

Report No. WR7060/02

Date: April 2012

ENVIRONMENTAL PERMIT APPLICATION
FOR WASTE TREATMENT CENTRE
AT LLANDDULAS QUARRY
ABERGELE ROAD
LLANDDULAS
CONWY
LL22 8HP

Prepared for
Waste Recycling Group Limited



Prepared by



Stratus Environmental Limited
Valleys Innovation Centre
Navigation Park
Abercynon
CF45 4SN

Tel: 01443 744433

Fax: 01443 744434

**Project Quality Assurance
Information Sheet**

MANAGEMENT PLAN

Waste Recycling Group Limited

Report Number: WR7060/02

Report Status: FINAL

Survey Date: N/A

Report Date: April 2012

Prepared for: Waste Recycling Group
Limited

Prepared by: Stratus Environmental Ltd
Valleys Innovation Centre
Navigation Park
Abercynon
CF45 4SN

Written by:



Chris Turler
Environmental Consultant

**Reviewed &
Approved by:**



Mark L Griffiths
Principal Consultant

ENVIRONMENTAL PERMIT APPLICATION FORMS

OPRA SPREADSHEET

MANAGEMENT PLAN DOCUMENT

CONTENTS

1.0	INTRODUCTION	1
1.1	Background	1
1.2	The Company	2
1.3	Non Technical Summary	3
1.4	Specified Waste Management Operations	6
1.5	Facility Location	6
1.6	Permitted Waste Quantities	8
1.7	Permitted Waste Types	8
1.8	Hours of Operation	8
1.9	Cessation of Operations	9
2.0	IN PROCESS CONTROLS	10
2.1	Pre Acceptance	10
2.2	Waste Acceptance	10
2.3	Waste Storage	11
2.4	Waste Treatment	15
3.0	EMISSIONS CONTROL	24
3.1	Point Source Emissions to Air	24
3.2	Point Source Emissions to Groundwater	24
3.3	Point Source Emissions to Surface Water and Sewer	24
3.4	Fugitive Emissions to Air	25
3.5	Fugitive Emissions to Surface and Groundwater	26
3.6	Control of Odours	27
3.7	Control of Noise	28
3.8	Control of Scavengers, Insects and Other Pests	30
3.9	Control of Litter	31
3.10	Control of Mud and Debris	32
4.0	MANAGEMENT SYSTEMS	33
4.1	Environmental, Health, Safety and Quality System	33
4.2	Management Structure	34
4.3	Environmental Permit and Management Plan	34
4.4	Technical Competence	34

4.5	Staffing	35
4.6	Training	36
4.7	Operating Procedures	36
4.8	Maintenance Procedures	36
4.9	Records	36
4.10	Visitors	37
4.11	Site Inspection and Audits	38
4.12	Site Security	38
4.13	Site Identification Board	39
4.14	Complaints	39
4.15	Staff Welfare Facilities	40
4.16	Non-Compliances	40
4.17	Health and Safety	40
5.0	ACCIDENTS AND THEIR CONSEQUENCES	41
5.1	Emergency Planning	41
5.2	Emergency Contact	41
5.3	Control of Fires	41
5.4	Explosions	43
5.5	Flooding	43
5.6	Control of Leaks and Spillages	44
5.7	Investigation of Accidents and Incidents	45
6.0	EMISSIONS MONITORING	46
6.1	Introduction	46
6.2	Emissions to Air	46
6.3	Fugitive Emissions to Air	46
6.4	Emissions to Water	47
6.5	Emissions to Sewer	49
6.6	Noise	49
6.7	Odour	50
6.8	Mud and Debris	50
7.0	CLOSURE	51
7.1	Design Measures	51

Tables

Table No.	Title
Table 1	Typical Waste Storage Times
Table 2	Employment Positions
Table 3	Indicative Surface Water Monitoring Suite

Figures

Figure No.	Title
Figure 1	Typical Management Structure for Waste Operations

Appendices

Appendix No.	Title
Appendix 1	Certificate of Incorporation
Appendix 2	Relevant Convictions
Appendix 3	Planning Application
Appendix 4	Schedule of Tonnages & EWC Codes
Appendix 5	COTC Certificate
Appendix 6	Staff Responsibilities
Appendix 7	Operation and Maintenance Daily Check Sheet
Appendix 8	Accidents and Emergencies Risk Assessment
Appendix 9	Fugitive Emission Risk Assessment

Drawings

Drawing No.	Title
WR7060/5/01	Site Location Plan
WR7060/5/02	Site Boundaries Plan
WR7060/5/03	Indicative Site Operational Layout
WR7060/5/04	Indicative Drainage Layout

Schedule of Revisions

This Management Plan is a live document and consequently is periodically revised. The Schedule of Revisions below is updated and re-issued with each revision, to ensure that the reader has a reference advising him/her that the section/s they are referring to are the most up to date.

[illegible]

MANAGEMENT PLAN

1.0 INTRODUCTION

1.1 Background

1.1.1 Stratus Environmental Limited (Stratus) has been commissioned by Waste Recycling Group Limited to prepare a Management Plan for submission in support of a Bespoke Waste Operation Environmental Permit Application (EPA) for their proposed Llanddulas Quarry Waste Treatment Centre, located at Llanddulas (Llysfaen) Quarry, Abergele Road, Conwy, LL22 8HP.

1.1.2 Proposals for the site are for the development of a Waste Treatment Centre (WTC), which will comprise of a Materials Recycling Facility, a Waste Transfer Station (WTS) and a Road Sweeper Waste Recycling Facility (RWRF), which will accept and treat up to 110,000 tonnes per annum of municipal and commercial waste collected from households and businesses across North Wales. The proposed Waste Operation will be subject to the requirements as stipulated in the Environmental Permitting (England and Wales) Regulations 2010.

1.1.3 This Management Plan has been prepared in accordance with relevant guidance on best practice and Best Available Techniques, and in particular the following specific regulations and guidance contained in:

- Environmental Permitting (England and Wales) Regulations 2010;
- Environmental Permitting Core Guidance (DEFRA, Updated March 2010);
- How to Comply with Your Environmental Permit (EPR1.00), EA (V2 June 2010);
- UK Sector Guidance Note IPPC S5.06: Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste (December 2004);
- H1 – Environmental Risk Assessment for Permits;

1.1.4 This Management Plan will be subject to continuous review and revision. In all circumstances, revisions will be subject to approval by the Environment Agency Wales (EAW).

1.1.5 Management of amenity issues are discussed in this document as well as being supported by the fugitive emissions risk assessment and accident risk assessment which have been completed in accordance with Environment Agency Guidance.

1.2 The Company

- 1.2.1 The Facility is being proposed and developed by Waste Recycling Group which is part of FCC, the international environmental services, infrastructure and energy group. The Company already operates the adjacent Llanddulas Quarry Landfill Site. The operator and permit holder will be in the name of Waste Recycling Limited, an operating company of the Waste Recycling Group. The company's incorporation details are included in **Appendix 1**. Waste Recycling Group Limited considers their facility as the gateway between sustainable waste management, and economically sustainable jobs for the local community.
- 1.2.2 Waste Recycling Group has a proven track record of developing and operating sustainable, environmental projects. The applicant believes that sustainable waste management does not have to create negative impacts on communities. In terms of proposed treatment facilities, by ensuring no processing or treatment of odorous waste occurs outside of the building and by developing the facility sympathetically to the locality and by targeting sustainable local employment, a resource recovery facility such as that proposed within this application can create a positive impact.
- 1.2.3 Within current operations, the company employs an operational management team who share this vision and are qualified to the highest and required industry standards (WAMITAB/COTC). The employment of operatives from the local community brings benefits as the facility currently requires in the region of 15 full time employees, with this potentially increasing as operations are fully established and the facility reaches its throughput capacity.
- 1.2.4 One of the first principles of the development is to integrate the facility into the community it is located within. This focus on community scale and operation brings direct employment benefits to the local area (as discussed above) and with the facility itself requiring local third party company services such as the below, indirect employment opportunities are also a possibility;
- Vehicle Service & Maintenance Companies;
 - Fuel Supplying Companies;
 - Haulage Companies;
 - Customers to Waste Recycling Group; and
 - Onward reprocessing companies.
- 1.2.5 The cornerstone of the development will be landfill avoidance. The proposed WTC will provide a more sustainable solution for dealing with wastes generated in the region from which recyclable materials will be removed and an alternative fuel source (Solid Recovered Fuel or SRF) will be created. It is anticipated that close to 100% recycling will be achieved via the proposed treatment. A small fraction of the residual waste, not suitable for SRF will be disposed of to landfill.

1.2.6 WRG owns circa 84ha of land that comprises three former limestone quarries at Llanddulas. The southern most quarry is currently being restored via a landfill operation. This former quarry also accommodates an open windrow composting activity and a Leachate Treatment Plant. The proposed WTC is to be located in the north western most quarry and will handle municipal waste collected from local authorities and commercial waste from regional businesses.

1.2.7 The development of the Llanddulas Quarry site is integral to the vision and future portfolio of Waste Recycling Group Limited. This site will allow the company to demonstrate its commitment to the recovery of waste by diverting a wide range of non-hazardous Household, Commercial and Industrial waste streams away from landfill, and to eventually achieve a zero waste to landfill policy for the facility.

1.3 Non-Technical Summary

1.3.1 The site will manage and process up to 110,000 tonnes per annum of non-hazardous municipal and commercial waste, collected from households and businesses in the North Wales region. The waste will be subjected to physical (MRF) treatment processes in order to separate the materials into its component parts and remove recyclable element from the waste stream, where after it will be baled or bulked and transported to existing specialist reprocessors, whilst the residual material will be baled (wrapped) and transported from site as an alternative Solid Recovered Fuel.

1.3.2 The inputs can be broadly categorised into mixed residual waste ('black bag' type materials) and co-mingled recyclates. As mentioned in paragraph 1.3.1 above, the intention is to separate the incoming materials out into their component parts. For co-mingled recyclate input, for example, this will involve treatment through the MRF via the process line to separate into differing product streams, ready for bulking up, bailing and transfer off site to the appropriate reprocessing companies. For 'black bag' type input, this will involve treatment through the process line, where more separation techniques will be employed to remove the recyclate, organic and heavy end fractions with the view to maximise these components to minimise the residual content. The residual material will be baled and due to the inherent calorific value contained within the residual material it is considered to be a suitable alternative Solid Recovered Fuel (SRF). The SRF will be baled (wrapped) and transported from the facility for use within Energy from Waste type applications. A small amount of residual waste that cannot be used as SRF will be taken to the adjacent Llanddulas Quarry Landfill for disposal. In addition to the unsorted waste material being delivered, a proportion of municipal waste will already have been sorted at source (in the home) to remove the recyclable content. This residual material will be taken to the transfer area of the facility where it will be bulked for onward transportation for off site disposal, with use as an SRF being a possible option. It is intended in the medium to long term to further develop on site options for the treatment of organic and residual waste to further minimise materials sent off site for further treatment and/or disposal.

- 1.3.3 A road sweeper waste recycling facility will also be incorporated as part of the overall WTC.
- 1.3.4 The proposed waste operation will undertake the inspection, reception, treatment, recovery and storage of non-hazardous wastes from the surrounding region.
- 1.3.5 Site activities will take place within the former north western limestone quarry, of the Llanddulas Quarry complex, previously known as Llysfaen Quarry, which will be redeveloped to enable the proposed resource management operations to be undertaken with minimal effect on the surrounding environment. Redevelopment will comprise of the demolition and site clearance of existing buildings and structures and construction of purpose built infrastructure; with the potential opportunity to re-use certain materials into the permanent works subject to analysis as to suitability. Reusable material generated on site such as crushed hardcore will be placed in stockpiles and positioned away from traffic routes. The MRF building will be a modern, bespoke purpose built building similar to standard industrial and commercial style buildings. The building has been designed to house the plant required to operate efficiently and safely whilst being sympathetic to the surrounding environment. Separated, but adjoining the main building are the offices and welfare facilities. It is proposed to install two weighbridges at the gate house south of the MRF building, in order that inputs and outputs are accurately recorded in accordance with the Duty of Care Regulations.
- 1.3.6 Wastes will be transported to and from the site by road, weighed in and recorded over the weighbridge and then directed to the appropriate storage area depending upon waste type. Vehicles carrying pre-sorted, residual waste will be directed to the tipping area of the transfer station. Vehicles carrying unsorted waste streams will be directed to the MRF. Road sweepers will be directed to the road sweeper waste recycling facility. The wastes are then transferred to the designated treatment lines for processing via static plant and attendant recycling operatives, and thereafter to their respective storage areas in readiness for transfer off site for onward reprocessing at an appropriately permitted facility.
- 1.3.7 All waste reception, processing (treatment) and storage will be undertaken within areas of impermeable surfacing and sealed drainage to sealed sumps. External manvouring yard drainage will be via inline full retention Class 1 separators as appropriate. Briefly, the waste treatment processes undertaken can be divided into 4 main categories and will include:

Co-mingled Recyclates

- Pre Treatment Storage;
- Physical Treatment (e.g. processing through appropriate MRF line which utilises automated and manual separation techniques to place materials into designated containers/bunkers;

- Post Treatment storage pending baling and/or loose loaded collection;
- Baling of materials, where required, to facilitate handling and transportation requirements;
- Post Treatment Storage Pending off site removal.

