# APPLICATION FOR AN ENVIRONMENTAL PERMIT UNDER THE ENVIRONMENTAL PERMITTING (ENGLAND AND WALES) REGULATIONS 2016 (AS AMENDED)

#### FLOOD MANAGEMENT PLAN

ECO-POWER ENVIRONMENTAL (HULL) LIMITED, GIBSON LANE, MELTON, HULL, HU14 3HH



IN THE EVENT OF A SERIOUS FLOOD, PLEASE INFORM THE LOUIS CALDERS ON 07537 996888 AND FOLLOW SECTION 5 OF THIS DOCUMENT.

Ref: Eco 09.03.2020/FMP

Version: Issue 1
March 2020



### **TABLE OF CONTENTS**

1.	INTE	RODUCTION	1
	1.1.	Requirement for a Flood Management Plan	1
2.	FLO	OD RISK AT THE INSTALLATION	2
	2.1.	Long Term Flood Risk from Rivers and Sea	2
	2.2.	Long Term Flood Risk from Surface Water	3
	2.3.	Flood Risk from Tidal Event and Allowance for Climate Change	3
3.	GEN	ERAL FLOOD MITIGATION MEASURES	5
4.	FLO	OD RISK ALERTS AND WARNINGS	6
	4.1.	Flood Risk Alerts	6
	4.2.	Flood Warnings	6
5.	FLOOD EMERGENCY RESPONSE		
	5.1.	First Response	7
	5.2.	Personnel Evacuation	8
	5.3.	Safeguard Hazardous Processes and Secure Potentially Polluting Material	8
	5.4.	Flood Management Exercises	9
6.	RESI	PONSE FOLLOWING A FLOOD EVENT	10
7.	FMF	REVIEW	11



#### LIST OF APPENDICES

Appendix I: Flood e	event – Emergency (	Contact List
---------------------	---------------------	--------------

**Appendix II: Drawings** 

**Appendix III: Inventory of Potentially Polluting Substances** 

#### LIST OF FIGURES

Figure 1: Flood Risk Map – Rivers and Seas	2
Figure 2: Flood Risk Map - Surface Water	3
Figure 3: Flood Warnings and Associated Explanation	6
Figure 4: First Aid Kit Locations	7
Figure 5: Manual Utility Shut Off Points	8
Figure 4: Emergency Refuse Point	8

# **ACRONYMS/TERMS USED IN THE TEXT**

AOD Above Ordnance Datum
BAT Best Available Techniques

**BREF** Best Available Techniques Reference Document

**EA** Environment Agency

Eco-Power Eco-Power Environmental (Hull) Limited EMS Environmental Management System

