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OPERATIONAL REPORT

STARRUS ECO HOLDINGS LTD

CAPPAGH ROAD

FINGLAS

DUBLIN 11

Prepared For: -

Starrus Eco Holdings Ltd
Cappogue
Finglas
Dublin 11

Prepared By: -

O' Callaghan Moran & Associates
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Cork.

September 2021

Project	Operational Report: Cappagh Road			
Client	Starrus Eco Holdings Limited			
Report No	Date	Status	Prepared By	Reviewed By
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	10/09/2021	Final		

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1. INTRODUCTION

Starrus Eco Holdings Ltd operates its waste management facility on the Cappagh Road, Finglas, Dublin 11, under an Industrial Emissions Licence granted by the Environmental Protection Agency (EPA) and planning permissions granted by Fingal County Council. The installation currently accepts and process mixed and source separated non-hazardous solid household, commercial, industrial and construction & demolition waste.

The licence and the planning permission authorise the acceptance of 250,000 tonnes of waste per annum. The planning permission allows operations to be carried out 24 hours a day 7 days a week; however, this expires in 2022 unless a further permission is granted. It is proposed to increase the annual waste intake to 450,000 tonnes and seek approval for permanent 24/7 operations. A planning application under the Strategic Infrastructure Development Regulations has been made to An Bord Pleanála.

The licence specifies the infrastructural and operational controls that must be implemented to ensure waste activities do not give rise to environmental pollution or nuisance/impairment of amenity outside the site boundary. The increased intake does not require either new buildings, or extensions to existing ones and does not involve any changes to the layout of external areas and drainage systems.

1.1 Scope

This report describes the design criteria and method of operation of the installation. It is based on the conditions in the current licence, the operational procedures prepared by SEHL and the information in the Environmental Impact Assessment Report (EIAR) that accompanies the review application. Following the grant of the revised licence this report will be amended to bring it into alignment with the conditions of the revised licence.

1.2 Annual Review

This report is subject to an annual review throughout the operational life of the installation to take account of operational experience, the progressive development of the facility, changes in regulatory requirements and developments in waste processing technology and methodologies.

2. SITE LOCATION & ENVIRONMENTAL SETTING

2.1 Site Location

The site is on Cappagh Road, approximately 2.5 km southwest of Dublin Airport (Figure 2.1), in an area that has been extensively developed for industrial and commercial use and mineral extraction.

2.2 Surrounding Land Use

Stadium Business Park is to the south, Rosemount Business Park to the south-west and to the north is Millennium Business Park. The Business Parks are occupied by commercial activities including logistics companies, chemical distributors, light engineering, food distributors and cement manufacturers. The lands to the west are zoned for commercial use and Huntstown Quarry is to the east and north-east. The lot adjoining the northern site boundary is owned by Panda and is leased to a haulage company.

There are ten (10 No.) occupied residences approximately 450 m to the south east, also on the southern side of the Cappagh Road. These are the only private residences within 500m of the installation.