Mixed Waste ('Black Bag' Household and Commercial Residual)

- Pre Treatment Storage;
- Physical Treatment (e.g. processing through appropriate MRF line which utilises automated and manual separation techniques to place materials into designated containers/bunkers);
- The output from the process line includes separated recycle material and residual waste (for use as SRF).
- Post Treatment storage of recycle pending baling and/or loose loaded collection;
- Baling of recycle, where required, to facilitate handling and transportation requirements;
- Separation and bulking up of the residual waste with an inherent calorific value (to be used as a Solid Recovered Fuel), to facilitate handling and transportation requirements; and
- Storage of residual waste (not suitable for SRF), pending off site transfer for disposal.

Pre-Sorted Waste Materials (principally municipal solid waste)

- Offloading of materials within Waste Transfer Station;
- Continuance of acceptance procedures via Duty of Care inspection of load, to check for compliance with approved waste types, unloading ceased if non-compliant load discovered;
- Compliant waste loads are then moved via a loading shovel into appropriate internal storage bays;
- Materials will then be loaded via wheeled shovels into bulk articulated Heavy Goods Vehicles (44-tonne GVW) for off site transfer.

Road Sweeper and Gulley Waste Materials

- Arrival of Road Sweeper within the roadsweeping wastes recycling hall;
- Dewatering of vehicle's load, where excess water is removed and discharged to a closed system;
- Remaining solid material is physically processed by mechanical means, to wash out aggregate and grit fractions from the waste stream;
- The separated fractions will be deposited into separate skip containers ready for export from site, to be re-used as a building product;

- The remaining organic and solids content will then be disposed of to landfill or further recycled off-site; and
- The dirty water from the dewatering and wet screen processes shall be removed from site on a regular basis via tanker. This will take the water to a sewerage treatment works for appropriate disposal.

1.3.8 Waste Recycling Group has applied for planning permission for the development of the Waste Treatment Centre to undertake the proposed physical treatment processes. This planning application, which includes the technical assessment required by the Local Planning Authority, was submitted on 23rd March 2012. A copy of the planning application documents have been enclosed and can be found in **Appendix 3**.

1.3.9 In terms of nature conservation issues, there are no statutory ecological designations within the application site. The nearest statutory designations are two Sites of Special Scientific Interest; Llanddulas Limestone and Gwrych Castle Wood (SSSI) and Mynydd Marian SSSI. These SSSIs are located approximately 1 km to the south east and 1km to south respectively of the proposal site. Mynydd Marian is also a Local Nature Reserve (LNR), whilst Liverpool Bay is a Special Protected Area (SPA).

1.4 Specified Waste Management Operations

1.4.1 The following waste management operations are to be carried out at the facility, including those proposed in Section 1.3.7 (codes taken from Waste Framework Directive 2008/98/EC Annex II):

- R3: Recycling or reclamation of organic substances, which are not used as solvents (including composting and other biological transformation processes);
- R4: Recycling or reclamation of metals and metal compounds;
- R5: Recycling or reclamation of other inorganic materials;
- R13: Storage of wastes consisting of materials intended for submission to any operation numbered R1 to R12 (excluding temporary storage, pending collection, on the site where the waste is produced);
- D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where the waste is produced); and
- Storage: Includes storage as inherent part of associated on site delivery and despatch operations.

1.5 Facility Location

1.5.1 The Llanddulas Waste Treatment Centre development site is located approximately 0.6km west of Llanddulas village centre. The site lies within the northwestern most quarry to the south of Abergele Road. There is an established landfill, composting and leachate treatment operation being undertaken in the southern quarry. The site

location is shown on Drawing Number **WR7060/5/01** and the Environmental Permit application area is shown on Drawing Number **WR7060/5/02**. The application site area measures approximately 1.62ha, located at National Grid Reference: 289720mE 378110mN.

- 1.5.2 The site boundaries are defined as shown on Drawing Number **WR7060/5/02** and delineated in the appropriate colours (Red – Planning Application, Blue – Ownership and Green – Environmental Permit Application Boundaries).
- 1.5.3 The proposed WTC will occupy the footprint of the disused brickworks on the quarry floor located in the north-western corner of the overall quarry complex. In addition to the disused brickworks, there are three vacant industrial type buildings located around the quarry; one on the quarry floor and two on the top bench. The quarry floor comprises concrete surface, loose stone hardstanding and scattered scrub vegetation. Self set vegetation is present on the quarry faces.
- 1.5.4 Access to and egress from the site will be undertaken from the main access road which connects with the A547 Abergele Road, which leads to the A55 Expressway at Junction 23, approximately 600m from the site access. Colwyn Bay is circa 6km to the west and Rhyl is approximately 12km to the east. On entry to WRG's landholding off Abergele Road, the access road immediately forks with vehicles visiting the landfill following the internal haul road to the left, whilst access to the proposal site is taken to the right. The right turn provides access to the top bench of the quarry through a set of lockable vehicle gates. After 60m an internal haul road descends to the quarry floor. The proposed indicative site layout is illustrated on Drawing Number **WR7060/5/03**.
- 1.5.5 Beyond the A547 Abergele Road, as discussed above, is a continuation of the applicant's landholding, the A55 dual carriageway, railway and coastline. The coastline is approximately 370m from the development site.
- 1.5.6 To the east of the development site is the haul road that descends from the top bench (circa 54m AOD) to the former brickworks. Beyond this is a steep quarry face that separates a third (eastern) quarry within the applicant's landholding. The intervening land that separates the two quarries reaches a maximum height of circa 105m AOD. The eastern quarry is currently being restored and accommodates the access road leading to the landfill site from Abergele Road on its western flank. Beyond the quarry to the east is the settlement boundary of Llanddulas.
- 1.5.7 To the south is a continuation of the quarry floor which rises gently to the base of the quarry face, which extends to a height of circa 110m AOD. The southern and western rim of the quarry is densely vegetated with mature trees which extend to Clobryn Road. A contractor's yard is located off Clobryn Road on the southern edge of the quarry. Beyond Clobryn Road to the south the land rises to the village of Llysfaen.

- 1.5.8 To the west of the application site is the quarry face which reaches a maximum height 80m AOD. Two residential properties are located between Clobryn Road and the quarry. Of these two, the nearest property is located approximately 55m from the quarry edge. Beyond Clobryn Road to the west is agricultural land Raynes Quarry, operated by Cemex Aggregates.

1.6 Permitted Waste Quantities

- 1.6.1 The maximum tonnage of permitted wastes to be processed by the facility during any one year shall not exceed 110,000 tonnes. The waste is categorised as follows:

- Non Hazardous Municipal, Commercial & Industrial Waste (HC&I) –100,000tpa
- Non Hazardous Road Sweeping Wastes (HC&I) – 10,000tpa

- 1.6.2 The maximum treatment capacity of the facility per day shall not exceed 300 tonnes (assuming all waste input in one day is treated within 24 hours).

- 1.6.3 The maximum amount of waste stored at the site at any one time shall not exceed 4,000 tonnes of materials awaiting to be processed, 2,000 tonnes of bailed or sorted recyclate pending collection, and 6,000 tonnes of WTS waste materials pending off site transfer.

1.7 Permitted Waste Types

- 1.7.1 A schedule of waste tonnages and a list of proposed waste types to be accepted at the facility for treatment, by EWC code, are included in **Appendix 4**.

1.8 Hours of Operation

- 1.8.1 The site is open for the receipt of waste and the export of recovered and residual materials between the following hours:

Monday to Friday: 07:30 – 17:30; and

Saturday: 08:30 – 12.00

There will be no working on Sundays or Bank Holidays

- 1.8.2 The operations on site pertaining to materials treatment and recycling will be as per the hours stipulated within paragraph 1.8.1 above. Maintenance of plant and equipment will also be undertaken during these operational hours.

- 1.8.3 The operator will not receive or dispatch materials outside of the hours stated in 1.8.1 above, unless in an emergency, in which case the EA will be notified within 24 hours and the details/activities recorded in the site diary.

1.9 Cessation of Operations

- 1.9.1 In the event of cessation of all waste management operations on-site, either permanently or for a period in excess of 3 months, then no later than 5 working days following the cessation of waste management activities, the Operator will inform the EAW in writing, detailing the date of cessation and in the case of temporary cessation, the date planned when operations are due to resume. In the event that the Site resumes waste management operations sooner than the notified date, the operator advises the EAW in writing at least 5 working days in advance of the resumption date.

2.0 IN PROCESS CONTROLS

2.1 Pre-Acceptance

2.1.1 Waste Recycling Group Limited will obtain the following information from the waste producer to enable consideration of the waste load prior to acceptance on site. This information is required for all new waste enquiries:

- Waste description, including European Waste Catalogue (EWC) code;
- Description of the process producing the waste;
- Variations to the process;
- Method of transport/delivery; and
- The typical waste composition/analysis of the waste.

2.1.2 Sufficient data will be gathered for each waste stream to be technically assessed prior to delivery to the waste facility. A tracking system will be employed at the pre acceptance stage to ensure that incoming waste can be verified during acceptance. The tracking of loads allows the schedule of work activities to be rigorously maintained. In addition each load will possess a unique identifying number, which will be provided to the waste producer.

2.2 Waste Acceptance

2.2.1 The intention of onsite acceptance procedures is to verify and characterise the waste as it arrives at the waste facility.

2.2.2 Wastes will not be accepted at the waste facility unless an assessment has been made of the suitability for treatment and recovery.

2.2.3 Wastes will be delivered to the facility by a combination of heavy and light goods vehicles.

2.2.4 Waste deliveries and dispatches will be via the main A55 Expressway, followed by the A547 Abergele Road located to the north of the site. Access to the proposal site is shared with the existing landfill operations. On entry to WRG's landholding off Abergele Road the access road immediately forks with vehicles visiting the landfill following the internal haul road to the left, whilst access to the proposal site is taken to the right. The right turn provides access to the top bench of the quarry through a set of lockable vehicle gates, after 60m an internal haul road descends to the quarry floor. The internal road from Abergele Road to the top of the haul road that descends to the quarry floor has a concrete surface and is sufficient to accommodate HGVs side by side, however the haul road to the quarry floor is single track and a system of traffic management will be implemented for this section. On reaching the quarry floor, delivery vehicles will be directed to the site weighbridge, located south of the main WTC building at the entrance point to the quarry floor. The weighbridge deck is

monitored directly from the weighbridge office. Waste is only accepted at the site if it is in accordance with the provisions laid down in The Environmental Protection (Duty of Care) Regulations 1991 (and subsequent amendment in 2003), and in accordance with the site's Environmental Permit (EP) and associated Schedule of Tonnages and EWC codes included at **Appendix 4**.

2.2.5 A record is kept of the date and time of waste deliveries, quantities and the nature of the waste deposited at the site, the name of the company and their representative delivering (if applicable) each load of waste and the vehicle registration number. Wherever practicable, each load is inspected visually at the weighbridge office, by the trained, nominated person to determine the basic characteristics of the waste. Subject to verification that the waste is suitable for treatment at the site and the accompanying documentation is correct, the waste is accepted into the site. If the waste is unsuitable, the load remains on the vehicle for immediate off site transfer. Such events will be recorded in the site diary and the EAW informed.

2.2.6 Should a load be deposited and found to be non-compliant, and the producer/carrier has left the site, this load will be re-containerised, and placed in the load quarantine area awaiting collection for delivery to a suitably permitted facility. Such events will be recorded in the site diary and the EAW informed.

2.3 Waste Storage

2.3.1 When Duty of Care checks are satisfactorily completed at the weighbridge, vehicles will be directed to the appropriate reception area of the facility e.g. MRF, WTS, RWRF (this is dependent on the nature of the waste materials being carried), for the storage of specific waste types within concrete bays/containment tanks prior to treatment. All waste materials accepted at the waste facility will be stored in accordance with Drawing Number **WR7060/5/03**.

2.3.2 All waste storage areas are designed and will be engineered in accordance with the specific requirements of types of waste they hold and in accordance with EA Environmental Permitting guidance documents to ensure the protection of environmental resources such as land, surface and groundwater. The waste storage and treatment areas are broadly divided for each specific operation and all storage will be internal to the main WTC building. The main treatment activities associated with the MRF and RWRF operation will be undertaken within the purpose built WTC building. Storage will have the required primary, secondary and tertiary levels of containment applied as appropriate to materials. The separation of both main input waste types (Co-mingled Recyclate and Black Bag Waste) and whether the materials are in the pre or post processing stage, will ensure that cross contamination issues are avoided, e.g. the storage of final recyclate in an environment generally isolated from other materials. In addition to this, process water from the dewatering of the sweeper vehicles will be kept in a closed system, until it's tankered offsite each month or as and when required.

