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

ENVIRONMENTAL RISK ASSESSMENT

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

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ACRONYMS / TERMS USED IN THIS REPORT

AMP	Accident Management Plan
AQA	Air Quality Assessment
AQO	Air Quality Objectives
CCTV	Closed Circuit Television
CO	Carbon Monoxide
EA	Environment Agency
Eco-Power	Eco-Power Environmental (Hull) Limited
EMP	Emissions Management Plan
EMS	Environmental Management System
EP	Environmental Permit
ERA	Environmental Risk Assessment
FPP	Fire Prevention Plan
Ha	Hectares
HGVs	Heavy Goods Vehicles
IBCs	Intermediate Bulk Containers
LNR	Local Nature Reserve
LWS	Local Wildlife Site
MAGIC	Multi-Agency Geographical Information for the Countryside
NGR	National Grid Reference
NMP	Noise Management Plan
NNR	National Nature Reserve
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
OMP	Odour Management Plan
PEC	Predicated Environmental Concentrations
PM	Particulate Matter
PMP	Pest Management Plan
PPMR	Planned Preventative Maintenance Routine
Ramsar	The Ramsar Convention on Wetlands of International Importance
RDF	Refuse Derived Fuel
SAC	Special Areas of Conservation
SPA	Special Protection Areas
SRF	Solid Recovered Fuel
SSSI	Sites of Special Scientific Interest
Transwaste	Transwaste Recycling and Aggregates Limited

1. INTRODUCTION

1.1. Overview

1.1.1. An Environmental Risk Assessment ("ERA") has been produced for Eco-Power Environmental (Hull) Limited ("Eco-Power") to form part of the Environmental Permit ("EP") application to be submitted to the Environment Agency ("EA").

1.1.2. Eco-Power wish to produce Solid Recovered Fuel ("SRF") and Refuse Derived Fuel ("RDF") from the acceptance and processing of 250,000 tonnes of waste per annum via physical, mechanical and thermal treatment. Residual waste is to be shredded and processed through a number of separation systems (e.g. trommel, magnetic, ballistic, infrared). Following processing, RDF will be produced and sent off site as a fuel at R1 certified Energy from Waste Facilities.

1.1.3. Furthermore, waste meeting Eco-Power's criteria following the processing described above will be selected for the production of SRF and placed on a drying floor. Heat from the biomass boilers provides heat to reduce the moisture content of the SRF. The dried SRF is then to be pelletised prior to transfer off site for use as a fuel at R1 certified Energy from Waste Facilities.

1.1.4. Consequently, Eco-Power propose to undertake a Schedule 5.4 A(1) (b) (ii) activity under the Environmental Permitting (England and Wales) Regulations 2016 as amended - *'recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving the pre-treatment of waste for incineration or co-incineration'.*

1.1.5. An ERA has been undertaken in accordance with the relevant requirements of the current version of the EA's online guidance[1] (updated 21st October 2019), in order to:

- identify potential risks that site operations may present to the environment;
- screen out any insignificant risks;
- assess potentially significant risks in detail; and
- decide on the appropriate control measures.

1.1.6. Accordingly, the assessment has addressed the potential risks relating to the operation of the proposed Installation, namely:

- amenity risks (e.g. emissions to air, emissions to water, noise, odour, etc.); and
- accidents (e.g. fire, loss of containment etc.).

[1] EA online guidance – 'Risk assessments for your environmental permit'. Available at https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit , updated 21st October 2019, accessed November 2019.

2. IDENTIFICATION OF RECEPTORS

2.1. Site Settings

2.1.1. The Installation will be located within Transwaste Recycling and Aggregates Limited ("Transwaste")'s Melton Waste Park which currently operates under a bespoke Installation Environmental Permit (EPR/BP3792LD). Eco-Power is proposing to utilise a section of the land within Melton Waste Park. The relevant section of land will subsequently be surrendered from Transwaste's Environmental Permit.

2.1.2. The Site Location Plan (Drawing 01) details the proposed Environmental Permit boundary (outlined in green).

2.1.3. Figure 1 provides the indicative location of Eco-Power's proposed Installation (green outline) and the wider Transwaste Melton Waste Park (red outline), as well as the surrounding land uses.

Figure 1: Indicative Site Location

2.1.4. The Installation occupies an approximate area of 0.63ha and is centred on National Grid Reference ("NGR") 496738 425528. The Installation is located on Gibson Lane, Melton, Hull, HU14 3HH.

2.1.5. The immediate surroundings include the wider Transwaste Melton Waste Park and large industrial units with agricultural fields beyond this.