2.3 Hydrology

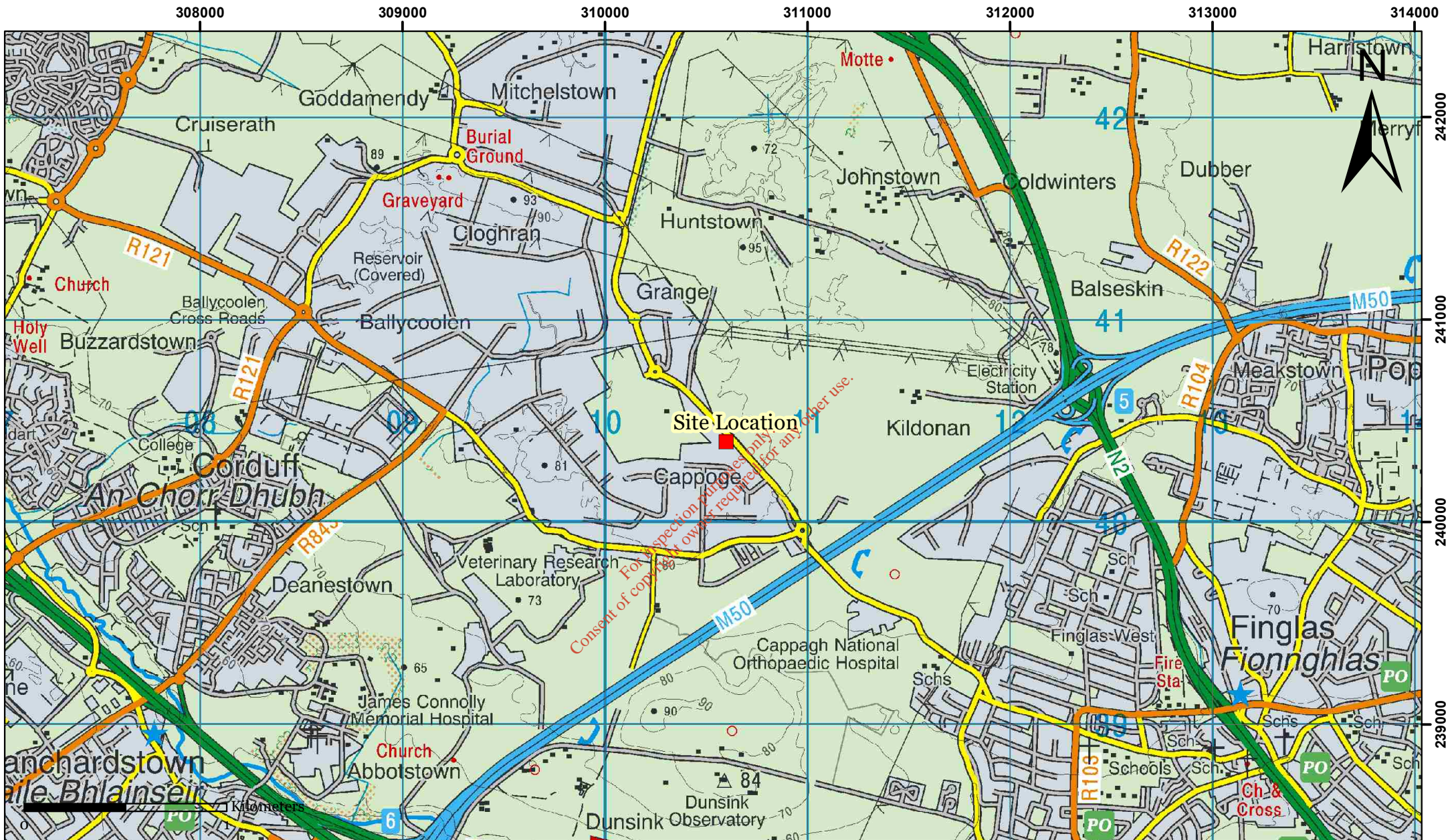
The site is in the catchment of the Tolka River, which is approximately 2 kilometres to the south west and south. There are no streams or water courses either on site, or in the surrounding area. The Tolka River is part of the Liffey Water Management Unit, as designated by the Eastern River Basin District Management Plan. The overall status of the river is 'Moderate', and it is considered 'At Risk' of not achieving its restoration objective of at least 'Good' status by 2027.

2.4 Geology and Hydrogeology

The subsoils beneath the site are between 1.3 and 8.45 m thick and comprise sandy gravelly boulder clays. The bedrock belongs to the Boston Hill Formation and comprises nodular and muddy limestones and shale. The bedrock is a locally important (Lm) aquifer that is productive in local zones. The local direction of groundwater flow is to the south, but is likely to be greatly influenced by the large scale quarrying immediately to the east and north of the site (Huntstown Quarry). The aquifer vulnerability to pollution from the ground surface is Extreme. The aquifer is part of the Dublin Area Groundwater Body. This is categorised as being of 'Good' status, but is 'At Risk' of achieving its objective of protecting the existing status.

2.5 Designated Sites

There are no habitats of ecological importance within the site boundary and the site is not in or close to a Special Area of Conservation (SAC), Special Protected Areas (SPA) or National Heritage Areas (NHA). The nearest Natura 2000 site is the South Dublin Bay & Tolka River Estuary SPA which is 8.7 km south east of the facility.