2.3.3 The waste facility development comprises a main access point from Abergele Road, where the entrance gate will lead down into the quarry to a surface mounted weighbridge which is linked to a weighbridge office. From here, vehicles get into position to enter the main WTC building to discharge its load (pre-treatment), or to manoeuvre into the baled recyclate storage area of the WTC (post treatment). The WTC building will be purpose built to house the MRF operation, WTS operation and RWRF operation (all pre / post treatment activities). Site offices and welfare facilities will be located to the east of the main WTC building in a purpose built structure. . A car parking area for staff and visitors and external structures ancillary to the operations will be sited at the eastern gable end of the main WTC building. All existing disused site buildings are to be demolished, as part of the site clearance with some materials (hardcore) being re-used onsite in the development. The proposed main WTC building will be a modern, bespoke purpose built structure, similar to standard industrial and commercial style buildings, designed to reflect the functional nature of the operations accommodated on site. It will be made up of a steel portal frame building with profiled metal cladding (Merlin Grey in Colour). This will be designed and provided with 8 fast acting roller shutter doors at the southern facade for incoming and outgoing traffic. There will also be 3 fast acting roller shutter doors at the western gable end of the building to allow access to the RWRF plant and materials storage areas. The main building floor will consist of impermeable surfacing (reinforced concrete) which will be subdivided via bunding, (kerbing and engineered falls) to ensure containment and separation of the different waste and material types. Processing within the main building for will ensure that any emissions to air, land or water (e.g. dust, noise, liquids) is minimised and managed in accordance with the required environmental legislation and guidance.

2.3.4 The use of a building for the main treatment activities will provide the following benefits to the operation:

- An enclosed, secure and controlled area in which incoming waste materials can be stored;
- The building will be maintained as an enclosed environment. The vehicle access points are fitted with fast acting roller shutter doors on the southern and western elevations and will only be open during transfer of materials. At all other times the entry points will be closed.
- Adequate storage capacity for maintaining the required site treatment throughput for the materials recycling process i.e., buffering capacity between waste delivery and waste processing;
- Temporary storage for materials to allow for any unplanned or planned maintenance;
- Prevention and/or Mitigation of fugitive emissions;
- Prevention of pests and scavengers; and
- Security of storage (Facility building)

2.3.5 The main WTC building will be predominantly utilised for the processing of mixed non-hazardous municipal, commercial and industrial wastes. Materials brought into the

building through the roller shutter doors on the southern or western elevations will be stored within designated bays/areas, according to their waste types and proposed treatment. Vehicles carrying pre-sorted, residual wastes will be directed to the tipping area of the Waste Transfer Station. Vehicles carrying unsorted Household, Commercial and Industrial waste streams will be directed to the MRF. During unloading, an inspection of the load will take place to ensure there are no non-compliant items within the load. Once the operative is satisfied, the entire load is deposited on the working floor within the appropriate storage area. The materials will then be loaded (after the removal/treatment of bulky items) onto the appropriate processing line of the MRF. The materials will then be subjected to a variety of automated and manual treatment mechanisms including trommels, screens, magnets, separators and an elevated picking station. Materials will be divided into three main categories, namely Recyclate, Residual for SRF and Residual Waste for Disposal. Pre-sorted waste, within the Waste Transfer Station, once inspected, will be bulked up in designated bays, in readiness for off site transfer. The WTS occupies an area at the eastern end of the main treatment building. Recyclates will be bailed within the central area of the main building (MRF operation) in readiness for collection and off site transfer. Within the central area of the building, residual waste which has been produced to SRF will also be baled (wrapped), ready for offsite transfer to existing Energy from Waste plants. Residual waste for disposal will be loaded into a containment skip for secure storage until such time as it is collected for appropriate disposal.

2.3.6 The western end of the main WTC building will be utilised for the Road Sweeper Waste Recycling Facility (RWRF). Road sweepers will be directed from the weighbridge to the RWRF area of the building, entering through roller shutter doors at the western gable end of the building. Here, the road sweepers will be dewatered, with the liquids discharged to a closed system. The remaining solid material will be sent to the reception area for treatment, using wet screening techniques. The process water will be tankered offsite.

2.3.7 All operations are to be contained within the WTC building, therefore the rest of the development site (external to the main buildings) will be utilised for a combination of vehicle manoeuvring and other ancillary operations. In addition to the separate office and welfare facilities, located externally will be a Sprinkler Tank & Pump House, Weighbridge & Kiosk, Electrical Substations and Operative Car park. Down gradient of the proposed facility, will be a Surface Water Lagoon, constructed as part of the new site drainage layout. The purpose of this lagoon will be to allow for the settlement of any remaining suspended solids and the regulation of discharge flow. The proposed indicative locations for these external elements are as shown on Drawing Number **WR7060/5/03**.

2.3.8 The quarry floor is relatively flat, with little regrading works being required. Site surfacing will consist of a combination of concrete for the manoeuvring yard/apron, tarmac access road and boundary hardstanding. The surfacing within the main building, covering all the waste treatment areas, will comprise of floor slabs constructed typically using a sub-base and in situ reinforced concrete. As part of the

development, a surface water drainage system will be installed, to direct run off from the impermeable surfaces, via Class 1 separators prior to reaching the surface water lagoon.

- 2.3.9 Prior to the installation of any Class 1 Separators, basic silt traps will be installed upstream 'in-line' to ensure easy access for de-silting operations and to ensure any separators operate effectively. All separator tanks will be double skinned, and include a high level alarm. Inspection manholes will allow for regular inspection and routine maintenance. In addition to the in-line Class 1 Separators installed as necessary, just prior to the offsite discharge point, an isolation valve will be placed to allow the sealing of the system if necessary and prevention of discharge in the event of an emergency. During the normal course of operations, surface water runoff from this external area will drain (via the silt traps and Full Separator (Class 1)), to a pre-existing discharge point located to the northeast of the site.
- 2.3.10 All wastes will be processed within the main WTC building. This includes their initial storage within dedicated bays. All drainage within the building (minimal due to internal storage and only related to the small liquid fraction of solid waste storage) will be graded to a sealed sump/low point. The WTC building will therefore provide full containment including the required interceptor channels across the entrance and exit doorways. The sealed sump/s will be inspected on a frequent basis and will be emptied for treatment off site as necessary. In addition to this 'dirty' water from the dewatering process of the sweeper waste, will be contained onsite, within a closed tank system and tankered offsite when necessary.
- 2.3.11 Precipitation runoff from the facilities buildings will be collected by a series of gutters and downpipes and transferred to water storage vessels for rainwater harvesting. This can then be ready for onsite use where necessary, e.g. grey water for welfare facilities or mitigation of fugitive emissions, e.g. dust suppression.
- 2.3.12 It is envisaged that the total storage capacity for the facility will not exceed 12,000 tonnes at any one time. This is broadly divided in paragraph 1.6.3 above, where the greatest tonnage is that of WTS waste materials, MRF and RWRF waste materials awaiting processing and finally recycle or recycled products awaiting collection. Further details on the Schedule of Tonnages are attached in **Appendix 4**.
- 2.3.13 All proprietary materials that are required as part of the operations will be stored in accordance with regulations and guidelines set out for their safe containment, e.g. Fuels and Oils as per the EA's PPG Series of documents. All tanks will be double skinned and provided with bund structures to 110% volume of the largest tank or if an aggregation of tanks 25% of the total tankage volume, whichever is the greater.
- 2.3.14 First in, first out principles will be employed at the waste facility reception areas to ensure good management of waste and to prevent excessive storage times in so far as is possible. The typical waste storage times of the different waste types are shown in **Table 1**;

Table 1, Typical Waste Storage Times.

Waste Type	Period
Mixed Waste Awaiting MRF treatment	48 hours
Co-mingled Recycled	4 days
Bailed / Loose Recyclate	14 days
Solid Recovery Fuel (SRF) from Residual	7 days
Waste Transfer Station wastes	7 days
Road Sweeper and Gulley Wastes	4 days
Residual Waste for Disposal	48 hours

- 2.3.15 In the event of a waste spillage, spill kits are provided within the main WTC building and . They will also be provided for within the site stores for distribution throughout the site as deemed necessary following on from the regular site inspections.

Quarantine Area

- 2.3.16 In the unlikely event that wastes that are unsuitable for processing are received at the facility or further Duty of Care checks are required prior to acceptance, these loads will be directed to the Quarantine Area. From there, acceptance of wastes will be confirmed or otherwise with the load still in place, or if the carrier has left site, wastes will either be reloaded for immediate offsite transfer or deposited within the designated quarantine area, as shown on Drawing Number **WR7060/2/03**, pending off site removal.
- 2.3.17 The quarantine area will be clearly identified. The Environment Agency Wales will be contacted within 24 hours should any non-compliant waste be delivered to site.

2.4 Waste Treatment

- 2.4.1 The proposed facility will allow for the recycling of 'black bag' and co-mingled municipal, commercial and road sweeper waste, resulting in materials that are ready for further re-processing at other specialist facilities or suitable for use in other applications as value added products.
- 2.4.2 The facility operations can be broadly divided into the types of materials it will be processing, namely pre-sorted residual for the WTS, un-sorted and co-mingled municipal, commercial and industrial waste for the MRF and road sweeper waste for the RWRf. The main operational activities that will occur at the waste facility can be sub-divided into the following process phases:

All Wastes

- Waste receipt; and
- Waste Storage within designated areas.

Co-mingled Recyclates

- Initial Inspection and Pre-sort (non compliant items);
- Materials separation and sorting through appropriate MRF line;
- Separated materials storage;
- Recyclate Bailing (e.g. Plastics, Cardboard, Cans);
- Baled materials storage; and
- Bale Loading for removal off site.

Mixed Waste (Municipal Black Bag Waste and C&I Waste)

- Initial inspection and Pre-sort (bulky, and non compliant items);
- Waste processing via separation and sorting through appropriate MRF line;
- Separated materials storage;
- Recyclate bailing (where appropriate);
- SRF Residual storage ;
- Residual for disposal storage (currently pending off site removal);
- Baled material storage (Separated Recyclates and Residual SRF);
- Bale and residual loading for removal off site;

Pre-Sorted Residual Waste Materials (principally municipal solid waste materials)

- Initial inspection and Pre-sort (bulky, and non compliant items);
- Storage of specific wastes in designated bays; and
- Transfer loading into articulated HGV's for onward treatment/disposal.

Road Sweepings and Gulley Waste Materials

- Acceptance of vehicles into RWRF treatment hall;
- Dewater vehicles, where excess water is removed and discharged to a closed tank system;
- Remaining solid material is physically processed by mechanical means, to washout aggregate and grit fractions from the waste stream;
- The separated fractions will be deposited into separate skip containers ready for export from site, to be re-used as a building product;
- The remaining organic and solids content will then be disposed of to landfill or further recycled off-site; and
- Dirty water from the dewatering and wet screen processes to be tankered offsite, to an appropriate disposal facility.

- 2.4.3 Waste Recycling Group Limited will employ equipment based upon the longstanding and accepted Materials Facility Recycling, Waste Transfer Station and Road Sweeper Recycling Facility physical treatment processes.
- 2.4.4 With regards to the MRF treatment process housed within the main WTC building, this will consist of one main process line installed to receive 'clean' (co-mingled recyclates) and 'dirty' (black bag) waste materials. From the relevant waste reception area, materials will be loaded into a feed hopper, via a wheeled loading shovel/telehandler. 'Black bag' type waste will then be passed through a shedder. From here the shredded material would be conveyed to a screen which will remove the <70 mm size. This smaller material will be conveyed through a blower unit and a further screen (20 mm to 70 mm). The >70 mm from the original screen will pass through a ballistic separator to remove further 'heavy' material (inerts, organics etc.). The remaining 'lights' would be conveyed to and through a picking station where materials would be removed and sorted into like factions such as paper, plastics, cardboard. . For the Co-mingled recyclates delivered to site, the materials will not be subjected to shredding and screening and only manual and automated separation techniques will be implemented. At the picking station recyclable material would manually removed from the waste on the conveyor and dropped into the relevant chutes. Where appropriate the sorted material will be automatically baled awaiting removal off site. The majority of metals are removed 'post picking station' by magnetic separation which isolates the ferrous materials from the remainder of the processed material. It should be noted that sorted materials shall be collected from various points along the process line. The WTS, will have an area for inspection and offloading of wastes and designated bays to separate and store recyclable materials as they come in. A wheeled loading shovel will transport wastes between the designated storage areas, between offloading and loading of waste/recyclate delivery and collection vehicles. The RWRF, will also be housed within the same main WTC building, within its own operational area, here vehicles are dewatered and the remaining solid waste is sent along a process line, to allow for screening and separation of the solid fraction post dewatering.
- 2.4.5 Whilst the above paragraph gives an indication of type of process line equipment to be installed, the exact final detailed design will be subject to confirmation during the build stage of the development. Details can be provided to the Environment Agency at this stage if required.
- 2.4.6 Post MRF treatment, the residual (non-recyclable) material is dropped into a residual waste storage area. From here it is separated into two fractions, a residual waste that is suitable as an SRF and a Residual Waste for disposal only. The SRF material is baled and eventually sent on to be used as an alternative fuel in existing Energy from Waste applications. The Residual Waste for disposal will be stored ready for removal from site. It should be noted that this represents a very small percentage of the overall input feedstock.