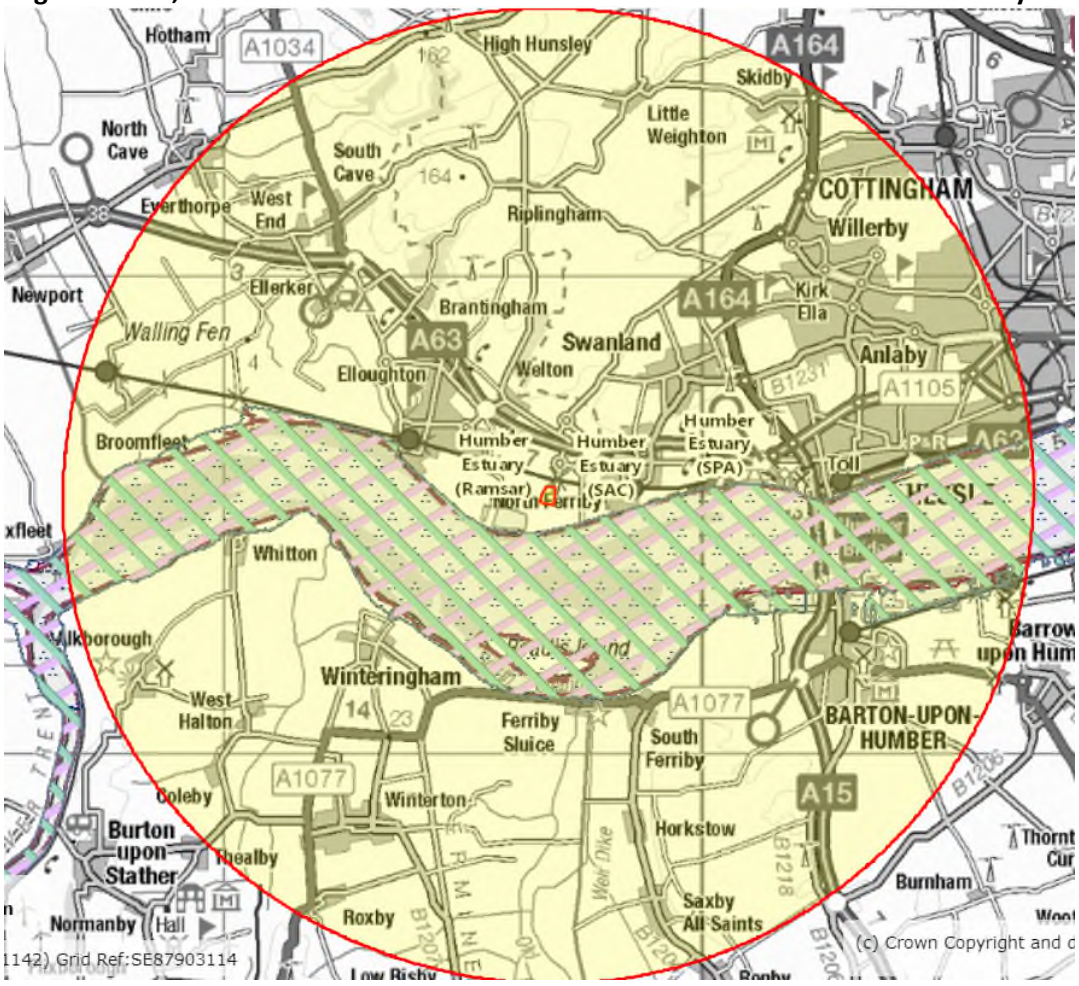
2.1.6. The Humber Estuary is located approximately 0.83km south of the Installation's Environmental Permit boundary. The village of Melton is located approximately 0.94km to the north whilst the village of Welton is located approximately 1.51km north west of the Installation. The small town of Brough is approximately 1.34km west and the village of North Ferriby is 1.41km east of the Installation Environmental Permit boundary.

2.2. Potentially Sensitive Ecological Receptors

2.2.1. A Nature and Heritage Conservation Screening Report was obtained as part of the EA's Pre-Application Advice response. A copy of this screening report is provided in Appendix I of this ERA.

2.2.2. A review of the area using the Multi-Agency Geographic Information for the Countryside[2] ("MAGIC") online tool identified that the Installation is located within 10km of the Humber Estuary which is designated as a Site Protection Area ("SPA"), Ramsar Convention on Wetlands of International Importance ("Ramsar") and Special Area of Conservation ("SAC") (See Figure 2).

Figure 2: SPA, Ramsar and SACs identified within 10km of the Installation Boundary



[2] Department for Environment, Food and Rural Affairs ("DEFRA") MAGIC Online Mapping Tool, available at: https://magic.defra.gov.uk/magicmap.aspx, accessed September 2019.

2.2.3. The NGR of the identified ecological receptors are listed in Table 1, together with their distance and direction from the Installation boundary.

Table 1: Ecological Receptors within 10km of the Installation Boundary

Ref	Location	Type	Easting	Northing	Distance from EP Boundary (m)	Direction
SPA1	Humber Estuary	SPA	496882	424662	830	S
RAM1	Humber Estuary	RAMSAR	496882	424662	830	S
SAC1	Humber Estuary	SAC	496882	424662	830	S