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Environmental Management for Business

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CLIENT	Starrus Eco Holdings Ltd
TITLE	Site Location

Details:

 **Site Location**

Figure 2.1

3. SITE DESIGN

3.1 Site Layout

The site layout is shown on Drawing 18139-200. It covers 2.5 hectares and comprises three waste handling buildings (Building A1 -2,030 m²; Building A2 - 2,800 m² and Building B1 - 4,088 m²) an electrical substation, two weighbridges, an office and associated control rooms, staff welfare building (100 m²), fuel tanks and paved open yards.

3.2 Security

The site is surrounded by a wall and security fence. Access is via the front gate which is locked when the facility is closed. A CCTV surveillance system is provided and a static guard is on-site at night time, which means that there will be a rapid response to any emergency that occurs outside normal operational hours. The yard area lighting remains on throughout the hours of darkness.

3.3 Services

Electricity is supplied by a utility company and there is an electrical substation on-site. Water is obtained from an on-site well. Sanitary and sink wastewater is collected and stored in an underground tank (13.5m³) outside the southern side of Building A1 pending removal off-site for treatment in a municipal wastewater treatment plant. Rainwater run-off from the buildings is collected and diverted to a rainwater harvesting system for use as 'grey water' in the welfare facilities and for dust suppression in the yards.

3.4 Facility Roads, Access Roads & Hardstanding

The site is accessed directly from the Cappagh Road. The internal access roads and hardstanding are provided in accordance with Condition 3.5 of the current licence.

3.5 Site Buildings

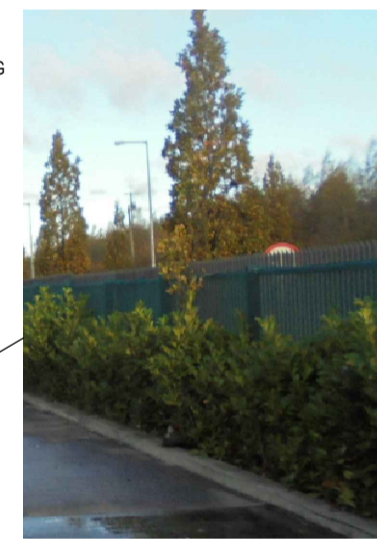
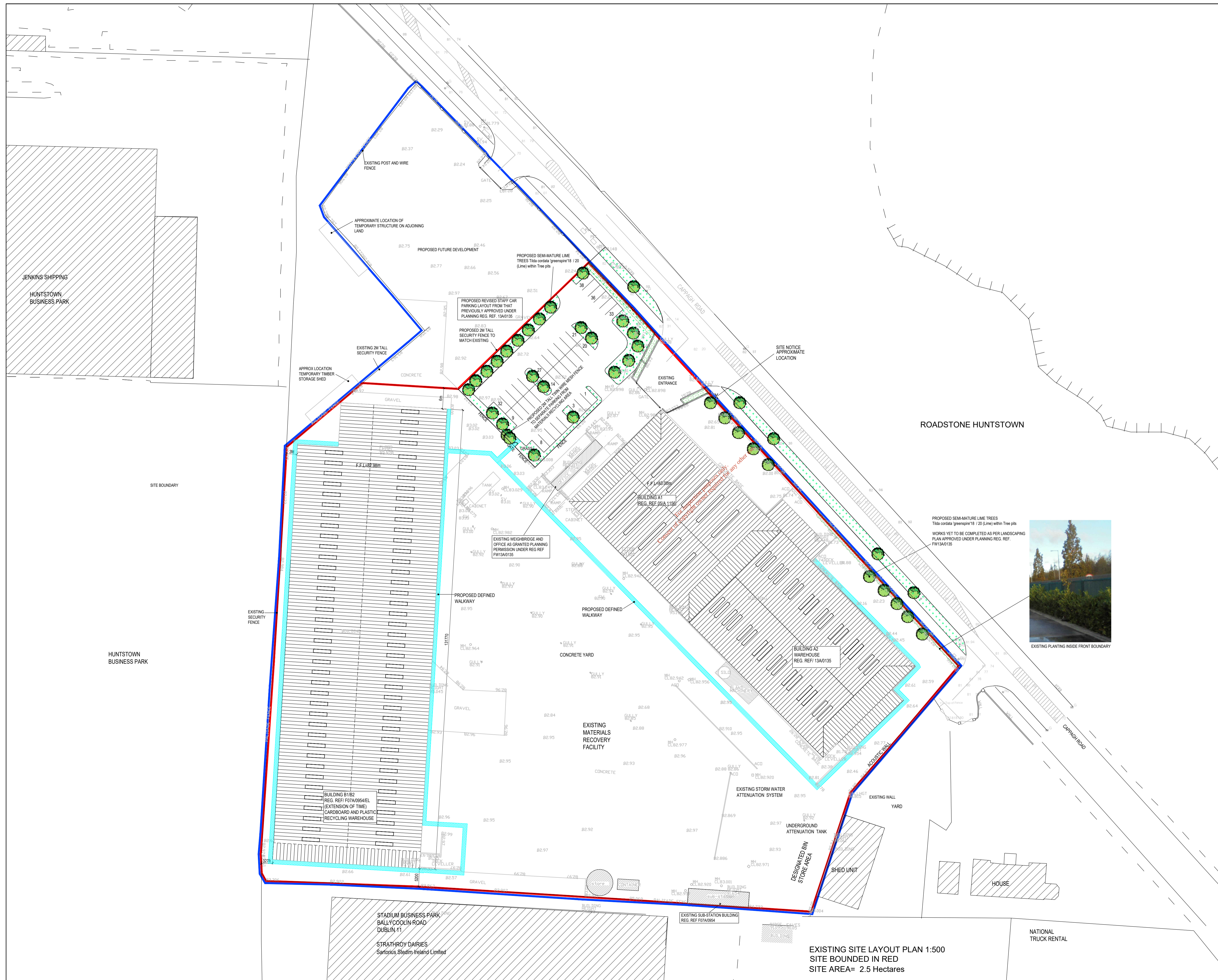
All of the buildings are maintained in accordance with Conditions 3.6, 3.7 and 3.12 of the current licence.