EP Environmental Permit
FMP Flood Management Plan
SRF Solid Recovered Fuel

TCM Technically Competent Manager



#### 1. INTRODUCTION

#### 1.1. Requirement for a Flood Management Plan

- 1.1.1. A Flood Management Plan ("FMP") has been produced for Eco-Power Environmental (Hull) Limited ("Eco-Power") as part of the Environmental Permit ("EP") application at Gibson Lane, Melton, Hull, East Yorkshire, HU14 3HH. The FMP will form part of Eco-Power's Environmental Management System ("EMS").
- 1.1.2. Transwaste Recycling and Aggregates Limited ("Transwaste") currently operate a waste Facility at Melton Waste Park under EP issued by the Environment Agency ("EA") (EPR/BP3792LD, issued 17/01/2017). Eco-Power wish to obtain a section of the permitted land with the intention of operating a waste recovery Installation within a building which will have a processing plant, drying floor area and pellet storage area. Transwaste will surrender the associated activity within their current Environmental Permit for this area if Eco-Power are granted the Environmental Permit.
- 1.1.3. The proposed activity is the production of fuel from waste via physical, mechanical and thermal treatment. Residual waste is delivered from waste management facilities and is shredded and run through a number of separation systems (trommel, magnetic, ballistic, infrared) before being placed on a drying floor. Waste heat from biomass boilers provides heat to reduce the moisture content of the residual waste Solid Recovered Fuel ("SRF"). The dried SRF is then pelletised (heat applied and material is passed through an extruder), cooled and stored prior to transfer off site for use as fuel.
- 1.1.4. All unprocessed SRF will be stored within the site buildings ready for rapid processing.
- 1.1.5. Approximately 250,000 tonnes per annum of residual waste from waste management facilities will be accepted.
- 1.1.6. The FMP outlines the flood mitigation measures to be implemented at the Installation, as well as how the Installation will respond during a flood event, such as first response, personnel evacuation, safe guarding hazardous processes and securing potentially polluting material, as well as the response required following a flood event.
- 1.1.7. The Compliance Director and Operations Director will be responsible for overseeing the effective implementation of the FMP and ensuring compliance is maintained.
- 1.1.8. This FMP has been written to meet the requirements of the following:
  - EA 'Preparing for flooding A guide for sites regulated under EPR and COMAH' (Version 2.0, Dated June 2015);
  - EA's 'Would your business stay afloat? A guide to preparing your business for flooding' (Dated March 2015); and
  - EA Sector Guidance IPCC S5.06 'Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste' (Issue 5, May 2013); and
  - The Best Available Techniques Reference Document ("BREF") for Waste Treatment (October 2018) which contains the Best Available Techniques ("BAT") Conclusions, will be considered as it covers Installations associated with a number of waste treatments, including recovery and disposal of waste.



#### 2. FLOOD RISK AT THE INSTALLATION

#### 2.1. Long Term Flood Risk from Rivers and Sea

2.1.1. Figure 1 illustrates that the long term risk from flooding from rivers and sea at the Installation shown as the indicative red outline<sup>1</sup>.

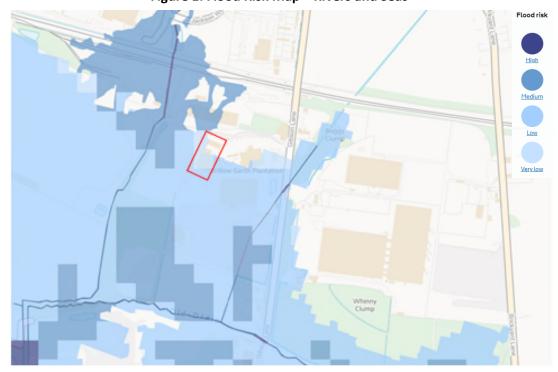


Figure 1: Flood Risk Map – Rivers and Seas

- 2.1.2. As can be observed in Figure 1, the majority of the Installation is defined as very low low risk of flooding from rivers and seas. This means the Installation has a chance of flooding of less than 0.1% for areas marked as very low and between 0.1% and 1% for areas marked as low. This takes into account the effect of flood defences in the area which are known to be present, however, it must be noted that although these defences reduce the risk, they cannot eradicate the risk of flooding as the defences can be overtopped or fail. The wider Transwaste Site and surrounding areas are marked as low with areas of medium which have a chance of flooding of between 1% and 3.3%.
- 2.1.3. Anecdotal evidence from Transwaste personnel indicates that the site did not flood during the extreme flood event of 2007.

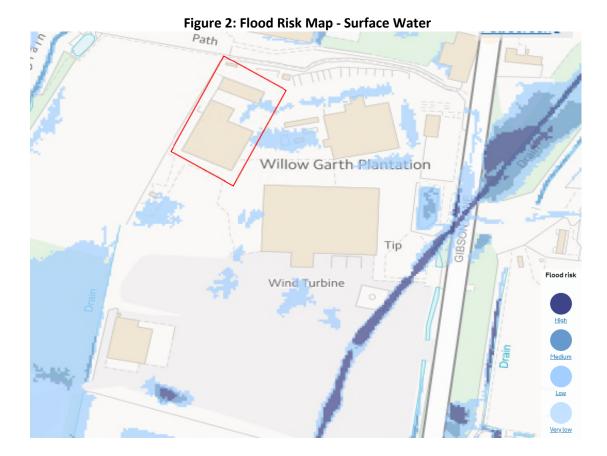
2

<sup>&</sup>lt;sup>1</sup> Long Term Flood Risk Information, available at: <a href="https://flood-warning-information.service.gov.uk/long-term-flood-risk/map">https://flood-warning-information.service.gov.uk/long-term-flood-risk/map</a>, accessed January 2020.