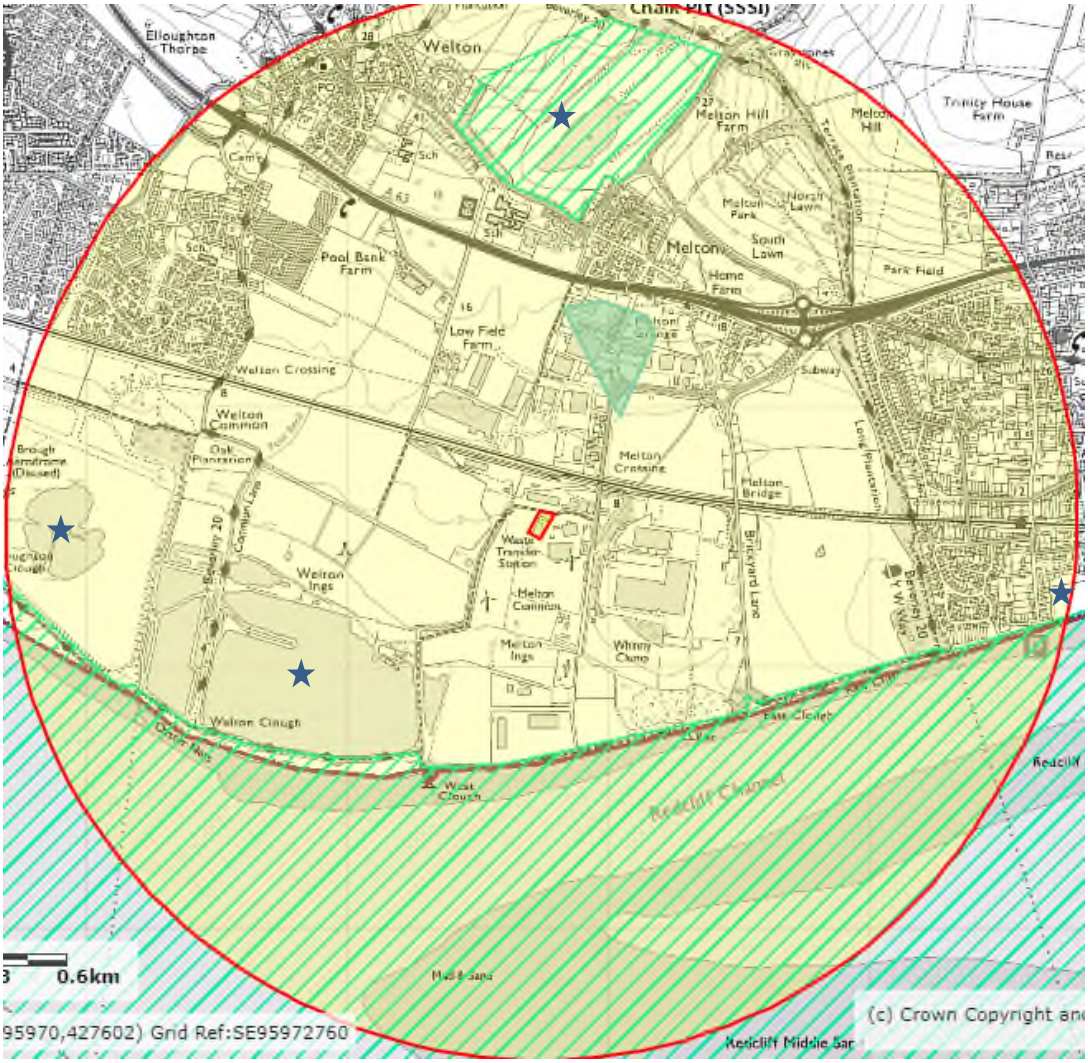
2.2.4. The Installation is located within 2km of two Sites of Special Scientific Interest ("SSSI") as shown in Figure 3 and are identified as the following:

- Melton Bottom Chalk Pit, north of the Installation; and
- Humber Estuary, south of the Installation.

2.2.5. There are also four Local Wildlife Sites ("LWS") within 2km of the Installation's EP boundary, which are as follows:

- North Ferriby Ings;
- Field Welton Water;
- Brough Airfield; and
- Melton Bottoms.

Figure 3: SSSIs and LWS Identified within 2km of the Installation Boundary



Note to Figure:
Turquoise hatching – SSSI
Blue star – LWS

2.2.6. The NGR of the identified ecological receptors are listed in Table 2, together with their distance and direction from the Installation boundary.

Table 2: Ecological Receptors within 2km of the Installation Boundary

Ref	Location	Type	Easting	Northing	Distance from EP Boundary (m)	Direction
SSSI1	Melton Bottom Chalk Pit	SSSI	496889	426717	1762	N
SSSI2	Humber Estuary	SSSI	496882	424662	538	S
LWS1	Field Welton Water	LWS	495828	424928	678	SW
LWS2	Melton Bottom	LWS	497163	427227	1283	N
LWS3	Brough Airfield	LWS	494878	425413	1354	SW
LWS4	North Ferriby Ings	LWS	498696	425241	1965	SE

2.2.7. In addition to the SACs, SPAs, Ramsar sites, National Nature Reserves ("NNRs"), Local Nature Reserves ("LNRs") or SSSIs, other potentially sensitive land uses within 1km of the Installation were also considered. A review of the area using the MAGIC tool indicate that none of the following sensitive land uses are located within a 1km radius of the Installation:

- Areas of Outstanding Natural Beauty;
- Groundwater Source Protection Zones;
- Marine Conservation Zones;
- Marine Nature Reserves; and
- National Parks.

2.2.8. There is one Nitrate Vulnerability Zone 'Yorkshire Chalk Groundwater' located within 0.7km north east of the Installation.

2.2.9. The Screening Report identified the protected species (fish) in the Humber Estuary. This is shown on the map provided on page 8 of the EA's Screening Report contained in Appendix I.

2.3. Potentially Sensitive Human Receptors

2.3.1. There are twenty four potentially sensitive human receptors identified within 1km of the Installation boundary which are outlined in Table 3 and displayed in Figure 4.