3.6 Waste Inspection and Quarantine Areas

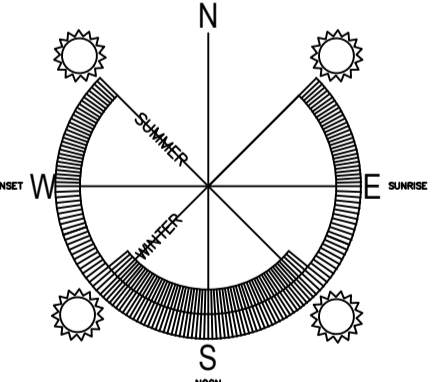
The waste inspection and quarantine areas required under Condition 3.7 of the current licence are clearly identified and separated from each other.

3.7 Wheel Cleaning

Wheel cleaning equipment is provided in accordance with Condition 3.8 of the current licence. Wastewater generated from the cleaning enters the wastewater collection and storage system.



EXISTING PLANTING INSIDE FRONT BOUNDARY



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Client	Starus Eco Holdings Ltd		
Project Title	SITE LAYOUT PLAN		
Drawing Title	SITE LAYOUT PLAN		
Drawn By	Date	Scale	
Stephen Hussey	05.11.2018	1:500@ A1	
Revision	Drwg. Status	Drwg. No.	
	PLANNING	18139-200	

EXISTING SITE LAYOUT PLAN 1:500
 SITE BOUNDED IN RED
 SITE AREA= 2.5 Hectares

3.8 Drainage

3.8.1 Surface Water

Surplus rain water run-off from roofs and run-off from paved areas is collected in the surface water drainage system and directed to an attenuation tank in the south-east corner of the site. The tank has a capacity of 1,400 m³ and is connected to a Class 1 Full Retention Klargest Oil Interceptor.

The attenuation tank provides temporary storage of surface water and allows the discharge at a steady rate to the storm water sewer system serving the Stadium Business Park. The outflow from the tank is regulated by a hydrobrake, which has a maximum discharge rate of 6 litres/second (l/s).