#### 2.2. Long Term Flood Risk from Surface Water

2.2.1. Figure 2 illustrates that the long term risk from flooding from surface water at the Installation shown as the indicative red outline<sup>1</sup>.



2.2.2. As can be observed in Figure 2, there are two areas within the Installation that are at low risk from surface water possessing a chance of flooding of between 0.1% and 1%. The majority of the Installation is at very low risk of flooding from surface water with less than 0.1% chance of flooding. It should be noted that flooding from surface water is difficult to predict as rainfall locations and volume are difficult to forecast and local features can greatly affect the chance and severity of flooding.

#### 2.3. Flood Risk from Tidal Event and Allowance for Climate Change

2.3.1. A Flood Risk Assessment (2018-49, dated 25.01.2019) was undertaken by Piercy Design Chartered Architects as part of the planning application (Reference 19/00313/CM) for the proposed retention and extension of the existing buildings to form SRF building at the Installation. The flood level was predicated from the level of a 1 in 200 year tidal event whilst also taking account of climate change. The EA Consultation Response (Reference RA/2019/139836/01-L01, dated March 2019) stated that taking climate change into consideration the extreme water level may be approximately 6.4mAOD at this location based on the Interim Water Level data from 2015.



- 2.3.2. The entire site is currently 5.4m AOD at present with site preparation works and the creation of hardstanding to accommodate the development will increase to a minimal height AOD of the development site to 6m with critical equipment, such as electrical equipment and/or power points being raised to enable 600mm above ground level as detailed in Condition 5 of Planning Permission 19/00304/CM and Condition 6 of the Planning Permission 19/00313/CM.
- 2.3.3. With reference to the recommendations detailed in the EA Planning Consultation Response, this FMP has been prepared which details the flood warning system in place and evacuation plan including the provision of a temporary refuge in such a flood event.



#### 3. GENERAL FLOOD MITIGATION MEASURES

- **3.1.** The following general mitigation measures are currently at the Installation:
  - site preparation works and the creation of hardstanding has resulted in a minimal height above ordnance datum ("AOD") of the Installation to 6m;
  - critical equipment, such as electrical equipment and/or power points have been raised to achieve 0.6m above ground level;
  - all unprocessed and processed waste is stored internally. No waste is stored externally;
  - the doors to the building are shut at night and when not in use;
  - all tanks are appropriately bunded to provide capacity of 110% of the total volume contained within the tank and all tanks are secured firmly and anchor points are considered sufficient to withstand tank buoyancy; and
  - information security has been considered relevant information on the inventory
    of polluting material and waste is kept and managed as part of the EMS and is
    also held offsite at Eco Power's Bankwood Lane, Rossington Head Quarters to
    ensure records are not at risk from damage or loss during flood events.



#### 4. FLOOD RISK ALERTS AND WARNINGS

#### 4.1. Flood Risk Alerts

- 4.1.1. The Installation is registered with Floodline so that if there is a risk of flooding at the Installation and a warning issued, the Operations Manager will be contacted day or night.
- 4.1.2. A designated operative on site will act as the 'Flood Warden' who is responsible for monitoring flood levels regularly using the EA's Flood Warnings for England webpage<sup>2</sup> which provides updates on flood warning information, real-time river levels, as well as a 3 day flood risk forecast, in order to keep all site operatives informed.

#### 4.2. Flood Warnings

4.2.1. There are three types of warnings; 'Flood Alert', 'Flood Warning' and 'Severe Flood Warning'. The types of warning and associated explanations are provided in Figure 3.

Figure 3: Flood Warnings and Associated Explanation

Online flood risk forecast	FLOOD ALERT	FLOOD WARNING	SEVERE FLOOD WARNING	Warning no longer in force
What it means Be aware, Keep an eye on the weather situation.	What it means Flooding is possible. Be prepared.	What it means Flooding is expected. Immediate action required.	What it means Severe flooding. Danger to life.	What it means No further flooding is currently expected in your area.
When it's used Forecasts of flooding on our website are updated at least once a day.	When it's used Two hours to two days in advance of flooding.	When it's used Half an hour to one day in advance of flooding.	When it's used When flooding poses a significant threat to life.	When it's used When river or sea conditions begin to return to normal.