Table 3: Human Receptors within 1km of the Installation Boundary

Ref	Name	Easting (X)	Northing (Y)	Distance from Permit Boundary (m)	Direction
R1	Transwaste Melton Waste Park	496834	425491	0	E
R2	Omya UK Limited	496744	425645	10	N
R3	Melton Halt Motor Company Limited	496993	425633	166	NE
R4	Melton Enterprise Park – Industrial Estate off Brickyard Lane	497159	425388	174	E
R5	Unnamed Industrial unit and carpark adjacent to Heritage Landscape Centre	496872	425806	207	N
R6	Heritage Landscape Centre	496934	425766	210	N
R7	Residential area off Gibson Lane S	496957	425912	247	NNE
R8	Meltonwest Business Park – Industrial Estate off Jackson way	496461	425956	277	NNW
R9	Sewage Works	496837	425145	284	SE
R10	Riverside Industrial Estate off Gibson Lane	496710	424867	441	S
R11	Melton Court – Industrial Estate off Wyke Way	496895	426215	517	N
R12	Welton Water Sports Club	496183	425041	658	SE
R13	Industrial Estate off Monks Way	497211	426154	660	NNE

Table 4: Human Receptors within 1km of the Installation Boundary (Cont.)

Ref	Name	Easting (X)	Northing (Y)	Distance from Permit Boundary (m)	Direction
R14	Residential property on Lowfield Lane	496334	426294	766	NW
R15	Residential property on Poolbank Lane	496361	426397	831	NW
R16	Residential property off Brickyard Lane	497453	426150	841	NE
R17	Welton Water Adventure Centre	495864	425243	843	SE
R18	Petrol Filling Station	496892	426455	851	N
R19	Residential properties on Main Rd off Gibson Lane S	497218	426369	888	NE
R20	Residential Properties in Melton – Reynolds Close	496905	426502	919	N
R21	Public House	497536	426134	920	NE
R22	South Hunsley School and Sixth Form College and Sports Grounds	496810	426528	923	N
R23	Residential properties on Melton Old Road	497284	426462	997	NE
R24	Properties on Melton Fields	497535	426265	999	NE

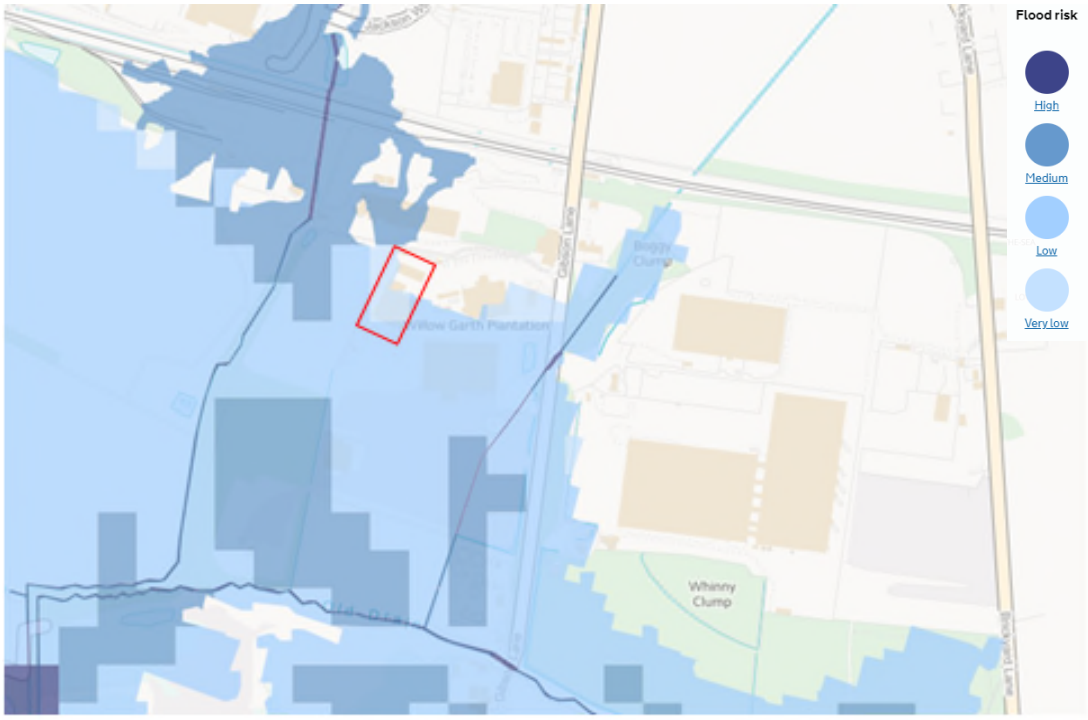
Figure 4: Indicative Locations of Potentially Sensitive Human Receptors

2.4. Risk of Flooding

2.4.1. The Humber Estuary is located approximately 0.83km south of the Installation's Environmental Permit boundary.

2.4.2. Figure 5 illustrates that the long term risk from flooding from rivers and sea at the Installation shown as the indicative red outline[3].

Figure 5: Flood Risk Map – Rivers and Seas



2.4.3. As can be observed in Figure 5, 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%.

2.4.4. Anecdotal evidence from Transwaste personnel indicates that the site did not flood during the extreme flood event of 2007.

[3] Long Term Flood Risk Information, available at: https://flood-warning-information.service.gov.uk/long-term-flood-risk/map, accessed January 2020.

2.4.5. Figure 6 illustrates that the long term risk from flooding from surface water at the Installation shown as the indicative red outline[3].