The size of the attenuation tank is based on the run-off from an impermeable surface area (roof and paved yards) of 25,284 m² and the requirement to accommodate 1:100 year 6 hour rainfall event (60mm) that will generate 1,517.04 m³ of run-off. Assuming a continuous discharge rate of 6l/second, which equates to 129.6m³ over the 6 hour period, the required storage capacity is 1387.44 m³.

There is a shut off valve in the attenuation tank that can be closed in the event of an incident, for example a fire, that has the potential to contaminate the rainwater run-off.

3.8.2 Foul Water

There is no connection to the municipal foul sewer. The waste processing does not generate wastewater. The floor of processing buildings are regularly cleaned by a road sweeper. There are two underground concrete holding tanks, each 13.5m³ capacity, located at the entrances to Buildings A1 and A2 that collect any liquid seeps that occur inside the buildings. The contents are removed as required and sent to a municipal wastewater treatment plant.

3.9 Odour Control

A section of Building A 2 is dedicated to the acceptance and processing of odorous wastes. This area is fitted with an odour control unit (OCU) designed to maintain the section under negative pressure and collect and treat the air using an activated carbon filter. The detailed design of the OCU was agreed with the EPA before it was installed and commissioned.

Prior to the installation of the system the inside to the building was cleaned and a thick foam spray applied to all cladding joints and other parts of the building fabric susceptible to air leaks. Rapid action doors were fitted to the vehicle access points. The objective was to achieve an air leakage rate of < 2m³/m²/hour.

Air is drawn from the building using one extraction fan and a system of roof mounted ducts provided with grills. The 75KW fan also has a flow capacity of 50,000m³/hour, which achieves 2 No air changes per hour. The air passes through a jet pulse dust filter before entering the carbon unit. A damper is fitted to the inlet of the unit to allow the air flow to be balanced. The treated air vents to atmosphere via a single 14m high stack. The exhaust odour threshold concentration is less than 460 odour units (OuE/m³).

3.10 Monitoring Infrastructure

Sampling and monitoring points are clearly labelled and safe and permanent access is provided to all on and off-site locations, as required by Condition 3.15 of the current licence.

3.11 Fire Control

SEHL has completed a site specific fire risk assessment and prepared a Procedure on Fire Prevention and Detection that takes into consideration the Agency's Guidance Note on Fire Safety at Non Hazardous Waste Sites and the UK Environment Agency's Technical Guidance Note TGN7-01 Reducing Fire Risk at Sites Storing Combustible Materials.

Building B1, which presents the highest risk of fire, is provided with fire detection and protection system that identifies specific areas at risk and suppresses the risk of fire at the early stages of combustion. It include high resolution focus thermal imaging cameras combined with remote controlled foam suppression cannons.

A 150 mm ring main has been installed and is connected to the Irish Water mains on the Cappagh Road. There are three hydrants and these have been tested by the Dublin Fire Service. A reel type fire hose is located at each door in the buildings and fire extinguishers are provided at strategic locations.

3.12 Fuel and Chemical storage

Diesel and gas oil are stored in above ground steel tanks located in a steel bund adjacent to Building B1. Drums of engine and hydraulic oil are stored on banded pallets. Oil spill containment and clean-up equipment are maintained at strategic locations around the site. Bund integrity testing is completed at 3-year intervals and the most recent were completed in April 2021.

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4. OPERATIONS

4.1 Site Management

The Facility Manager, who has the appropriate training and experience as required under the IE Licence, is responsible for day-to-day facility operations. All facility personnel are provided with appropriate training and have the requisite qualifications and experience to complete their assigned tasks.

SEHL has implemented an Integrated Management System (IMS) in accordance with the requirements of Occupational Health and Safety Assessment Series (OHSAS) 18001:2007 and International Standard Organisation (ISO) 14001:2004 in order to manage the Health, Safety and Environmental performance of their business and to control health and safety risk and to minimise their environmental aspects and impacts.

4.2 Waste Types & Quantities

The current licence authorises the acceptance of 250,000 tonnes of non-hazardous domestic, commercial and industrial waste and construction and demolition waste. At present SEHL accepts source segregated cardboard, plastic and hangers, commercial and domestic dry mixed recyclables, residual mixed solid waste, brown bin waste and expired packaged food waste. The actual amounts of each waste type accepted annually varies depending on market conditions. It is proposed to increase the annual waste intake from 250,000 to 450,000 tonnes.