2.4.7 The proposed development site will consist of the following static and mobile plant and ancillary infrastructure:

- External Areas –
 - o x2 Site Weighbridge Decks and kiosk
 - o External Vehicle Manoeuvring Yard with Concrete Surfacing
 - o x11 Roller Shutter Door Entries to the WTC building
 - o Office and Welfare Facilities
 - o Car park for site operatives
 - o Quarantine storage area
 - o Sprinkler Tank and Pump House
 - o Electrical Sub station
 - o Surface Water Lagoon
- Main Waste Treatment Centre Building –
 - o Materials Recycling Facility
 - Temporary storage of waste and co-mingled recyclates
 - x1 Processing Line (for both Co-mingled Recyclates and 'Black Bag' waste) allowing for automated and manual sorting, screening, crushing, picking and bailing of waste materials
 - Temporary storage of sorted recyclate, SRF and residual waste for disposal
 - o Waste Transfer Station
 - Waste offloading area
 - Designated Storage Bays
 - o Road Sweeper Recycling Facility
 - Dewatering Bay
 - Reception Area for dewatered solid waste
 - Processing Line, with wet screening
 - Storage of secondary aggregate, solid inerts and organics
- Site Mobile Plant –
 - o This will likely consist of a range of wheeled loading shovels, telehandlers and forklift trucks
 - o Waste delivery and collection vehicles will also be parked up overnight on the external concreted areas

Co-mingled Recyclates Treatment

- 2.4.8 The wastes, as specified in **Appendix 4**, are expected to be a range of non-hazardous co-mingled recyclates such as cardboard, paper, plastics, metals (ferrous and non-ferrous) materials. These materials will be mostly from a range of Municipal and Commercial sources and will be generally inorganic in nature. However it is possible that a small deleterious fraction may be present within the loads delivered. Materials likely to be encountered at the facility are mixed organics (office/welfare type waste from Commercial sources). These materials will be separated on reception to their correct storage location. There will also be a container for quarantined materials which cannot be accepted at the facility for offsite removal.
- 2.4.9 The individual waste streams will be delivered via the main entrance gate of the facility situated off Abergele Road, before branching right to the quarry and weighed in over the surface mounted weighbridge. Duty of Care checks will be undertaken by the weighbridge operator to ensure paperwork is compliant and the material contained within the load is included within the list of acceptable wastes. The load will then be directed to the Materials Recycling Facility (MRF) area of the main Waste Treatment Centre, via the southern elevation entrance doors. Materials will then be unloaded into the appropriate storage bay in readiness for processing. All internal storage and processing will be undertaken on a concreted impermeable surface.
- 2.4.10 Co-mingled recyclates will then be transferred from the appropriate storage bay into the MRF feed hopper. During the transfer (via loading shovel/telehandler), site operatives will monitor the loading to ensure that no non-compliant materials are processed. The materials will then pass through a series of mechanical and manual sorting operations which include, screens, magnetic and air separators, and an elevated manual picking station. The process line can be configured for the specific treatment of co-mingled recyclates with recyclable materials being removed at various stages of the operation. The residual materials resultant from the co-mingled recyclate input is expected to be low to non-existent, due to the nature of the input.
- 2.4.11 Separated recyclable materials will be placed into a range of containers for direct loose loading and collection to the reprocessors or fed to the baling unit. The baling unit will compact a range of materials into typically 1m³ bales which are secured by metal or plastic banding. These bales will then be transferred to suitable HGV's for onward transportation to specialist materials reprocessors such as paper and card mills.
- 2.4.12 All co-mingled materials will be stored within buildings at each stage of their journey through the treatment process. Drainage within the buildings will be to sealed sumps, although liquids generation is expected to be low to insignificant due to internal storage arrangements.

- 2.4.13 Once materials have been sorted, baled and/or re-containerised, they will be weighed off at the weighbridge and Duty of Care checks will be undertaken to ensure that the requisite paperwork is in place prior to onward transportation.

Mixed Waste ('Black Bag') Recycling Treatment.

- 2.4.14 The wastes, as included with **Appendix 4**, will consist of typical mixed waste ('black bag' mixed recyclate and residual waste from a range of Household (H), Commercial (C) and Industrial (I) sources). Wastes that are immediately obvious as being unacceptable during the initial acceptance Duty of Care checks will be quarantined for offsite removal.
- 2.4.15 As with the co-mingled recyclates, the waste will be delivered via the main entrance gate of the facility situated off Abergele Road, before branching right to the quarry and weighed in over the surface mounted weighbridge. Duty of Care checks will be undertaken by the weighbridge operator to ensure paperwork is compliant and the material contained within the load is included within the list of acceptable wastes. The load will then be directed to the Materials Recycling Facility (MRF) of the main Waste Treatment Centre, via the southern elevation entrance doors. Materials will then be unloaded into the appropriate storage bay ('black bag' waste) in readiness for processing. All internal storage and processing will be undertaken on a concreted impermeable surface.
- 2.4.16 The 'Black Bag' waste will then be transferred from the appropriate storage bay into the MRF feed hopper. During the transfer (via loading shovel/telehandler), site operatives will monitor the loading to ensure that no non-compliant materials are processed. The materials will then pass through a series of mechanical and manual sorting operations which include shredders, trommels, screens, magnetic, ballistic, and eddy current separators, and an elevated manual picking station. The process line can be configured for the sorting of mixed waste (Household, Commercial and Industrial) type materials only, with the component recyclable materials being removed at various stages of the operation. Constant vigilance will be maintained by the operating staff with regards to the requirements of Duty of Care and the monitoring for non-compliant waste materials. At the end of the process line, the residual materials are what are left over after processing. The residual materials at the end of the treatment process on a mixed waste input are expected to be higher than the co-mingled input, due to the nature of the feedstock materials.
- 2.4.17 As with the co-mingled recyclates, separated recyclable materials will be placed into a range of containers for direct loose loading and collection to the reprocessors or fed to the baling unit. The baling unit will compact a range of materials into typically 1m³ bales which are secured by metal or plastic banding. These bales will then be transferred to suitable HGV's for onward transportation to specialist materials reprocessors such as paper and card mills.

- 2.4.18 As noted above, the residual waste fraction is expected to be higher in relation to this feedstock. Therefore this waste is to be further separated into two fractions, firstly residual waste with an inherent calorific value (to be used as an alternative solid recovered fuel) and any remaining residual waste with no calorific value. Residual waste with an inherent calorific value will be set aside in a designated bay, where it can be stored in readiness for baling and off site transfer as a Solid Recovered Fuel (SRF) that can be supplied to suitable Energy from Waste plants. Residual waste not suitable for SRF (which expected to be a low percentage of the overall input), will be bulked up and sent to an appropriate disposal facility i.e. Llanddulas Landfill.
- 2.4.19 All black bag materials will be stored within the WTC building at each stage of its journey through the process. Drainage within the buildings will be to sealed sumps, although liquids generation is expected to be generally low due to being stored within a building and only liquids inherent within the waste composition will be of any significance..
- 2.4.20 Once materials have been sorted, reduced in size and/or re-containerised, they will be weighed off at the weighbridge and Duty of Care checks will be undertaken to ensure that the requisite paperwork is in place prior to onward transport.
- 2.4.21 If unacceptable waste materials are received, these will be isolated and stored in the quarantine bay, pending off site removal to a suitable permitted facility.

Pre-Sorted Waste Materials (Waste Transfer Operation).

- 2.4.22 The wastes, as specified in **Appendix 4**, are expected to be a range of non-hazardous sorted (by waste type) non-recyclable wastes from a range of Municipal, Commercial (C) and Industrial (I) sources. The non-recyclable material will be bulked up in readiness for transfer loading for further treatment/disposal at a suitable permitted off site facility.
- 2.4.23 As with the other waste streams, the materials will be delivered via the main entrance gate of the facility situated off Abergele Road, before branching right to the quarry and weighed in over the surface mounted weighbridge. Duty of Care checks will be undertaken by the weighbridge operator to ensure paperwork is compliant and the material contained within the load is included within the list of acceptable wastes. The load will then be directed to the Waste Transfer Station (WTS) of the main Waste Treatment Centre, via the southern elevation entrance doors. Materials will then be unloaded into the appropriate storage bay in readiness for bulking up. All internal storage and bulking activities will be undertaken on a concreted impermeable surface.
- 2.4.24 The waste will then be unloaded and manually sorted if need be, before being transferred, using a wheeled loading shovel to an appropriate storage bay. Waste, at the appropriate frequencies, will be handled by front wheeled loaders into bulk HGV's (44-tonne GVW) for onward transfer. Constant vigilance will be maintained by the

operating staff with regards to the requirements of Duty of Care and the monitoring for non-compliant waste materials.

- 2.4.25 All Waste Transfer Station waste materials will be stored within the main treatment building at each stage of its journey through the process. Drainage within the buildings will be to sealed sumps, although liquids generation is expected to be low due to being within a building and only liquids inherent within the waste composition will be of any significance.
- 2.4.26 Once materials have been loaded and/or re-containerised, they will be weighed off at the weighbridge and Duty of Care checks will be undertaken to ensure that the requisite paperwork is in place prior to onward transport.
- 2.4.27 If unacceptable waste materials are received, these will be isolated and stored in the quarantine bay, pending off site removal to a suitable permitted facility.

Road Sweeping and Gulley Recycling Treatment.

- 2.4.28 The wastes, as specified in **Appendix 4**, are primarily expected to be of a non-hazardous nature, collected via road sweepers or gulley suckers and consist of organic, inorganic and aggregate type waste, with the organic fraction being affected by seasonal variation (e.g. leaf litter).
- 2.4.29 As with all other materials delivered to site, the waste will be delivered via the main entrance gate of the facility situated off Abergele Road, before branching right to the quarry and weighed in over the surface mounted weighbridge. Duty of Care checks will be undertaken by the weighbridge operator to ensure paperwork is compliant and the material contained within the load is included within the list of acceptable wastes. The load will then be directed to the Road Sweeper Waste Recycling Facility (RWRF) of the main Waste Treatment Centre, via the western elevation entrance doors. The first stage of the treatment process is to dewater the road sweepers, removing excess water to an enclosed tank system and the remaining solid waste being sent to the facilities reception area, for further processing.
- 2.4.30 A loading shovel will then feed the solids through the processing equipment via feed hopper. The waste will be processed through wet screen equipment effectively washing out aggregate and grit fractions from the waste stream. (The aggregate and grit can then be reused as a building product). The remaining organic and solids content will then be further processed and separated. The separated fractions will be deposited into separate skip containers ready for export from site.
- 2.4.31 The enclosed tank system containing the process water from the dewatering and wet screen processes shall be removed from site on a regular basis via tanker. This will take the water to a sewerage treatment works for appropriate disposal.

- 2.4.32 Once materials have been loaded and/or re-containerised, they will be weighed off at the weighbridge and Duty of Care checks will be undertaken to ensure that the requisite paperwork is in place prior to onward transport.
- 2.4.33 If unacceptable waste materials are received, these will be isolated and stored in the quarantine bay, pending off site removal to a suitable permitted facility.

3.0 EMISSIONS CONTROL

3.1 Point Source Emissions to Air

- 3.1.1 There are no point source emissions to air from the major facility treatment processes.
- 3.1.2 The only point source emissions would be from mobile plant. In this instance, all plant utilised on site will be serviced and maintained in accordance with manufacturers recommendations. This will ensure that the equipment is operated in an optimal condition to ensure emissions are in accordance with quoted specifications.
- 3.1.3 No control measures, other than those described in section 3.1.2 (above) are proposed.

3.2 Point Source Emissions to Groundwater

- 3.2.1 There will be no point source emissions to groundwater as the operational areas will consist of impermeable concrete surfacing. Drainage from the impermeable hardstanding areas will be to the proposed surface water drainage systems which will be constructed. This will direct water through silt traps and Class 1 separators, before entering existing surface water lagoons onsite. The lagoons will allow any sediment to settle and regulate the discharge rate, before the water is transferred off site to the receiving water course.

