part of the implementation of an environmental management system for the waste transfer and recycling facility.

Process Maintenance

Goff Recycling Ltd management is committed to ensuring that vehicles and process equipment will be maintained and operated correctly. A full vehicle/equipment maintenance

programme will be developed in due course as part of an environmental management system for the facility.

Possible emissions during normal operations

Goff Recycling Ltd operates a waste management facility handling non-hazardous solid waste. Waste streams will include:

- Commercial/industrial waste e.g. metal, timber, cardboard, plastic, paper, glass etc
- Construction & demolition waste e.g. wood, topsoil, rubble etc
- Household (skip) waste e.g. metal, white goods, garden waste etc

Goff Recycling Ltd do not handle liquid or hazardous waste at the facility. Possible emissions during normal operations are summarised in the table below.

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Table D.2.2 Possible emissions during normal operations

Unit Process Description	Nature of Emission	Mitigation Measures
Waste collections/transport	Diesel emissions	Annual DoE testing
Waste collections/transport	Litter	Cover waste skip with netting during transport or use of enclosed skips/containers
Municipal waste tipping at the facility	Odour	All segregated non recyclable municipal waste and all household waste tipped inside Unit 3 building only. All such waste is transported to landfill as soon as an ejector trailer is full to capacity.
Municipal and C&D waste tipping at the facility	Dust	All C&D and mixed waste is tipped inside Unit 3 building only. This helps to reduce dust emissions. Rubble and blocks segregated at source are stockpiled in a skip bin inside Unit 3. This waste type is dampened down during dry weather conditions to reduce dust.
Municipal and C&D waste tipping at the facility	Noise/litter	All this waste type is tipped inside Unit 3 building. This helps to reduce noise and litter.
Waste segregation at the facility	Odour /litter /dust /noise	All waste is tipped, handled, segregated and stored inside Unit 3 and Unit 2 building is used for storage only. This helps to reduce odour, noise, litter and dust emissions from the site.
Waste loading at the facility	Noise	As above
Waste Storage/Loading	Noise/dust/litter	As above
WEEE waste acceptance and storage (proposed future activity)	Noise/dust/litter	All WEEE waste to be accepted inside Unit 2 building only. WEEE waste to be palletised and stored according to categories.

D.2.g On Site Laboratory

Goff Recycling Ltd do not propose to handle liquid or hazardous wastes therefore no waste arriving on-site will be subject to prior laboratory analysis.