Figure 6: Flood Risk Map - Surface Water

2.4.6. As can be observed in Figure 6, 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.

2.4.7. A Flood Risk Assessment (2018-49, dated 25.01.2019) was undertaken by Piercy Design Chartered Architects (see Appendix II) 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) (see Appendix II) 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.

2.4.8. 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 being raised to enable 600mm above finished floor level where possible.

2.4.9. With reference to the recommendations detailed in the EA Planning Consultation Response, a Flood Management Plan (Eco 09.03.2020/FMP) has been prepared and is contained in Section 14 which details the flood warning system in place and evacuation plan including the provision of a temporary refuge in such a flood event.

3. IDENTIFICATION OF THE RISKS

3.1. Amenity Risks

3.1.1. Taking into account the nature of the activities that will be undertaken at the proposed Installation, the main amenity risks identified are as follows:

- emissions to air (combustion products);
- fugitive emissions to air (dust);
- emissions to water
- odour;
- noise; and
- general amenity risks (litter, mud, pests).

3.2. Accident Risks

3.2.1. The main accident risks have been identified as:

- fire;
- loss of power/system failure;
- loss of containment of potentially polluting materials;
- flooding; and
- vandalism.

4. ASSESSMENT OF RISKS

4.1. Methodology

4.1.1. The risk assessments have been undertaken using the following approach for amenity and accident risks:

- identification of hazards associated with the risk that have the potential to cause harm;
- identification of potential receptors i.e. what is at risk (for the purposes of this assessment, typical potential receptors have been identified)?
- pathway i.e. how can the hazard get to the receptor?
- risk management measures employed to reduce the risk to an acceptable level;
- probability of exposure i.e. how likely is this contact?
- consequence i.e. what is the harm that can be cause? and
- assessment of overall risk.

4.1.2. The assessments for the amenity and accident risks identified above are presented in Tables 4 and 5 respectively.

Table 5: Amenity Risk Assessment

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Emissions to Air						
Emissions to Air – Combustion Gases						
Combustion emissions from fuel drying operations (virgin wood fuelled boilers)	Human and ecological sensitive receptors population in surrounding area (see Section 2.2 and 2.3 of this ERA)	Release to air – windblown dispersion in atmosphere	Boilers will be tuned to ensure optimal operation. In addition, maintenance will be carried out periodically as per the Planned Preventative Maintenance Regime ("PPMR"), minimising PM_{10} present in emissions. A copy of the PPMR is contained in Section 7 of this application submission. The number of boilers in operation will be determined according to demand, therefore, minimising and reducing unnecessary emissions to air. An Air Quality Assessment ("AQA") (A115848 - White Young Green, dated January 2020) has been undertaken to determine the air quality impact of the 41 proposed boilers and associated emission points designated A1-A41. The AQA concluded that the predicted long term and short term nitrogen dioxide ("NO_2"), Particulate Matter ("PM") - PM_{10} and $PM_{2.5}$ and carbon monoxide ("CO") concentrations are all below relevant Air Quality Objectives ("AQOs") for the protection of human health. The significant of effects on the emissions on the ground level receptors with respect to long term NO_2, PM_{10}, $PM_{2.5}$ is deemed 'negligible'. The annual mean and daily (24 hour mean) nitrogen oxides ("NOx") predicted environmental concentrations ("PEC") at the ecological receptors from the boiler operations are below the relevant critical level for the protection of vegetation and ecosystems. The NO_x impacts from the boiler operations on ecological receptors are insignificant. The process contribution is <1% of the relevant critical load and is considered inconsequential. For more detail, please refer to the AQA Report submitted in Section 9 of this application.	Low - Medium Risk management measures should prevent release from reaching the identified receptors	Damage to architecture and sensitive habitats. Possible adverse health effects	Low -Medium if risk management measures are strictly adhered to

Table 4: Amenity Risk Assessment (Cont.)

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Emissions to Air						
Fugitive Emissions to Air (e.g. dust)						
Dust emissions from delivery of waste materials, during main operations and processing and removal of finished product	Human population in surrounding area (see Section 2.3 of this ERA)	Release to air – windblown dispersion in atmosphere	Materials will be delivered to the Installation via sheeted/netted Heavy Goods Vehicles ("HGVs") and will be offloaded via walking floors or ejector trailers with 2m controlled drop heights. The waste will be tipped directly into the enclosed Feed Material Storage Area. The material will then be moved into the main processing building for processing to minimise any fugitive emissions to air reaching sensitive receptors. Processed waste and finished product (i.e. SRF and RDF) will also be stored internally within separate dedicated areas prior to collection by appropriately licenced waste carriers. Daily visual inspection of fugitive emissions will be undertaken by the Site Manager and/or deputy to monitor to identify and record any activities that are either resulting in dust emissions or have the potential to give rise to dust emissions which could escape the Installation Environmental Permit boundary. The daily monitoring checks together with any actions taken to address any identified issues will be recorded on the Daily Site Monitoring Check Sheet. A blank example of which is provided in Section 7 of this application submission. An Emissions Management Plan ("EMP") (Eco 09.03.2020/EMP) has been prepared which outlines potential sources and details the dust control measures to be implemented. The EMP has been submitted in Section 10 of this permit application.	Low-Medium Risk management measures should prevent release from reaching the identified receptors	Possible dust nuisance	Low -medium if risk management measures are strictly adhered to

Table 6: Amenity Risk Assessment (Cont.)