3.3 Point Source Emissions to Surface Water and Sewer

- 3.3.1 The operational areas within buildings, i.e. main areas of waste and materials processing and storage, will be surfaced with concrete. Drainage within these buildings will be to blind sumps/low points. These will be sized accordingly to cope with moisture that is inherent within the materials as interaction with precipitation will not be possible due to these operations being internalised. Drainage grids across the building entrance/exit doorways will also be provided for additional containment. The operator will also look at the possibility of installing measures for rainwater harvesting for use in operations as necessary, e.g. grey water for welfare facilities and dust suppression.
- 3.3.2 The external storage and manoeuvring areas will utilise a fully engineered sealed drainage system integral to the impermeable concrete surfacing.
- 3.3.3 Integral to the development of the facility, a surface water drainage system will be constructed to effectively accommodate surface water drainage onsite. The concrete surfacing will be engineered with the required falls to a network of drainage gulleys.
- 3.3.4 The installation of silt traps within the drainage gulleys, and a Class 1 Full Retention Separator, will ensure both suspended solids and potential hydrocarbon spillages can be contained within the system, before the surface water is directed to a surface water

lagoon. This lagoon will allow for final settlement and regulation of flow, before discharge offsite. The system will be sealed throughout its entire length on site.

- 3.3.5 Discharge from the settlement lagoon will be via a pipe within a former tunnel structure that runs from the north eastern corner of the quarry, under Abergele Road, to a manhole towards the shore. After the manhole, the discharge line connects to a 300mm diameter concrete pipe which flows to Lupton Tramway. The drainage network finally discharges into the sea at Colwyn Bay (approx. grid ref: SH895787).
- 3.3.6 The discharge from the areas discussed above will go, as already mentioned, to a surface water lagoon, located downgradient of the facility to the east. Isolation valves will also be installed prior to the discharge point in order to withhold surface water from discharge in the event of a major spillage.
- 3.3.7 There will be the facility to monitor discharge on a regular basis, to ensure the quality of the surface water has not been compromised by the proposed operations.
- 3.3.8 Effluent from office and welfare facilities will be directed to onsite septic tanks for tanker removal when necessary.

3.4 Fugitive Emissions to Air

- 3.4.1 The control of fugitive emissions at the site is achieved largely through design (i.e. processing and treatment of materials within the main WTC building), and the implementation of good management practices and housekeeping. The monitoring of site conditions will be undertaken on a daily basis to ensure the tracking of materials and generation of fugitive emissions does not occur.
- 3.4.2 The following emissions control measures are employed to reduce the incidence of fugitive dust:
- All haul routes will be maintained in good condition and be kept clean and free of debris;
 - All loads will be sheeted, or kept in enclosed containers where appropriate, whilst in transit;
 - Loading of all vehicles will be supervised to ensure containers are not overfilled;
 - All loads will be checked prior to dispatch to ensure that vehicles are clean and free from debris;
 - Vehicles will be thoroughly washed down, if necessary, prior to onward movement off site;
 - All waste storage will be conducted to the highest of housekeeping standards;
 - The main waste treatment and storage activities will be undertaken within an enclosed building;
 - All entry/exit points to the waste treatment and storage buildings will be kept closed and secure, except for when access is required;

- Water sprays (bowser), sourced potentially from grey water gained from rainwater harvesting, will be utilised where required to dampen surfaces and reduce dust emissions; and
- Any waste spillages will be cleaned in accordance with Section 5.6 of this document.

3.4.3 The following emissions control measures are employed to reduce the incidence of fugitive litter:

- All waste storage will be conducted within the main WTC enclosed building, and in accordance with good housekeeping practices.
- All entry points to the main treatment and storage buildings will be kept closed and secure, except for when access is required, with fast acting shutter doors;
- All packaging materials/windblown waste will be stored within the enclosed WTC building (whether pre or post treatment); and
- All materials, during import or export, with the potential to be windblown as removed from site will be sheeted or in enclosed containers, whilst in transit.

3.4.4 The effectiveness of the dust and litter has been further considered via risk assessment and the outcome of this assessment is included within **Appendix 9** (Fugitive Emissions Risk Assessment).

3.5 Fugitive Emissions to Surface Water and Groundwater

3.5.1 Fugitive emissions to surface water and groundwater are to be controlled by the engineered site surfacing and proposed on site sealed drainage systems both within the main treatment (WTC) building and external locations (vehicle manoeuvring and ancillary operational areas).

3.5.2 All subsurface structures (such as surface water drainage systems and Separator Tanks) will be subject to regular inspection and maintenance as required.

3.5.3 A spill procedure is in place, as outlined in Section 5.6 to deal quickly with any spillages and leaks of waste materials.

3.5.4 The main treatment building (Materials Recycling Facility, Waste Transfer Station and Road sweeper Waste Recycling Facility) and baled recyclate storage areas internal surfacing consists of a substantial thickness of reinforced concrete. Internal drainage requirements will be minimal (apart from the specifically designed dewatering system of the RWRF, whereby dirty water will be contained within a closed tank system, prior to being tankered offsite) as they only need to consider moisture that is inherent within the materials to be processed. This will also be even less of an issue with post processed product. Internal drainage within the WTC building will be graded falls within the concrete surface to blind sumps/low points which will be frequently inspected and emptied as and when necessary.

- 3.5.5 All rainwater falling on the roofs of the main building and welfare facility will be collected via a network of gutters and down pipes. This Rainwater will be harvested by above ground tanks sited at suitable locations adjacent to the buildings for use during operations (e.g. dust suppression/welfare grey water). An overspill from these rainwater tanks will feed into the site's wider surface water site drainage system.
- 3.5.6 Drainage within the external hardstanding areas of the operation will be within a fully engineered, sealed onsite drainage system. Discharge from the externally surfaced areas will be via 'in-line silt traps, and a Class 1 Full Retention Separator. Surface water will then be discharged to the onsite attenuation lagoon for further settlement and flow regulation, before being discharged offsite to receiving surface waters as appropriate. This is discussed in more detail in Section 3.3 above.
- 3.5.7 All above ground storage tanks (including those associated with the storage of propriety materials associated with operations) are provided with engineered bunding comprising of 110% of the total contents of the largest tank. The integrity of the tanks and bunding are inspected on a daily basis as outlined in Section 4.11.1. All pipework and connecting hoses associated with tank transfers are contained within bunded areas.

3.6 Control of Odours

- 3.6.1 The proposed facility at Llanddulas/Llysfaen Quarry will consist of processing Co-mingled recyclate and mixed waste materials from predominately Municipal, Commercial and Industrial sources. Whilst the 'black bag' waste element, could generate an odour, the likelihood of odours being released as a result of the operation are relatively low due the waste being processed within a fully enclosed building. Other factors that minimize the generation of odour will be achieved via the adherence to strict limits on storage times and rapid turnaround of potentially putrescible materials.
- 3.6.2 In any event, protocols will be adhered to that will ensure odour risks are minimised.
- 3.6.3 Waste acceptance criteria, as defined in Section 2.2 of this document, will be strictly adhered to. Only those waste types listed in **Appendix 4** will only be accepted to the site and all wastes will be stored internally within open bays pre-treatment or internally in an appropriate area or container post treatment in order to reduce the likelihood of an odour issue.
- 3.6.4 Storage times, as defined in **Table 1** of this document, will be strictly adhered to. Waste will be introduced to the treatment process on a first-in, first out principle to ensure continual turnaround of waste materials. Good housekeeping, including wash down of waste storage areas, as and when necessary, will also be undertaken to maintain appropriate standards.

- 3.6.5 The only organic materials accepted for will be those associated with 'black bag' type waste from mainly Municipal, Commercial and Industrial sources. These are of a state and will be stored in such a manner as to not give rise to putresible conditions that could lead to the occurrence of odours.
- 3.6.6 The storage of pre-processed materials will be undertaken within the main (WTC) treatment building in order to ensure where there is the potential risk of odour being generated from either of these aforementioned activities (extremely limited), then this is undertaken internally.
- 3.6.7 All vehicle and personnel access doors to the enclosed storage and processing buildings will be closed at all times, except for when access and egress is required.
- 3.6.8 The Fugitive Emissions Risk Assessment included within **Appendix 9** also examined the odour control measures at the operation and concluded that the risks from odour where considered insignificant.

3.7 Control of Noise

- 3.7.1 The proposed site has a long established use for industrial purposes and is set within a location that has been extensively worked by quarrying operations and in recent years landfilling.
- 3.7.2 The site is situated alongside the busy A55 North Wales Expressway. The site is to be located within a former quarry, which makes up one of a group of three quarries, extensively worked, since mid 1800's. One of the former quarries is occupied by an active landfill site, which gains access at the same exit off Abergele road. Given this industrial context of the area it is considered that there is an elevated ambient noise climate. The proximity of Abergele Road and the A55 Expressway will also affect background noise levels of the site from an existing traffic perspective.
- 3.7.3 During development of the site, construction will be limited to the creation of the main WTC building with its associated fitting out with static plant equipment and the ancillary structures such as the welfare block and weighbridge. There will also be construction works of the proposed surface water drainage system and external hardstanding areas, however it is not expected that these works will give rise to elevated noise levels, especially as the facility will be located at the base of the former quarry, where noise is already attenuated. Whilst construction of the main building may cause elevated noise levels, when considered against established and surrounding uses, it is not expected that these will constitute a noise nuisance over and above existing background levels. It must also be recognised that these activities are very temporary in nature.
- 3.7.4 Proposed activities at the facility are not anticipated to cause detriment to the amenity of the locality given that the hours of operation are restricted to sociable hours (see

Section 1.8) and the main treatment activity is undertaken within a modern building with appropriately designed levels of cladding. All machinery used (both static and mobile) will be fitted with silencing equipment (where appropriate) and regularly maintained. Although, a couple of residential receptors are within 250 meters of the site, as noted in the previous paragraph, the facility is to be located at the base of the former quarry, some 25 – 30 meters below surrounding ground levels. In addition to this there is an existing screen of dense vegetation/trees separating the site and receptors which will greatly reduce any noise from site.

- 3.7.5 The closest residential property to the application site boundary is located on Abergele Road approximately 100 metres west north west. Immediately north is the A547, Abergele Road, with agricultural land beyond; to the east of the site is a vacant former quarry, whilst south east occupying the third quarry, a landfill site exists. South, beyond thick vegetation and open field, a residential development exists.
- 3.7.6 Once the site is operational, although fully contained (with all entries/exit doorways closed), potential noisy activities associated with the facility may include the tipping of waste materials into the reception area, the operation of the process line, the setting down of empty skips or the loading of full containers and general vehicle movements around the site.
- 3.7.7 The reception area for the imported waste materials and the process line will be housed within the building and will offer the greatest control over noise creation. However, for the mitigation to be fully effective strict control over the opening and closing of doors needs to be in place. It is the operator's intention to keep all doors closed when not in use. It is also considered that the location of the doors will also have an effect on the control of nuisance noise, such that operational access points into the building are away from sensitive aspects.
- 3.7.8 Vehicles importing and exporting material to and from the site also have the potential to create an adverse noise impact. But in the context of current industrial operations and the existing traffic flows along Abergele Road it is unlikely that a significant contribution to existing noise levels will be made through the associated traffic movements of the proposed WTC. Furthermore, commercial vehicle movements to and from the WTC will be limited to sympathetic working hours throughout the week and weekend.
- 3.7.9 The distance between the application site and sensitive receptors will provide further mitigation from potential excessive noise, the intervening land incorporates thick vegetation and a primary highway. Given the distance and the fact that excessive noise will be controlled at source, it is considered that the surrounding sensitive receptors will not experience adverse impacts on their amenity. In terms of the surrounding industrial/commercial occupants of the area, it is considered that these too are also sensitive to excessive noise. However, the 'acceptable' limits set for such establishments have a greater degree of tolerance; as set out in *BS 4142:1997 Method for rating industrial noise affecting mixed residential and industrial areas*. With this in

mind, given the context of the site and control measures in place it is considered that the surrounding units will not experience an adverse impact on amenity.

3.7.10 In addition to the features incorporated in the site design, good site management and other practices will be employed to control potential noise impacts. Such measures include:

- where appropriate the surface of the site will be regularly maintained to prevent and to avoid unwanted rattle and “body slap” from vehicles;
- a speed limit of 10 mph will be imposed within the site and strictly enforced;
- any reversing bleeper fitted to any HGV or other operational vehicle will be minimised as far as is reasonably practical subject to maintaining safety;
- reversing beepers on site plant will be adjusted to ambient noise levels;
- where possible vehicles would manoeuvre in a circular manner to avoid the use of reversing alarms whilst not compromising safety;
- all plant and vehicles will be regularly maintained, such machines will be fitted with properly lined acoustic covers and which will be closed whilst machines are in use;
- plant will be operated in a proper manner with respect to minimising noise emissions, i.e. no unnecessary noise due to revving of engines; and,
- machines that are intermittently used will be shut down in the intervening, periods between work or throttled to a minimum.

3.7.11 It is considered that due to the distance of sensitive receptors and the control techniques described, together with good operational working practices and regular maintenance of plant and machinery the impacts from excessive noise from the proposed WTC are likely to be negligible.