6

<sup>&</sup>lt;sup>2</sup> Flood Warning Information Service, available at: <a href="https://flood-warning-information.service.gov.uk/warnings">https://flood-warning-information.service.gov.uk/warnings</a>, accessed January 2020.



#### 5. FLOOD EMERGENCY RESPONSE

#### 5.1. First Response

- 5.1.1. In the event of a flood warning or severe flood warning being issued by the EA, the Company Director must be informed on 07537 996888. The Company Directors will facilitate the Flood Emergency Response outlined in Section 5.2 and 5.3 of this FMP.
- 5.1.2. A Flood Event Emergency Contact List is provided in Appendix I of this FMP.
- 5.1.3. The Site Layout Plan (Drawing 02) should be consulted to locate the potentially polluting substances.
- 5.1.4. The first aid kits are strategically located throughout the Installation. The indicative locations are provided in Figure 4.



5.1.5. The electricity and water can be isolated by the manual shut off point (See Figure 5) and all electricity generators will be turned off immediately by site personnel.



Humber Industrial Estate Warehouse

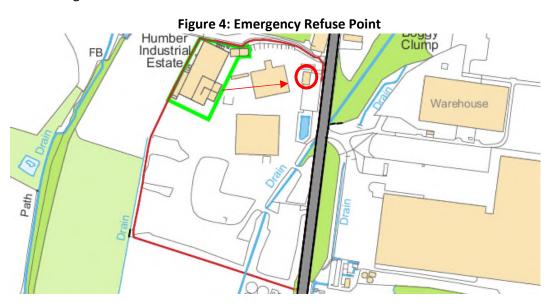
**Figure 5: Manual Utility Shut Off Points** 

Note to Figure:

Red – Electric Shut Off Point, Blue – Water Shut Off Point.

#### 5.2. Personnel Evacuation

5.2.1. In the event of a severe flood event, the Company Directors, alongside the nominated Flood Wardens, will co-ordinate a site evacuation. The existing building within Melton Waste Park is of a two storey construction and provides a refuge areas (See Figure 6) for staff during a flood event.



5.2.2. Employees and contractors known to be travelling to site will be informed not to attend site as planned.



#### 5.3. Safeguard Hazardous Processes and Secure Potentially Polluting Material

- 5.3.1. Following issue of a flood warning and depending on the severity predicted, the following actions to safeguard hazardous processes will be taken:
  - a controlled and planned shutdown of plant and waste processing activities; and
  - the site's electricity and water supplies will be isolated at the mains. There is no mains gas on site.
- 5.3.2. An inventory of the potentially polluting substances held on site, as well as the associated risk assessment, is contained within the Accident Management Plan (Eco 09.03.2020/AMP) forming part of the EMS. For ease of reference, the inventory is also provided in Appendix III of this FMP.
- 5.3.3. In order to secure polluting material and reduce the risk of a pollution incident caused by flooding, the following actions will be taken:
  - sensitive materials will be located on elevated levels; and
  - doors will be closed and secured.
- 5.3.4. No small containers, drums or Intermediate Bulk Containers ("IBCs") will be stored externally as these may float in floodwaters resulting in loss of containment or result in the need for potential off-site recovery.
- 5.3.5. Portable containers are stored internally within the workshop and will be raised to elevated levels during a flood event.
- 5.3.6. The Installation is secured by perimeter fencing which will also prevent any escape of portable containers off-site during a flood event.

#### 5.4. Flood Management Exercises

- 5.4.1. In order to build the competence of Eco-Power employees and ensure actions are realistic given the likely time and on-site resources that will be available, FMP drill exercises will be undertaken annually.
- 5.4.2. Any non-conformances or areas for improvement as a result of the FMP drill exercises will be recorded. In order to address any non-conformances or areas for improvement, corrective and/or preventative measures will be raised with an associated timeframe and responsible person. The FMP will also be updated if required and a repeat FMP drill can be undertaken to ensure all actions have been effectively closed out.