4.3 Site Processes

Mixed dry recyclables are sorted into the different types and these are then baled and stored before being sent for further treatment. Source separated wastes are baled and also stored before being sent off-site. Processed mixed solid wastes are accepted from other waste pre-treatment facilities and these are treated to remove recyclables, with the residues then further processed to produce solid recovered fuel (SRF). The SRF is sent to cement kilns where it is used as a replacement for fossil fuels.

Food waste (brown bin) and mixed household waste (black bin) that contains odorous materials are accepted and stored in a section of one of the buildings that is fitted with an odour control system. It is then sent to other waste management facilities for further treatment.

Out of date packaged food from commercial operators is accepted and depackaged in this section of the building and the contents sent for biological treatment to other treatment plants where the packaging is removed. This activity is authorised by the Department of Agriculture, Food and Marine under the Animal By-Products Regulations.

4.4 Operating Procedures

SEHL: has prepared a comprehensive set of Operating Procedures that cover all aspects of the day to day management of the installation and contingency measures. The procedures form part of the installation's Environmental Management System (EMS), which is certified to ISO 14001:2004, and are

subject to regular review based on operational experience, legislative changes and improvements in best practice.

4.5 Operational & Waste Acceptance Hours

The waste acceptance hours are between 6.00 am to 23.00 pm Monday to Saturday inclusive. The operational hours are 24 hours a day 7 days a week.

4.6 Waste Acceptance

SEHL has prepared documented waste acceptance procedures. Wastes are delivered by waste collectors that have up to date Waste Collection Permits. Wastes are not accepted from members of the public.

As required by Condition 8.2 of the current licence, waste is only accepted from known waste producers or new waste producers subject to initial waste profiling and waste characterisation off-site. The written records of this off-site waste profiling and characterisation, where completed, are retained for all active waste producers and for a two year period following termination of licensee/waste producer agreements.

All deliveries arrive in fully covered containers/vehicles that are weighed in at the weighbridge and the accompanying documentation is checked. The driver is then directed to the waste intake areas in the appropriate building.

The wastes are off-loaded in a designated tipping area and inspected for unsuitable material. If any is identified, it is removed to a dedicated quarantine area, where it is stored before being sent off-site.

4.7 Plant & Equipment

The plant and equipment used at the installation include; balers, shredders, screeners, eddy current separators, magnets, optical sorter, density separators, forklifts, mechanical grabs and loading shovels.

4.8 Health & Safety

SEHL has adopted an Accident Prevention Policy and has prepared a Safety Statement for the site that makes provision for hazard identification and risk assessment. All personnel and visitors are obliged to comply with site guidelines regarding access to and from the facility and on-site traffic movement. All site personnel are provided with and are obliged to wear, personal protective equipment (PPE) appropriate for their particular functions. PPE includes facemasks, gloves, safety glasses, steel-toed footwear, overalls, reflective jackets and helmets.

4.9 Emergency Response

An emergency is an accident/incident that has the potential to result in harm to human health, damage to off-site assets and give rise to environmental pollution. The EPA licence requires Panda to prepare an Emergency Response Procedure (ERP) and ensure that all staff are made aware of their requirements.

The ERP identifies all potential hazards at the site that may cause damage to the environment and also specifies roles, responsibilities and actions required to deal quickly and efficiently with all foreseeable major incidents and to minimise environmental impacts.

In addition SEHL has documented procedure on the handling and storage of potentially polluting substances used at the facility, e.g. oils and the filling of tanks and mobile plant. The procedure describes how filling the fuel storage tanks and refuelling/servicing the mobile plant should be carried out to minimise the risk of accidental spills and ensure that if these occur there is a rapid and effective response.

4.10 Emissions

4.10.1 Surface Water

Surplus rainwater run-off from the building roofs and run-off from the yards discharges to the storm water sewer serving Stadium Business Park.

4.10.2 Foul Sewer

There are no emissions to foul sewer. Sanitary wastewater and liquid seeps from the processing buildings, where these occur, are collected in underground storage s that are emptied regularly.