3.7.12 Should unacceptable emissions of noise occur, the incident will be noted and a record made. An attempt will be made to identify the source of the noise and ensure it is removed or otherwise ameliorated. A record will be made of such incidents within the Site Diary and the corrective actions taken.

3.8 Control of Scavengers, Insects and Other Pests

3.8.1 Measures shall be implemented to ensure the highest standards of operational practices are undertaken to mitigate any residual potential that exists for the attraction of pests as a result of the organic wastes that are accepted at the site which are contained within the ‘black bag’ type waste.

3.8.2 The external operational areas and main (WTC) treatment building will be kept in a good state of repair while the materials recycling activities are operational and waste is stored. Any damage to the integrity of the internal processing areas or building fabric, which may present conditions conducive to either pests or scavengers, will, where practicable, be made good by the end of the working day. If it is not possible to make

repairs within a working day, temporary repair measures will be implemented. Final repairs are carried out within 7 days of the damage being detected or any other such period as agreed in writing with the EAW. All damage and repairs (temporary or permanent) are recorded in the Site Diary.

- 3.8.3 During acceptance, should waste be received at the site that is already infested it will be consigned off site as a matter of priority. The waste producer will be contacted and the EAW informed and any such events will be recorded in the Site Diary.
- 3.8.4 Waste storage areas will be inspected throughout the working day by site personnel as instructed by the Site Operations Manager. A record of formal inspections and any pests/ scavengers noted will be made, along with corrective actions if required.
- 3.8.5 Insecticides and rodenticides will be used as necessary to eliminate or discourage pests. A suitably qualified pest control contractor will be appointed should specialist services be required.

3.9 Control of Litter

- 3.9.1 It is not envisaged that litter will be a problem at the site due to the proposed internal nature of the operations and the management techniques to be employed for the waste types to be accepted. Notwithstanding this, general visual monitoring and site inspections will be undertaken to ensure that the facility and its associated operations are not generating unacceptable quantities of litter.
- 3.9.2 Should litter escape from the building or delivery/collection vehicle and there is the potential to cause an impact beyond the facility boundary, then the source(s) of litter will be investigated and remediated.
- 3.9.3 Windblown, light fraction litter (where this exists) within the facility boundary will be collected at intervals of no greater than once a day. Litter that is blown outside of the boundaries of the facility will be collected within one hour of the end of the working day. The results of visual litter monitoring and preventative actions carried out will be recorded in the Site Diary.
- 3.9.4 Due to the proposed types of processing and storage regimes, and site location and operational set up, problems arising from windblown litter will be minimal and therefore it is not deemed necessary to incorporate additional litter procedures for dealing with adverse wind conditions.

3.10 Control of Mud and Debris

3.10.1 In order to limit the formation of mud and debris at the facility the following procedures are in place:

- The majority of facility operating areas, entrance way and site roads are surfaced, which will prevent the general and subsequent tracking of mud and debris;
- No wastes are permitted to be deposited outside of the designated waste storage areas/main treatment building or operations to be undertaken on unsurfaced areas (i.e. on soft ground where mud could be trafficked);
- All vehicles hauling waste will be sheeted or fully enclosed where appropriate to avoid the loss of waste during transport; and
- All vehicles will be supervised during loading to ensure that vehicles are not overfilled.

3.10.2 In the event that mud or debris arising from the facility operations is spread either on to the wider facility site or onto public areas outside the site, any available manual or mechanical means shall be employed to remove any deposits and thus maintain the cleanliness of the site and adjacent areas.

4.0 MANAGEMENT SYSTEMS

4.1 Environment, Health, Safety and Quality System

4.1.1 The Facility will operate under an effective system of management implemented by the operator, Waste Recycling Limited. The Waste Recycling Group (WRG) of companies is committed to the successful management of safety, health and the environment and reports regularly its performance in these areas.

4.1.2 The positive management of Safety, Health and the Environment (SHE) is an integral part of the companies operating ethos. WRG has developed a comprehensive environmental management system, which is based on formal Company policies for both health and safety and the environment.

4.1.3 WRG has received accreditation to the ISO14001 environmental standard at all of its operating sites, and this will also be applied to the operations for the site subject to this application. This international standard seeks to ensure consistency and high quality in the management of environmental processes, and rigorously examines companies' approach to issues such as the environmental monitoring of sites.

4.1.4 Registration to ISO14001 ensures that a number of key elements are in place before accreditation can be achieved, including:

- an environmental policy;
- compliance with legislation;
- setting objectives and targets;
- formation of an environmental management programme to achieve objectives and targets; and
- internal audit process and management review demonstrating continual improvement within an organisation

WRG openly reports on its health and safety, environmental and social performance. This Corporate Responsibility Report takes into account all the Group's activities, including waste management.

4.1.5 Audits and inspections will be conducted to a suitable standard to meet the requirements of the management system and performance will be reported annually to the EA as per the requirements of the Environmental Permit.

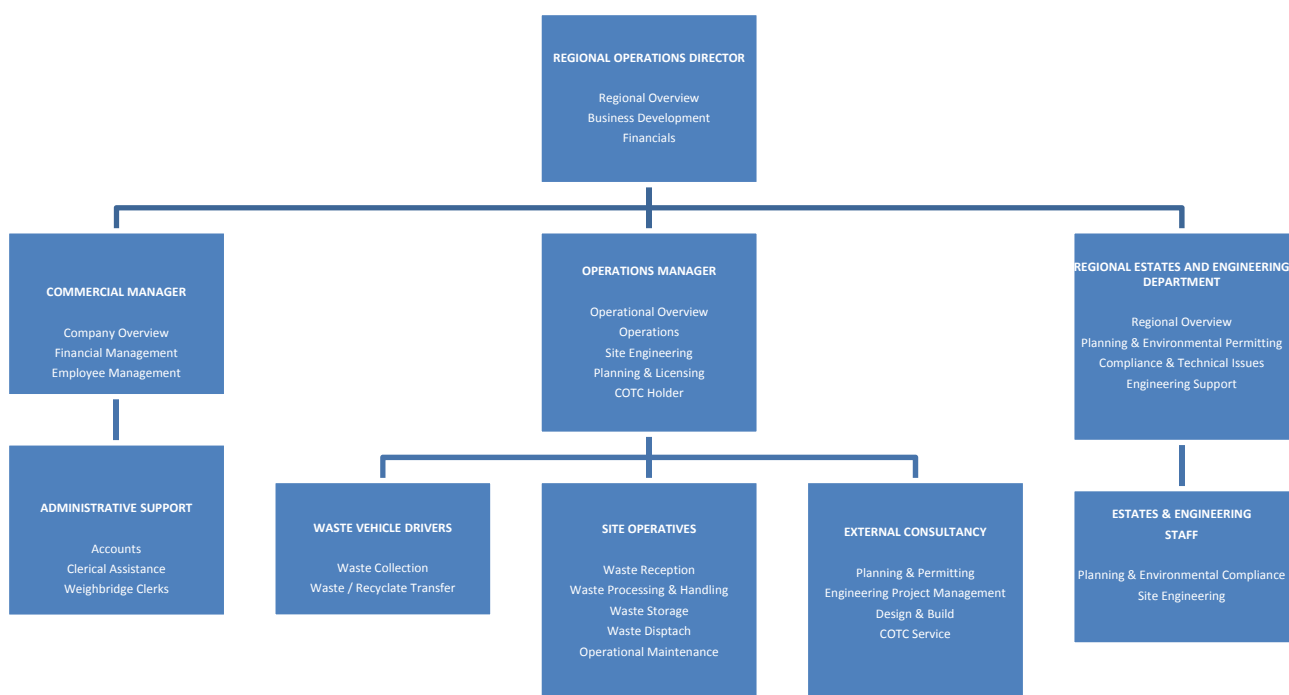
4.1.6 Environmental issues will be considered when purchasing items of plant and when design changes are being undertaken at the facility. These considerations will be documented.

4.1.7 Records will be kept of all items required by the Environmental Permit, other legislation and operating procedures.

4.2 Management Structure

4.2.1 **Figure 1** detailed below, illustrates a typical management structure that could be utilised.

Figure 1 – Typical Management Structure for Waste Operations



4.3 Environmental Permit and Management Plan

4.3.1 The original Environmental Permit, Environmental Permit Application and associated Management Plan and supporting documents will be kept within the welfare offices at the waste facility site situated at Llanddulas/Llysfaen Quarry, Abergele Road, Conwy.

4.3.2 Copies of the Environmental Permit, Management Plan and supporting documents are to be kept in the TCM office and the weighbridge office at the Site addressed in section 4.3.1.

4.4 Technical Competence

4.4.1 Technical competence for the waste facility will be provided via the WAMITAB Certification scheme. On obtaining the relevant development consents, full time

employees will be selected based upon relevant experience within the waste management and recycling industry.

- 4.4.2 In order to comply with the regulatory requirements as stated in the Environmental Permitting Regulations, Waste Recycling Group Limited proposes to provide experienced person/s with the appropriate technical competence qualifications to manage the facility prior to operations commencing.
- 4.4.3 At the current time, the proposed COTC qualified person will be provided by Garry Smith, Area Operations Manager at Waste Recycling Group Limited. Garry is fully qualified to WAMITAB NVQ level 4 for Waste Transfer and Treatment, and his appropriate COTC Certificate is included within **Appendix 5**.
- 4.4.4 The EAW will be informed within 24 hours of any proposed changes to the technical competence arrangements.

4.5 Staffing

- 4.5.1 The likely staffing arrangements are outlined in the company organogram as shown in **Figure 1** above.
- 4.5.2 The proposed facility will create up to 15 employment opportunities to operate and manage the site. The employment profile of the facility is included in Table 2, below.

Table 2, Employment Positions.

Job Description	Numbers
Site Manager	1
Site Supervisor/Charge Hand	1
Plant Operative/Loading Shovel Driver	2
Recycling Operative	4
Weighbridge Operator	1
Electrical Maintenance	1
Mechanical Maintenance	1
General Operative/Street Sweeping Recycling	1
General Operative/Waste Transfer Station	2
Administrative Staff	1
Total	15

- 4.5.3 Up to 15 employees will be initially required to operate and provide management and maintenance support for the proposed facility on site. There will also be a number of temporary employment opportunities generated and safeguarding of existing jobs (indirectly) during the construction phase. Indirect employment would also arise from the development, particularly in respect of plant maintenance and the provision and use of services from local suppliers.
- 4.5.4 **Appendix 6** outlines the roles and responsibilities of staff employed within the organisation.

4.6 Training

- 4.6.1 All new employees are given full induction training by the Site Operations Manager or other appropriately qualified person(s) as appointed by the Site Operations Manager.
- 4.6.2 The assessment of competences of staff will be made by the Site Operations Manager or other appropriately qualified person(s) on an ongoing basis, and will be recorded in the Site Diary. All staff will be trained to ensure that they are competent to undertake their respective duties. Particular attention will be given to familiarisation of staff with the Environmental Permit for the site, the potential emissions from the site and the prevention of accidental emissions. Training will be tailored to individual requirements.
- 4.6.3 An induction and personal training plan will be developed for each individual and will be regularly updated to reflect staff needs and skills.

4.7 Operating Procedures

- 4.7.1 A number of operating procedures have been developed and documented for onsite activities. Where procedures do not exist, it is anticipated to create a full draft of working procedures for all activities within one year of receiving the Environmental Permit.

4.8 Maintenance Procedures

- 4.8.1 A documented maintenance schedule will be developed in accordance with manufacturer's recommendations. The maintenance plan will identify individual items of process equipment and specify maintenance requirements. An inspection regime will also be developed for each piece of plant in order to visually inspect condition and immediate repair requirements. Maintenance procedures will be included in the company Management System.
- 4.8.2 A stock of spare parts will be maintained on site for vital equipment to reduce potential down time. Maintenance procedures will be developed in conjunction with the company Management System.

4.9 Records

- 4.9.1 A record of the types and quantities (in tonnes) of wastes received and removed from the facility will be maintained within the site office. A summary of the types and quantities of wastes deposited at the site and removed from the site will be provided to the EAW quarterly in an agreed format. All Duty of Care documentation in relation to waste movements will be kept for 2 years, prior to archiving.

4.9.2 The following significant events at the facility will be recorded, as detailed below:

- The start and finish of any construction/engineering works undertaken at the facility;
- Maintenance;
- Breakdowns;
- Emergencies;
- Problems with waste received and action taken;
- Facility inspections;
- Attendance of technically competent management at the facility;
- Despatch of records to the Agency;
- Severe weather conditions;
- Complaints received;
- Visitors to the facility;
- Pest or vermin incidents; and
- Rejected loads and the reason for rejecting the load.

4.9.3 The Site Operations Manager or nominated person will maintain a record of all the above information in the site log or on inspection forms, as appropriate. Records relating to significant events will be kept for up to 6 years, or where involving off site environmental effects or pollution of land or groundwater until permit surrender.