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Emissions to Water						
Emissions to Water – Surface Water						
Fugitive emissions to surface water	Drain leading to the Humber Estuary	Via surface water drainage system and settlement pond	There are no process contributions to surface water associated with the proposed activities. Only clean surface runoff (i.e. rainwater) will be discharged to the surface water drainage system. The drainage arrangements are shown on the Drainage Arrangements Plan (Drawing 05) contained in Section 3 of this application submission. The surface water drainage run to the north is via an interceptor in the car park prior to entering a Settlement Pond. The drainage run to the south runs directly into the Settlement Pond. The clean water then discharges to a drain leading to the Humber Estuary. There is an isolation valve at the Settlement Pond which can be used in an emergency situation to prevent any flow from reaching controlled waters. All site personnel will be trained in the closing of this valve.	Low-Medium	Contamination of controlled waters	Low if risk management measures are strictly adhered to
Emissions to Water – Foul Sewer						
Fugitive emissions to foul sewer	Effluent Treatment Plan and subsequently, controlled waters	Via foul water drainage system	There are no process contributions i.e. point source emissions to foul sewer associated with the proposed activities. Only clean surface runoff (i.e. rainwater) will be discharged to the foul water drainage system. The drainage arrangements are shown on the Drainage Arrangements Plan (Drawing 05). Transwaste hold the relevant Trade Effluent Consent for the emissions to sewer from Melton Waste Park.	Low-Medium	Contamination of controlled waters	Low if risk management measures are strictly adhered to

Table 7: Amenity Risk Assessment (Cont.)

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Emissions to Water						
Emissions to Groundwater						
Fugitive emissions to groundwater	Groundwater	Downward migration/ percolation through ground	There are no process contributions i.e. point source emissions associated with the proposed activities. The entire Installation is surfaced with impermeable concrete preventing a pathway to groundwater. Infrastructure integrity checks are recorded on the EMS Day Diary Checks Form which is contained in Section 7 of this application submission.	Low	Contamination of groundwater	Low if risk management measures are strictly adhered to
Odour						
Odorous emissions to atmosphere from waste and/or from drying floor operations	Human population in surrounding area (see Section 2.3 of this ERA)	Release to air – windblown dispersion in atmosphere	The Installation will only accept and process waste with little to no organic matter present. All operations and processing activities will take place internally within the buildings to prevent any potentially odorous emissions reaching sensitive receptors. Daily inspections of site will be undertaken to monitor odour at a number of locations and will be recorded on the Daily Site Monitoring Checksheet contained in Section 7 of this submission. In relation to the waste drying floor operations, a detailed odour assessment was undertaken (Reference A115848 - White Young Green, January 2020) which has been submitted in Section 9 of this application. An Odour Management Plan ("OMP") (Eco 09.03.2020/OMP) has been prepared which outlines in detail the odour control measures. The OMP has been submitted in Section 11 of this application.	Medium - High The risk management measures should prevent odours developing and reaching the identified receptors	Possible odour nuisance	Low-medium if risk management measures are strictly adhered to

Table 4: Amenity Risk Assessment (Cont.)

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Noise						
Vehicle movements, tipping of waste and main processing activities	Human population in surrounding area (see Section 2.3 of this ERA)	Release to Air. Installation is close enough to human sensitive receptors for noise to be potentially audible.	The designated vehicle route reduces the need for vehicular movements and hence reduces the intermittent beeping generated during reversing manoeuvres as required for the health and safety of all workers. Additionally, site vehicles will be kept to a minimum with all vehicles limited to 5 mph on site. All tipping activity will be supervised by an Eco-Power competent person with drop heights of 2m controlled to reduce the generation of noise. All operations and processing activities are located internally within the Installation building to attenuate any potential noise emissions which may reach sensitive receptors. All site plant and equipment will be covered by the PPMR which will be contained within the Environmental Management System ("EMS") to ensure adequate maintenance of any parts of the plant or equipment whose deterioration may give rise to increases in noise. A site inspection will be undertaken daily by the Site Manager and/or deputy, monitoring and recording any activities that could give rise to noise outside the Installation boundary. This will be recorded on the Daily Site Monitoring Check Sheet. A Noise Management Plan ("NMP") (Eco 09.03.2020/NMP) has been prepared which identifies the potential noise sources and outlines in detail the noise control measures implemented at the site. The NMP has been submitted as part of this permit application.	Medium. The risk management measures should prevent noise reaching the identified receptors	Possible noise nuisance	Low if risk management measures are adhered to rigorously

Table 4: Amenity Risk Assessment (Cont.)