4.10.3 Noise

Waste processing and vehicle movements in and out of the site are sources of noise; however these activities are part of the normal activities in the area and prevention and mitigation measures are not required. SEHL has a policy of not allowing engine idling within the site.

4.10.4 Air

With the exception of the stack on the odour control system, there are no fixed point emission sources associated with the operations. Potential fugitive emissions include dust, vehicle exhausts and odours.

The primary source of dust emissions is the waste processing, all of which is and will continue to be located inside the buildings. Secondary sources are vehicle movements on the paved yards during dry periods.

Vehicle exhausts contain a range of compounds that affect air quality, for example carbon monoxide, methane, carbon dioxide, and particulates. Odours are associated with the types of wastes accepted, the type of processing carried out and the time the wastes are retained on site. The only wastes accepted at the facility that are a significant source of malodours are the food waste and residual mixed waste.

4.10.5 Ground & Groundwater

There are no direct or indirect emissions to ground and groundwater.

4.11 Emission Controls

4.11.1 Surface Water

The surface water attenuation tank has a capacity of 1,400 m³ and is connected to a Class 1 Full Retention Klargest Oil Interceptor. There is a shut off valve in the attenuation tank that can be closed in the event of an incident, for example a fire that has the potential to contaminate the rainwater run-off.

4.11.2 Noise

Panda implements the control measures specified in the licence that are designed to ensure waste activities do not give rise to noise emissions that will be a cause of nuisance or impairment outside the facility boundary.

4.11.3 Air

Waste processing is and will continue to be located inside the buildings. The yard and building floors are cleaned regularly using a road sweeper and the yards are damped down using hoses in extended dry weather.

The diesel fuelled heavy goods vehicles based at the facility are fitted with Selective Catalytic Reduction (SCR) systems. A diesel fuel additive (AdBlue) is used in the SCR to reduce the nitrous oxide levels in the exhaust gases.

The only wastes accepted at the facility that are a significant source of malodours are the mixed solid waste, brown bin waste and expired food waste that are handled and stored in the section of Building A 2 that is fitted with an odour control system comprising negative air pressure and carbon filter.

4.12 Nuisance Control

SEHL implements the nuisance control measures specified in the licence to mitigate the impacts of noise, dust, litter and odours and minimise the risk of site activities being a source of nuisance to neighbours and members of the general public. In addition to the odour control system in Building A2 SEHL has prepared an Odour Management Plan (OMP) for waste handling operations that identifies the operational and control measures required to effectively manage and control odours in normal and abnormal conditions.

4.13 Environmental Monitoring Programme

The current monitoring requirements are as follows.

- Weekly monitoring of the surface water emission
- Dust monitoring to be carried out at two locations biannually.
- Quarterly monitoring of the emissions from the OCU stack for particulates, odour units and volumetric flow.

4.14 Incidents

An incident is: -

- (i) an emergency;
- (ii) any emission which does not comply with the requirements of this licence;
- (iii) any exceedance of the daily duty capacity of the waste handling equipment;
- (iv) any trigger level specified in this licence which is attained or exceeded;
- (v) any indication that environmental pollution has, or may have, taken place.

In the event of an incident SEHL is required to immediately:

- (i) carry out an investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
- (ii) isolate the source of any such emission;
- (iii) evaluate the environmental pollution, if any, caused by the incident;
- (iv) identify and execute measures to minimise the emissions/malfunction and the effects thereof;
- (v) identify the date, time and place of the incident;
- (vi) notify the Agency and other relevant authorities

as required by Condition 9.3 of the existing licence

4.15 Complaints

All complaints are recorded in a Complaint Record as specified in Condition 11.5 of the Licence. The information recorded includes: -

- Date and time of the complaint;
- Name of the complainant;
- Details of the nature of the complaint.

The EHS Manager, or nominated Deputy Manager is responsible for its investigation and the implementation of any corrective measures. In the event that corrective actions are required SEHL records the actions and informs the complainant.

4.16 Annual Environmental Report (AER)

The scope of the AER is set out in Schedule E of the current licence. The preparation of the AER involves a review of the progress in achieving the Environmental Objectives and Targets, reports on site development works, resource consumption, changes to existing or introduction of new operating procedures and an assessment of the impacts of site activities.

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