4.9.4 All records and copies of inspection forms will be kept at the facility at all times and will be available for inspection at all reasonable times by any authorised officer of the EAW.

4.9.5 The facility records may be kept either as:

- Hand generated log;
- Computer generated hard copies; or
- Computer permanent storage media.

4.9.6 To ensure the security of records they will be housed in either locked containers or kept in offices that shall be locked when not attended.

4.9.7 Records will be disposed of in accordance with company policy, which shall ensure an appropriately secure method e.g., shredding and recycling, where feasible.

4.10 Visitors

4.10.1 Persons visiting the facility will be required to report to the site office. A record of the time and reason for their visit will be logged in the signing-in book. Visitors entering the working areas will be briefed and inducted with respect to facility safety, and accompanied where necessary.

4.10.2 All visitors will be made aware of the requirement for Personal Protective Equipment (PPE). No person will be allowed entry to the facility without the correct protective equipment. The facility employees are responsible for the Health and Safety of all visitors and will ensure that they are given sight of a copy of the Health and Safety Plan, and are made aware of any potential threats to their safety or welfare.

4.10.3 There will be additional induction requirements for contractors visiting site that are providing a service or undertaking works such as maintenance. A permit to work system will be developed for more hazardous maintenance activities to ensure compliance with health and safety requirements.

4.11 Site Inspections and Audit

4.11.1 Daily site inspections will be conducted of the facility and site boundary. A copy of the Operations and Maintenance Daily Sheet is included in **Appendix 7**. The facility shall be inspected daily by the Site Operations Manager or other nominated representatives of the Environmental Permit holder for defects in plant, equipment or structure or in any working practice that may affect satisfactory compliance with the Environmental Permit. Inspections shall be undertaken by staff suitably qualified and/or experienced in the day-to-day operation of the facility. The main points of inspection shall include:

- Waste storage levels;
- Waste type storage area separation;
- Cleanliness;
- Site emissions;
- Leakages/Spillages;
- Monitoring data (where relevant);
- Tanks, pipes and bund contents; and
- Integrity of buildings, site surfacing, drainage systems and security provisions.

Should a problem be identified, the Site Operations Manager will arrange immediate repair or other appropriate remedial action.

4.11.2 Records shall be kept of daily inspections and shall be made available for inspection as reasonably required by authorised officers of the EA. Any defects shall be rectified promptly.

4.11.3 In addition, an annual audit of working procedures will be conducted internally. The audits will be used to identify non-compliance and monitor progress of corrective action. The Company Director will review details of the audits. Copies of the audits will be kept in the site office.

4.12 Site Security

4.12.1 All reasonable precautions are taken to prevent unauthorised access to the site. As the facility will be located within a quarry that is already secured from public access then

full perimeter security fencing will not be required over and above that which is currently in use. However, it is proposed to improve the existing security measures at the site access by installation of 2.4m high paladin security gates and similar fencing. The gates will be locked outside operational periods. In all cases waste and recyclable material vehicles into the site and off will be accompanied by a visit to the weighbridge where required.

4.12.2 External CCTV cameras will be provided across the site, covering the perimeters of buildings as a minimum, which will relay images to a monitoring centre, and which will also be relayed to the weighbridge control room. If an intruder is observed, the operator at the monitoring centre can inform the site staff and the Police. The camera locations have been determined on the basis of minimising blind spots across the site and ensuring that key access points to the building and on the site can be monitored. Security CCTV cameras will be specified to minimise electricity consumption. Cameras will be mounted in vandal-proof enclosures.

4.12.3 The integrity of the entrance gates and perimeter structures are inspected on a weekly basis. Any damage to the integrity of the gates or any other security structure, where practicable, will be repaired by the end of the working day. If it is not possible to make repairs within a working day, temporary repair measures will be implemented. Final repairs are carried out within 7 days of the damage being detected or any other such period as agreed in writing with the EAW. All damage and repairs (temporary or permanent) are recorded in the Site Diary.

4.13 Site Identification Board

4.13.1 A site identification board is attached to the frontage of the site detailing the following information: –

- The permit holder's name (company name);
- An emergency contact name and the licence holder's telephone number;
- A statement that the site is permitted by the Environment Agency Wales;
- The permit number; and
- Environment Agency national numbers 0870 8506506 and 0800 807060 (incident hotline)*

*or any other numbers subsequently notified in writing by the Environment Agency.

4.13.2 The site identification board will be inspected on a weekly basis and any damage repaired within 3 working days. Details of any damage and repairs undertaken are recorded in the Site Diary.

4.14 Complaints

4.14.1 Any complaints relating to the facility will be managed as follows:

- Details of the complaint and the complainant will be logged in the Site Diary.
- The complaint will be investigated. Corrective actions and preventative actions will be undertaken where the source of the complaint can be identified and is attributable to activities undertaken at the facility.
- The details of the action taken will be reported back to the complainant. This will include cases where the complaint is unsubstantiated, i.e. the complaint fails to be linked to any activity occurring at the facility. All investigative works and compliant outcomes will be recorded in the Site Diary.

4.15 Staff Welfare Facilities

- 4.15.1 Staff welfare facilities are situated within the main welfare facility building located directly east of the main WTC building. Toilets and Showers are also provided at this location.

4.16 Non-Compliances

- 4.16.1 Any non-compliances identified onsite will be reported to the EAW within 24 hours. Details of the non-compliance and corrective actions will be recorded on appropriate recording forms and held within the site office for a period no less than two years. Any records of non-compliances will be archived until Environmental Permit surrender.

4.17 Health and Safety

- 4.17.1 The company recognises the importance of Health and Safety for both its staff and visitors to its facility. The company will therefore adopt the appropriate generic procedures from the company wide system, and develop site specific procedures relating directly to the operation of the WTC facility. A detailed site specific Health and Safety management plan will be developed to ensure the well-being of all who visit the site. The plan will outline the Health and Safety policies and practices to be adopted on site at all times.

5.0 ACCIDENTS AND THEIR CONSEQUENCES

5.1 Emergency Planning

- 5.1.1 An Accidents Risk Assessment matrix has been prepared in accordance with H1 guidance and is presented in **Appendix 8**. The matrix identifies potential hazards at the facility, the likelihood and consequence of an accident or emergency relating to hazards, and the risk management measures that will be put in place to ensure that risks are acceptable.

5.2 Emergency Contact

- 5.2.1 In the event of any significant environmental emergency/incident a representative of Waste Recycling Group Limited will notify the EAW by telephone immediately, but first having due regard for the incident at hand and any remediation actions required to ensure the safety of site personnel and the immediate environment.
- 5.2.2 Details of any environmental incident will be confirmed to the EAW in writing by first class post or fax, on the next working day after identification of the incident. This confirmation will include: the time and duration of the incident, the receiving environmental medium or media where there has been any emission as a result of the incident, an initial estimate of the quantity and composition of any emission, the measures taken to prevent or minimise any further emission and a preliminary assessment of the cause of the incident.
- 5.2.3 Any incident notified to the EAW will be investigated, and a report of the investigation sent to the EAW. The report will detail, as a minimum, the circumstances of the incident, an assessment of any harm to the environment and the steps taken to bring the incident to an end. The report will also set out proposals for remediation and for preventing a repetition of the incident.

5.3 Control of Fires

- 5.3.1 Prior to the commencement of operations, arrangements will be made with the local fire liaison officer to visit the site and discuss the proposed operations with the client. Any specific advice given by the fire liaison officer can then be incorporated into the site's management plan as appropriate.
- 5.3.2 No waste will be burned within the confines of the site boundary. All fires within the facility will be treated as a potential emergency and dealt with accordingly. Fires may occur in relation to:
- Plant failure – fixed or mobile plant fires;
 - Within containers of waste being delivered to the facility;

- Within waste stored at the site;
- In the waste processing area (fire in waste or fixed plant); and
- Within containers awaiting removal from the facility.

5.3.3 In the event that a fire occurs at the facility, the following actions would be undertaken:

- Person(s) discovering a fire will raise the alarm and activate the sprinkler system if necessary;
- Report the incident to the Site Operations Manager;
- All site personnel and visitors will be accounted for and evacuated to a safe location;
- Contact the emergency services and state the nature of the incident;
- Follow all instructions given by the emergency services;
- Ensure access is clear for the emergency services but prevent access to the facility from anyone else until the emergency is over; and
- The EAW will be informed forthwith of any fires that occur at the facility.

5.3.4 Where appropriate, process monitoring equipment will be provided for the office areas and for other areas of the building containing the process equipment and waste storage areas.

5.3.5 Office areas will be provided with smoke alarms and a dedicated fire alarm with audible and visual (stroboscopic) signal. Fire water will be kept available in the above ground firewater tank situated adjacent to the main (WTC) treatment building. The main WTC treatment building will have a full sprinkler system installed within the roof space of the MRF, WTS and RWRF areas.

5.3.6 Other areas are equipped with fire hoses and extinguishers. The locations and types of extinguishers will be agreed with the local Fire Officer. Manually operated emergency fire alarms will be positioned at strategic points throughout the building. These alarms will be connected to an audible and visual (stroboscopic) signal.

5.3.7 All fire fighting equipment at the facility will be clearly marked and tested, at appropriate intervals, to confirm their suitability and functionality. Site personnel will be made aware of the locations of all fire fighting equipment and will be trained in their correct use.

5.3.8 A record of the occurrence of a fire will be maintained in the site log, along with any actions taken. An Incident and Accident Report will be completed by the Site Operations Manager.

5.3.9 Following approval by the fire services and/or facility manager the residues from the fire will be disposed of accordingly at a suitable permitted waste management facility.

- 5.3.10 Any contaminated water arising from fire fighting within the main WTC treatment building or external waste storage containment areas will be collected by the facility sealed drainage systems to sump if internal to the buildings and via isolation of the isolation valves if upon the external hardstanding and will be tankered away for disposal to an appropriately permitted facility.

5.4 Explosions

- 5.4.1 In the unlikely event that materials with explosive elements are discovered within a waste delivery that has already been accepted, the following action would be taken:

- Contact the Site Operations Manager or in his absence the Site Manager;
- Check that all site personnel and visitors are accounted for and are moved to a safe location;
- Contact the emergency services and state the nature of the incident (including whether any fires have occurred);
- Follow all instructions given by the emergency services;
- If injuries have occurred medical assistance will be called;
- No further wastes will be accepted at the facility until the Site Operations Manager has given authority; and
- The EAW will be informed forthwith of any arisings of explosive materials or any explosions that occur.

- 5.4.2 Once the emergency is over and the emergency services have declared that the area is made safe, an incident/accident report shall be completed. A written account of the incident will also be forwarded to the EAW no later than 14 days after the incident.

5.5 Flooding

- 5.5.1 The Environment Agency flood risk map indicates that the site lies within a Flood Zone 1, when the probability of flooding from rivers and the sea is less than 0.1%. In addition to this the EA 'Indicative River and Coastal Flood Map', identifies that the proposed development site is not at risk of flooding from rivers or sea. The walkover survey and assessment of likely overland flash flood routes the site is, has the potential to be affected by overland flow from land to the south of the quarry. However, given the bare permeable nature of the limestone at the unsurfaced perimeter of the development site, surface flood risk is likely to be very low.

- 5.5.2 The Afon Dulas runs in a northerly direction approximately 1.2km east of the site and is the main watercourse within the vicinity of the site. The river's mean flow is not gauged but the EA estimate it at 0.68m³/s, with an assumed catchment area of 42.4km². In addition to this the site is located approximately 250m south of the mean high water level where the Irish Sea meets the Llanddulas coastline.

5.5.3 In the extremely unlikely event of flooding, all measures necessary will be undertaken to control the effect of the flood on facility operations. The following actions may be taken by the Site Operations Manager or other designated person:

- If the facility is in imminent danger of flooding, or a flood alert has been issued, all electrical supplies in the affected area will be isolated;
- If possible, all stocks of chemicals and fuel will be removed from the risk area;
- If at all practicable, all wastes stored within the waste reception area in so far as they could potentially be affected by flood water will be removed from site or containerised to a safe area not at risk; and
- All plant will be removed from the area at risk.

5.5.4 Facility operatives will not attempt to enter the flooded area until a risk assessment has been undertaken or the flood has subsided.

5.6 Control of Leaks and Spillages

5.6.1 Daily visual inspections of concrete surfaces for signs of ponding, overflowing onto exposed surfaces or ineffective drainage will be conducted. Facility operatives will report any such incidents to the Site Operations Manager. Should the concrete surfaces show signs of ineffective drainage, no further use will be permitted until repairs to concrete or drainage systems are undertaken.

5.6.2 The above ground storage tanks, drums and bunded areas will be inspected weekly whilst the facility is operational. In the event of a spillage, facility operatives will inform the Site Operations Manager who is responsible for assessing the situation and deciding on the most appropriate actions to be undertaken.