#### 6. RESPONSE FOLLOWING A FLOOD EVENT

- **6.1.** The following actions will be undertaken by Eco-Power following a flood event at the Installation:
  - removal of flood water;
  - integrity checks of plant and equipment;
  - inventory checks to identify losses of polluting material;
  - if the electric and/or water supplies were isolated, these will be reconnected by a registered electrician or plumber. The integrity and functionality of the drainage system will also be assessed and approved by a professional prior to recommencement of operations;
  - if relevant, any findings and related improvements resulting from the flood event are addressed and implemented;
  - once all of the above have been completed and approved by the Operations Manager, a gradual start-up of plant and equipment will be initiated.
- 6.2. The EA's Site Inspector will be informed of the event and the necessary actions taken as soon as possible and if necessary, the Company Director or nominated deputy will telephone the EA's Incident Hotline on 0800 80 70 60.



#### 7. FMP REVIEW

- **7.1.** The FMP is considered to be a 'working' document that will be reviewed and updated annually or as required should any of the following occur:
  - a flood event on site, including if it is clear flood control measures have failed;
  - a change or review of legislation and/or guidance;
  - findings to be addressed following FMP drill exercises;
  - recommendations made by insurance assessors; or
  - if the site is instructed to do so by the EA.
- **7.2.** It will be the responsibility of the Company Directors or nominated deputy to maintain the FMP and to ensure it is adhered to in the event of a flood on site.



# APPENDIX I FLOOD EVENT – EMERGENCY CONTACT LIST



# **Site Information and Key Contact Details**

Operator Eco-Power Environmental (Hull) Limited							
Site Address Gibson Lane, Melton, Hull, HU14 3HH							
Name	Description	Contact Details (Office Hours)	Contact Details (Out of Hours)				
Internal	Internal						
Lee Jepson	Compliance Director 07584 255875		5875				
Louis Calders	Company Director	07537 996888					
Martin Graves	Operations and Logistics Director	07376 427077					
Ben Wise	Technically Competent Manager	07501 04	0742				
External – Emergency Se	rvices						
Humberside	Non-Emergency	01482 565333	-				
Fire and Rescue Service	Emergency	999					
Medical Assistance - Assura East Ridings	Non-Emergency	01482 638571	111				
General Practitioner North Ferriby HU14 3HP	Emergency Only	999					
Humberside Police	Non-Emergency	01482 220393 or 101					
Transperside Folice	Emergency Only	999					
External - Regulators							
EA	General Enquiries	03708 506506	-				
EA	Incident Hotline	0800 807060					
Local Authority East Riding of Yorkshire Council	24 Hour Emergency Contact Number	01482 393939					
External – Key Services		-					
Water Supplier and Waste Water Treatment	Yorkshire Water	0845 124 24 24					
	National Power Cut Service	105					
Energy Supplier	Gas Emergency Service and Gas Escapes	0800 111	999				
	Transwaste	01482 333650					
	Omya (UK) Ltd	01482 635800					
Adiana	Hospitality Staffing	01482 217252					
Adjacent Landowners	Gardner Aerospace	01482 633144					
	Meadley International Transport	01482 64	7997				
	SAC Wood UK Ltd	01782 202122					