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
General Amenity Risks						
Litter releases, pests moving off site and presence of mud/debris.	Human population in surrounding area (see Section 2.3 of this ERA)	Releases to air/windblown (litter and flies) or via air and land (vermin and mud).	Approximately 7m high litter fences surround the north and west perimeter of the Installation which will prevent the escape of litter emissions. All processing operations and storage areas are located internally. Waste piles will be processed within 1 week to prevent pest habitat formation. Additionally, Eco-Power will accept the minimum amount of waste from their suppliers in order to provide a continuous supply for their operational needs and prevent stockpiling of waste at the Installation. The Installation is entirely surfaced with impermeable concrete and strict housekeeping standards will be upheld. Daily inspections of the Installation will be undertaken and any observed litter and sources of mud will be removed. This will be recorded on the Daily Site Monitoring Check Sheet. An Emissions Management Plan ("EMP") (Eco 09.03.2020/EMP) has been prepared which outlines in detail the litter control measures to be implemented. The EMP has been submitted as in Section 10 of this application. A Pest Management Plan ("PMP") (Eco 09.03.2020/PMP) will form part of the Installation's EMS which outlines in detail the pest control measures to be implemented. The PMP has been submitted in Section 13 as part of this permit application.	Medium to high. The risk management measures should prevent litter, mud or pests reaching the identified receptors	Possible adverse health effects and nuisance	Low-medium if risk management measures are strictly adhered to

Table 8: Accident Risk Assessment

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Fire						
Fire at the site.	Human and ecological sensitive receptors population in surrounding area (see Section 2.2 and 2.3 of this ERA)	Release to air – windblown dispersion in atmosphere	The Installation will operate in accordance with Fire Prevention Plan ("FPP") (Eco 09.03.2020/FPP) which is has been submitted in Section 8 as part of this permit application. This provides detailed fire control measures, however, a summary is provided below. The pre-acceptance and acceptance procedures will ensure no non-permitted waste is accepted at the Installation. Any waste that is identified will be removed and quarantined. Fire detection alarm systems and fire suppression systems by a UKAS accredited company will be installed, maintained and tested according to Fire and Rescue Service ("FRS") recommendations. A Permit to Work system will be in place to control high risk activities, including hot works. Preventative maintenance on all equipment is undertaken as per the Installation's PPMR contained in Section 7 of this application. The PPMR will prevent any faults occurring through vigorous routine maintenance and inspections. Designated smoking areas are in place with smoking prohibited in all buildings. Training will be provided to all personnel in relation to preventing fires and identifying fire risks with provision of manual extinguishers. Firefighting training will be provided to nominated personnel.	Medium. The risk management measures should prevent any release from reaching the identified receptors.	Combustion gases (smoke) and localised nuisance.	Low - if risk management measures are strictly adhered to

Table 5: Accident Risk Assessment (Cont.)

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Fire (Cont.)						
Releases of potentially contaminated firewater.	Drain leading to the Humber Estuary	Via surface water drainage system and settlement pond	Firewater containment measures are detailed in the FPP (Eco 09.03.2020/FPP) submitted in Section 8 of this permit application. Firewater will be contained using bunds and booms and the firewater would then be tankered off site to an appropriately licenced Facility. Drain mats will be deployed to prevent any firewater from entering the drainage system. The isolation valve located at the Settlement Pond will also be closed immediately to ensure that there would be no risk of firewater entering the drain leading to the Humber Estuary.	Low Risk management measures should prevent any release from reaching the identified receptors	Contamination of controlled waters	Low - if risk management measures are strictly adhered to
Spillage of Potentially Polluting Substances						
Loss of containment of diesel from site vehicles during transfer from bulk tanker, during transfer to mobile plant/equipment and during storage. Loss of containment of chemicals, such as lubricants.	Drain leading to the Humber Estuary	Via surface water drainage system and settlement pond	Prior to transfer, checks are undertaken to ensure all transfer equipment is intact and there is sufficient capacity for transfer. A member of Eco-Power will supervise at all times. The filling couplings are also located within bunded areas ensuring any small leaks would be captured. All other pipework associated with the storage tanks are located within the bund. The 3 x 20,000l diesel tanks are bunded to provide capacity of 110% of the total volume of each tank and tanks are positioned away from site traffic and barriers will also be erected to prevent any potential collisions. Other potentially polluting chemicals stored on site in smaller quantities will be housed internally within the workshop building on appropriate bunding.	Low Risk management measures should prevent any release from reaching the identified receptors	Contamination of controlled waters	Low - if risk management measures are strictly adhered to

Table 5: Accident Risk Assessment (Cont.)

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Loss of Containment of Potentially Polluting Materials (Cont.)						
Loss of containment of diesel from site vehicles, during transfer from bulk tanker, during transfer to mobile plant/equipment and during storage. Loss of containment of chemicals, such as lubricants during storage and application.	Drain leading to the Humber Estuary	Via surface water drainage system and settlement pond	Tank and bunding integrity and maintenance checks will be undertaken as part of the Installation's Site EMS Day Diary Checks Form contained in Section 7 of this submission. Site vehicles are subject to annual servicing and maintenance checks and daily checks, such as evidence of obvious leaks are undertaken on site vehicles prior to use. Any delivery vehicle allowed entry onto site must be serviced and road worthy. Any evidence of leaks from these vehicles will be recorded and communicated. Further entry to site will be refused until repairs have been made. In the event of a spill, site personnel are trained in the spillage response procedure contained in the AMP. Spill kits will be well stocked and placed in strategic locations. If deemed necessary during a spill, the Settlement Pond isolation valve will be closed.	Low Risk management measures should prevent any release from reaching the identified receptors	Contamination of controlled waters	Low - if risk management measures are strictly adhered to
Loss of Power/System Failure						
Accumulation of raw materials waiting to be processed creating potential for particulate emissions	Human population in surrounding area (see Section 2.3 of this ERA)	Release to air – windblown dispersion	The Installation has pre-determined storage capacity limits which will not be exceeded in the event of major system failure/loss of power. Transport hauliers will be contacted to ensure no additional waste is transported and accepted at the Installation until all operations recommence. The PPMR includes maintenance and inspection of all process equipment to ensure good working order to reduce the risk of complete system failure.	Low Risk management measures should prevent any release from reaching the identified receptors	Potential dust nuisance	Low - if risk management measures are strictly adhered to

Table 5: Accident Risk Assessment (Cont.)