5.6.3 All necessary measures will be taken to contain any spillage or discharge by means of suitable material and equipment. The actions undertaken will depend on the size of the spillage, the location of the spillage in relation to sensitive receptors and the nature of the spilled material.

5.6.4 Where spillages of dry wastes occur, these will be cleared by either manual or mechanical means, for example handpicking, sweeping or shovelling, dependant on the size and location of the spillage.

5.6.5 Minor spillages of liquid will be contained using spillage kits or any suitable readily available absorbent material. This material will be disposed of in a manner appropriate to the type of material absorbed.

5.6.6 If a major spillage of liquid occurs the following actions will be undertaken, where appropriate:

- Isolate the surface water discharge point by closing the isolation valves;
- Report the occurrence to the Site Operations Manager immediately;
- Trained facility operatives will take immediate action to try and contain the leak where it is safe to do so;
- If it is safe to do so, the cause of the spill or leak will be isolated and/or moved to a bunded area;
- If the liquid spillage is large, inert material such as clay or sandbags will be used to make a temporary containment bund to prevent pollution of any surface water, land or groundwater. The Site Operations Manager or designated person will contact the EAW to discuss best practicable disposal options;
- Access to the immediate area should be restricted until a disposal/clean up solution is implemented;
- If the spillage cannot be contained using approved methods, senior management will be contacted immediately and specialist advice and help will be sought; and
- If a vehicle is identified as leaking, wherever practicable, it will be stored on an impermeable pavement within a bunded area, where the spillage can be contained until such time as a repair is affected.

5.6.7 The Environment Agency Wales will also be informed immediately of major spillages, having due regard to first take appropriate measures to deal with any emergency in hand.

5.6.8 The locations of spillage kits and other emergency equipment will be detailed within the Site Emergency Plan.

5.7 Investigation of Accidents and Incidents

5.7.1 For any accident, incident or dangerous occurrence, an Incident and Accident Report will be completed by the Site Operations Manager. All relevant details of the accident, incident or dangerous occurrence will be recorded, together with any additional statement, photographs, logs or records that may assist in the full investigation of the accident, incident or dangerous occurrence.

5.7.2 After an Environmental Incident and Emergency has been made safe, an investigation will be conducted, if necessary, by the Site Operations Manager and other Personnel as appropriate.

6.0 EMISSIONS MONITORING

6.1 Introduction

- 6.1.1 A Fugitive Emission Risk Assessment matrix has been prepared in accordance with H1 guidance and is presented in **Appendix 9**. The matrix identifies potential hazards at the facility, the likelihood and consequence of a fugitive emissions release relating to hazards, and the risk management measures that will be put in place to ensure that risks are acceptable.
- 6.1.2 The undertaking of environmental monitoring will be performed to a defined written procedure in accordance with the appropriate EA guidance document to ensure consistency of monitoring and sampling for laboratory testing.
- 6.1.3 Monitoring of emissions, and subsequent analysis where applicable, from the facility shall be undertaken in accordance with the necessary accreditation considerations. Where deemed as required, certified instruments and equipment will be employed for monitoring at the site.
- 6.1.4 Records of monitoring data shall be kept securely within the site office and maintained until such time as Environmental Permit surrender. Records will be forwarded to the EAW as required by the conditions of the Environmental Permit and shall be made available upon request.

6.2 Point Source Emissions to Air

- 6.2.1 The proposed operations of Co-mingled recyclates, mixed waste recycling and road sweeper wastes treatment through the main treatment buildings do not give rise to any substantial point source emissions to air. The only point source emissions as a result of the recycling operations will be from delivery vehicles, mobile materials handling plant and static materials processing plant.
- 6.2.2 All plant items will be subject to regular maintenance schedules to ensure that the items operate in accordance with manufacturer's instructions, and that subsequent exhaust emissions to air are minimised and in any event within published limits.
- 6.2.3 In any event, wind speed and direction will be monitored at an appropriate location at the facility. This may assist in investigation of complaints should they arise.

6.3 Fugitive Emissions to Air

- 6.3.1 It is anticipated that part of the potential emissions to air from the facility will comprise fugitive emissions resulting from the transfer and treatment of wastes. As stated in Section 6.1 above, a Fugitive Emission Risk Assessment has been conducted and is included in **Appendix 9**.

6.3.2 It is proposed to conduct monitoring for the following parameters by:

- Dusts– Visual inspections of the site (external storage areas and the main treatment and storage buildings) and boundary will be undertaken on a daily basis to ensure that significant dust emissions are not emitted from the on site activities. Any dust emissions noted will result in the actions described in Section 3.4.2 being taken. The resultant actions will be recorded in the Site Diary.
- Litter – Visual inspections of the site and boundary on a daily basis to ensure that significant litter emissions are not emitted from the on site activities. Any litter emissions noted will result in the actions described in Section 3.4.3 being taken. The resultant actions will be recorded in the Site Diary.

6.4 Emissions to Water

6.4.1 Being situated within an old quarry, the site currently has no formal surface water drainage system, however an old concrete channel, with a cross sectional area of 225mm² runs from the north eastern corner of the quarry, under Abergele Road, to a manhole towards the shore. After the manhole the channel connects to a 300mm diameter concrete pipe which flows to Lupton Tramway. The drainage network finally discharges into the sea at Colwyn Bay (approx. grid ref: SH895787).

6.4.2 As part of the development of the facility, a fully engineered surface water management system will be developed, this will be designed upon current planning policies that require the consideration of sustainable drainage techniques for new developments. It should be noted that the design of Sustainable Urban Drainage Systems are to be in accordance with SuDS Wales: Interim Code of Practice and CIRIA C697: The SUDS Manual. The use of SUDS techniques is designed to regulate the impact of development on receiving watercourses, to reduce the possibility of flooding downstream. This effectively mirrors the drainage flow characteristics of the catchment prior to development.

6.4.3 Within the range of sustainable options to be considered, provision of soakaways and infiltration drainage systems should be considered first, however this is dependant on suitable ground conditions. Being that the site geology details no drift deposits with most surfaces being bare to the underlying Carboniferous Limestone, the geology is unsuitable for soakaways and therefore it is proposed that the new development surface water drainage system will incorporate an on-site surface water storage attenuation pond to allow suitable storage capacity within the limits of the flow capacity of the existing drainage infrastructure (assessed as 110l/s) with a 20% allowance for climate change. A storage capacity of 406m³ has been determined through Micro drainage model calculations. An indicative scheme of drainage is shown in drawing **WR7060/5/04**.

- 6.4.4 A full retention Class 1 separator for oils/hydrocarbons will be installed prior to the attenuation lagoon and site discharge point which will also include monitoring access. Discharge from the settlement lagoon will be via a pipe within a former tunnel structure that runs from the north eastern corner of the quarry, under Abergele Road, to a manhole towards the shore. After the manhole, the discharge line connects to a 300mm diameter concrete pipe which flows to Lupton Tramway. The drainage network finally discharges into the sea at Colwyn Bay (approx. grid ref: SH895787).
- 6.4.5 External to the WTC building, any hardstanding areas, such as vehicle manoeuvring area for lorries entering/exiting the main (WTC) treatment building, storage areas, operative car parking and overnight parking for waste vehicles, will have the installation of a Class 1 Full Retention Separator in place within the system for the separation of oils/hydrocarbons prior to discharge to the surface water attenuation lagoon.
- 6.4.6 At the point of discharge, the ability to isolation the flows in the event of an emergency via an isolation valve and monitor the quality of the surface water as necessary will be provided. A monitoring chamber will also be provided prior to discharge off site in this area discussed in section 6.4.3 to allow visual inspections of the discharge monitoring in accordance with a suite of determinands to be agreed with the EA. A typical suite of determinands is included in **Table 3** below.
- 6.4.7 The monitoring chambers prior to discharge into the surface water will allow for visual inspections of the discharge and monitoring in accordance with the suite of determinands to be agreed with the EAW. An indicative suite of determinands is included in **Table 3** below.

Table 3 – Indicative Surface Water Monitoring Suite

Surface Water Sampling Point	Description	Frequency	Determinands
SW Discharge 1	Surface water runoff from weighbridge area, southern manoeuvring apron around WTC building and vehicle parking prior to off site discharge	Weekly	Oils and Greases (visual assessment for presence of sheen)
SW Discharge 1	Surface water runoff from weighbridge area, southern manoeuvring apron around WTC building and vehicle parking prior to off site discharge	Monthly	pH
			Electrical conductivity
			Suspended Solids
			TPH
			Chemical oxygen demand
			Biochemical oxygen demand
			Temperature

6.4.8 Prior to operations commencing, background surface water monitoring and analysis will be undertaken of the site discharges for a pre-operational period to be agreed with the Environment Agency Wales. The undertaking of this monitoring and sampling will be in accordance with a standardised monitoring procedure to ensure consistency of results.

6.4.9 No other monitoring is deemed necessary since there are no other point sources emissions to water from the operational area of the facility. Full run off containment will be provided via kerbing and suitable grids with separation of the external and internal at the entry points to the higher risk internal processing areas.

6.5 Emissions to Sewer

6.5.1 There will be no emissions to foul sewer from any of the facilities operations. Office and welfare facilities effluent will be collected in a cess pit/tank and tankered offsite. There will be no emissions to sewer from the facility in terms of process effluents. All waste processing will be undertaken within the main WTC building. Internal drainage within processing and storage areas will be to 'blind' sumps which will be inspected and emptied as and when required, with the contaminated water currently proposed to be emptied via a road going tanker and exported off site for treatment at a suitably permitted facility. RWRF process effluent will be tankered off site to a suitable treatment facility.

6.5.2 No monitoring is deemed necessary since the proposed discharge to sewer from the welfare and office facilities will be covered by a Trade Effluent Agreement obtained from the Statutory Undertaker.

6.6 Noise

6.6.1 A full assessment of noise has been undertaken in support of the planning application to ensure the development's operations due not lead to unacceptable noise emissions off site. This is summarised in section 3.7 of the Management Plan.

6.6.2 Vibration will be mitigated via the applicable of suitable operational management measures via engineered solutions or changes in working procedures. Vibration is unlikely to be an issue for the bulk of waste management and recycling operations with the only potential source being the waste unloading/materials loading activity. Due to the proposed operating procedures and its distance from the nearest sensitive receptor, vibration is unlikely to become a problem in this instance.

6.6.3 Noise that is likely to lead to unacceptable emissions off site will be noted and a record made. An attempt will be made to identify the source of the noise and ensure it is ameliorated or otherwise removed off site. A record will be made of such incidents and the corrective actions taken.

6.7 Odour

- 6.7.1 Odour is not expected to be an emission that is likely to give cause for concern, due mainly to the enclosed operational environment and strict working methods and management regime set out regarding storage times for organic wastes.
- 6.7.2 Notwithstanding section 6.7.1 above, odour will be assessed by olfactory monitoring at the site boundary at a suitable downwind location as part of the daily site checks. Any odour that is likely to lead to an unacceptable impact off site, in the opinion of the person undertaking the survey, will be noted and a record made. An attempt will be made to identify the source of the odour and ensure it is removed or otherwise ameliorated. A record will be made of such incidents and the corrective actions taken.

6.8 Mud and Debris

- 6.8.1 The deposit of mud and debris is not expected to be an issue that will arise as part of the proposed operation. This is due to the operations being undertaken wholly on impermeable concrete or tarmac surfaced areas (therefore limited opportunity for the tracking of mud) and the housekeeping and materials transit measures proposed to be implemented (therefore reducing the potential for debris).
- 6.8.2 Notwithstanding the low likelihood in the general of mud and debris, in order to ensure the road cleaning methods, as stated in Section 3.10 are adequate, a daily inspection of the public highway will be undertaken by the Site Operations Manager or other trained personnel as directed by the Site Operations Manager at times when the facility is open to receiving or despatching wastes. Details of the inspections and any remedial measures taken will be recorded.

7.0 CLOSURE

7.1 Design Measures

- 7.1.1 Design of the facility and operational procedures are intended to prevent any deterioration of the site during the operational period. Records of any incidents or spillages will be examined upon closure to identify and focus any requirements for site investigation. A final site report will be prepared and submitted in conjunction with an application to surrender the Environmental Permit for the facility.
- 7.1.2 The facility design will aid the decommissioning process. Containment bunds within the site, and waste storage and processing areas within the main building, are constructed with or will be sited upon concrete of appropriate specification to prevent deterioration. All pipework and vessels will be flushed out upon decommissioning with the flushings gathered and disposed of at a suitably permitted facility. All remaining raw and waste materials at the site will be removed and disposed of or recovered or re-used where appropriate, with regard to prevailing practices at the time of decommissioning.
- 7.1.3 All potentially polluting activities will be undertaken on a site sealed drainage area with appropriate full retention and bypass separator tanks in place to prevent direct discharges to land or water.
- 7.1.4 Items of plant within the buildings will be removed and reused, reconditioned or recycled as appropriate.