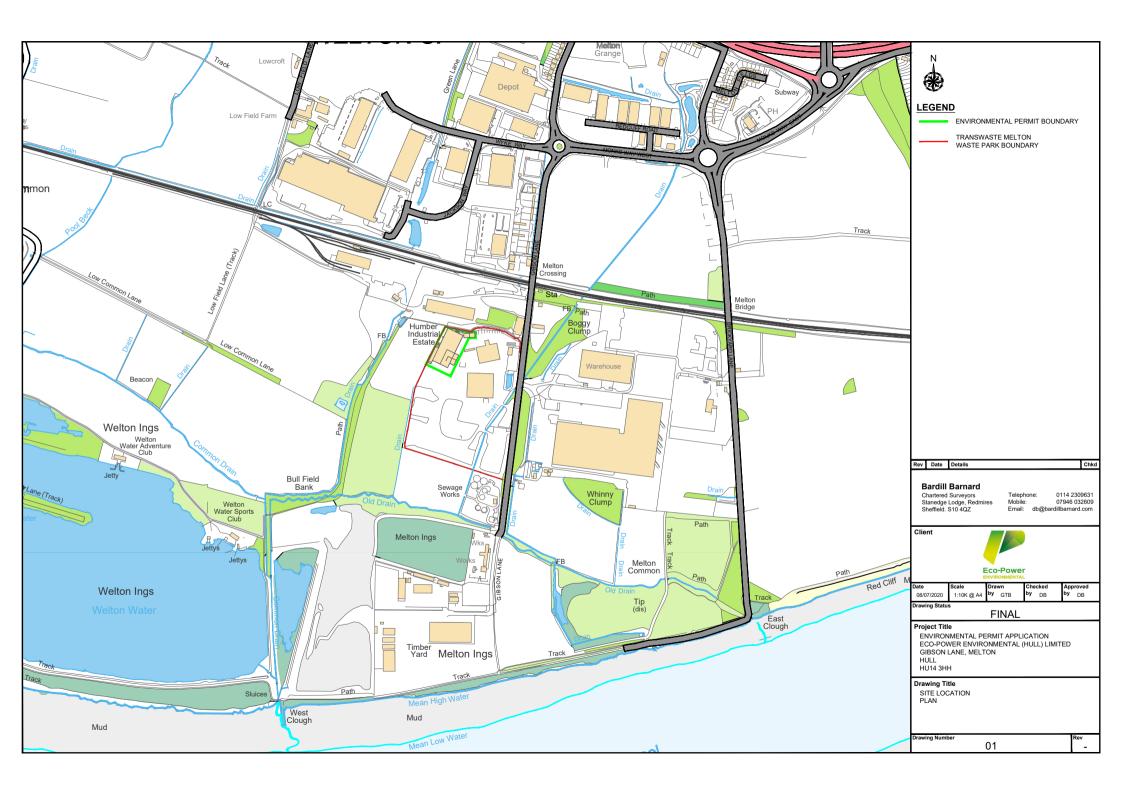


# **Site Information and Key Contact Details (Cont.)**

Operator	Eco-Power Environmental (Hull) Limited			
Site Address	Gibson Lane, Melton, Hull, HU14 3HH			
Name	Description	Contact Details (Office Hours)	Contact Details (Out of Hours)	
External – Key Services				
Adjacent Landowners	Wastege Waste Management Ltd	01482 821371		
Specialist Advisor	Bardill Barnard Ltd	07946 032609		
Specialist Pest Contractor	Marshalls Pest Prevention Limited	07988104362		



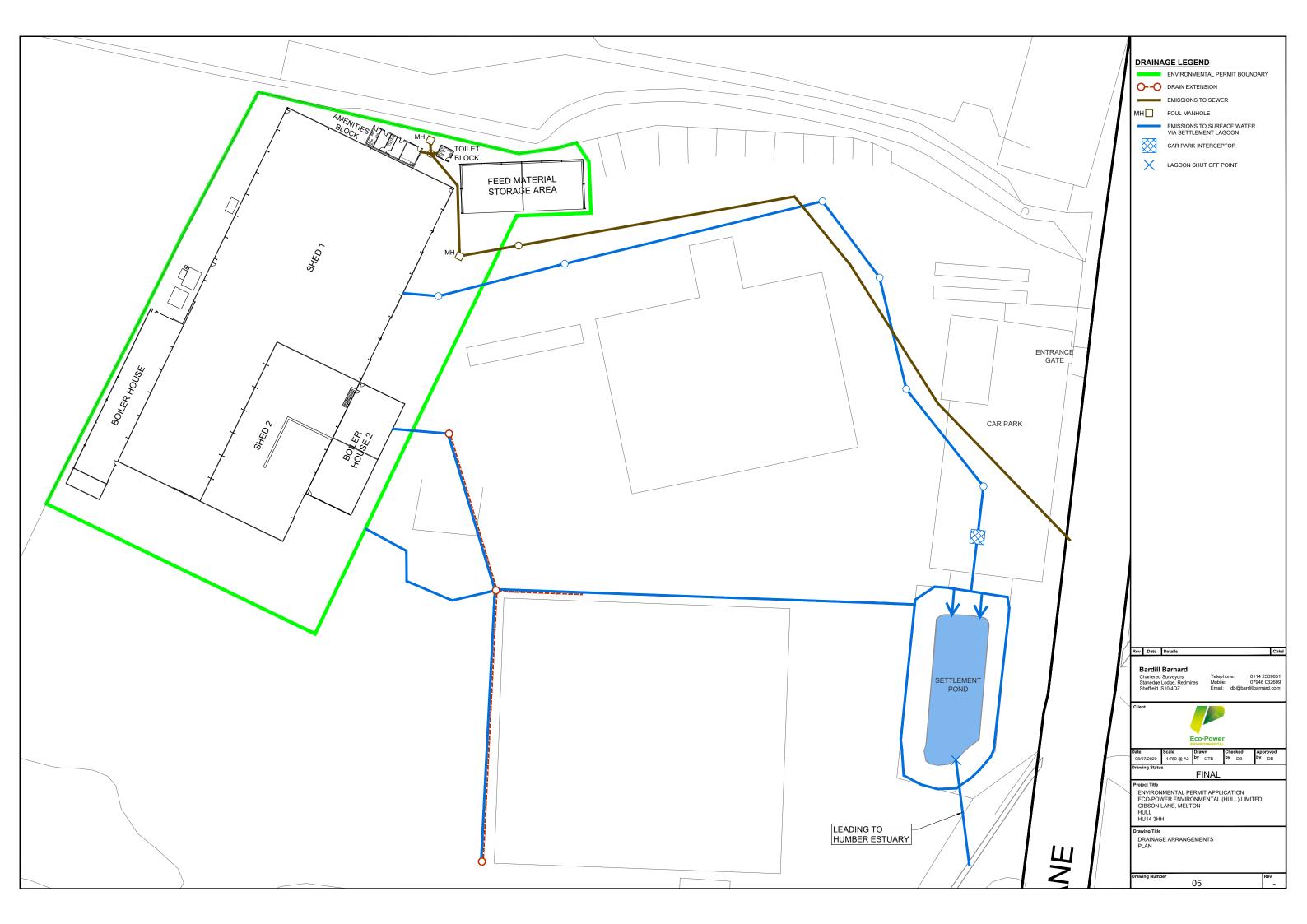
# APPENDIX II DRAWINGS













# APPENDIX III INVENTORY OF POTENTIALLY POLLUTING SUBSTANCES



#### **Raw Materials Properties and Use**

Chemical Name	Maximum Storage Capacity	Use	Storage Arrangements (See Drawing 06)	
Virgin wood	50 tonnes	Biomass fuel for waste drying operations	Stored in stillages adjacent to the Boiler House and Workshop	
Diesel	60,000 litres	Plant and electrical generator use	3 x 20,000 l bunded tanks stored externally	
	10 litres – Carlube 2 stroke motorcycle oil		Stored within the Workshop on appropriate bunding including IBC bunds and drip trays. The store is the store of the store	
	40kg – EP2 Grease		proposed bunding will have the minimum capacity of 110% of the capacity of the largest tank, or 25 % of the total capacity of all the tanks within the bund, whichever is the greater	
	40kg – EP3 Grease			
	5 litres – WD40 Canister			
	25 litres – ATF Dextron III			
Lubrication Oils	2kg – Prime lubricants copper anti-seize grease compound	Lubrication of plant and equipment		
	208 litres – Prime lubricants hydraulic oils			
	20 litres – Prime lubricants autofarm 15W/30			
	20 litres – Prime lubricants SHPD E7 15W/40			
	25 litres – Prime lubricants industrial EP gear oil			
Ad blue	1000 litre IBC	For use in plant and generators using diesel to reduce harmful emissions (e.g. nitrogen oxides)	_	
Antifreeze	25 litres	To prevent water within cooling systems freezing during cold weather conditions	_	