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Loss of Power/System Failure (Cont.)						
Accumulation of raw materials waiting to be processed creating potential for particulate emissions	Human population in surrounding area (see Section 2.3 of this ERA)	Release to air – windblown dispersion	Competent personnel will inspect all equipment prior to recommencement of activities and the acceptance of waste. If loss of power occurs during out of hours, the security company will inform the Site Manager.	Low Risk management measures should prevent any release from reaching the identified receptors	Potential dust nuisance	Low - if risk management measures are strictly adhered to
Flooding						
Local watercourse breaks its banks inundating the Installation and potentially carrying waste materials and potentially polluting materials offsite	Human and ecological sensitive receptors population in surrounding area (see Section 2.2 and 2.3 of this ERA)	Via surface water drainage system and settlement pond and/or overland escape	See Section 2.4. of this ERA. With consideration to the EA Consultee Response, a Flood Management Plan (Eco 09.03.2020/FMP) has been prepared as part of this permit application. Additionally, routine checks to site infrastructure, including perimeter fencing and sealing of buildings are undertaken as part of the Installation's EMS and recorded on the Site EMS Day Diary Checks Form contained in Section 7 of this submission. This will prevent any water ingress into buildings and egress of waste from the Installation.	Medium – High Risk management measures should prevent any release from reaching the identified receptors	Waste debris nuisance. Damage to sensitive ecological receptors	Low - if risk management measures are strictly adhered to

Table 5: Accident Risk Assessment (Cont.)

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Vandalism						
Vandalism or unauthorised access resulting in any of the above.	Any of the above.	Any of the above.	The entire Transwaste Melton Waste Park is secured by a perimeter fence and large entrance gate which is locked when the site is non-operational. A remote closed-circuit television ("CCTV") monitoring system will be in place which will survey all areas of the Installation. The site is manned 24/7 365 days of the year to enable constant surveillance. Key members of staff are also on call to attend site out of hours if required.	Low Risk management measures should prevent any release from reaching the identified receptors	Any of the above.	Low - if risk management measures are strictly adhered to

5. SUMMARY

5.1. Results of the Assessment

5.1.1. The results of both the Amenity and Accident Risk Assessments (Tables 4 and 5) indicate that some of the risks relating to the proposed operations have the potential to be medium-high. However, specific management plans have been created to ensure robust mitigation measures are implemented to significantly reduce the risk of sensitive ecological and human receptors being affected.

5.1.2. As a result of the risk assessment findings, the following management plans have been prepared in line with the relevant EA guidance and will be implemented as part of the Installation's EMS:

- Emissions Management Plan (Eco 09.03.2020/EMP);
- Odour Management Plan (Eco 09.03.2020/OMP);
- Noise Management Plan (Eco 09.03.2020/NMP)
- Pest Management Plan (Eco 09.03.2020/PMP);
- Fire Prevention Plan (Eco 09.03.2020/FPP); and
- Flood Management Plan (Eco 09.03.2020/FMP).

5.2. Conclusion

5.2.1. The risks from the Installation in terms of accident and amenity risk can be considered low providing all risk management measures, including those contained within the specific management plans, are implemented and strictly adhered to.

APPENDIX I
EA NATURE AND HERITAGE CONSERVATION SCREENING REPORT

Nature and Heritage Conservation

Screening Report: Bespoke installations

Reference	**EPR/MP3107PP/A001**
NGR	**SE 96797 25423**
Buffer (m)	**210**
Date report produced	**9 August 2019**
Number of maps enclosed	**6**

The nature conservation sites identified in the table below must be considered in your application.

Nature and heritage conservation sites	Screening distance (km)	Further information
Special Areas of Conservation (cSAC or SAC) **Humber Estuary (SAC)**	10	Joint Nature Conservation Committee
Special Protection Area (pSPA or SPA) **Humber Estuary (SPA)**	10	Joint Nature Conservation Committee
Ramsar **Humber Estuary (Ramsar)**	10	Joint Nature Conservation Committee
Sites of Special Scientific Interest (SSSI) **Humber Estuary (SSSI)** **Melton Bottom Chalk Pit (SSSI)**	2	Natural England
Local Wildlife Sites (LWS) **North Ferriby Ings and Field Welton Water** **Brough Airfield** **Melton Clay Pit** **Melton Bottoms**	2	Appropriate Local Record Centre (LRC)

Protected Species	Screening distance (m)	Further Information
Smelt migratory route **Twaite shad migratory route** **Allis shad migratory route**	up to 500m	Natural England Environment Agency. Dial 03708 506 506 for your local Fisheries and Biodiversity team

Where protected species are present, a licence may be required from Natural England or the Welsh Government to handle the species or undertake the proposed works.

The relevant Local Records Centre must be contacted for information on the features within local wildlife sites. A small administration charge may also be incurred for this service.

Please note we have screened this application for protected and priority sites, habitats and species for which we have information. It is however your responsibility to comply with all environmental and planning legislation, this information does not imply that no other checks or permissions will be required.

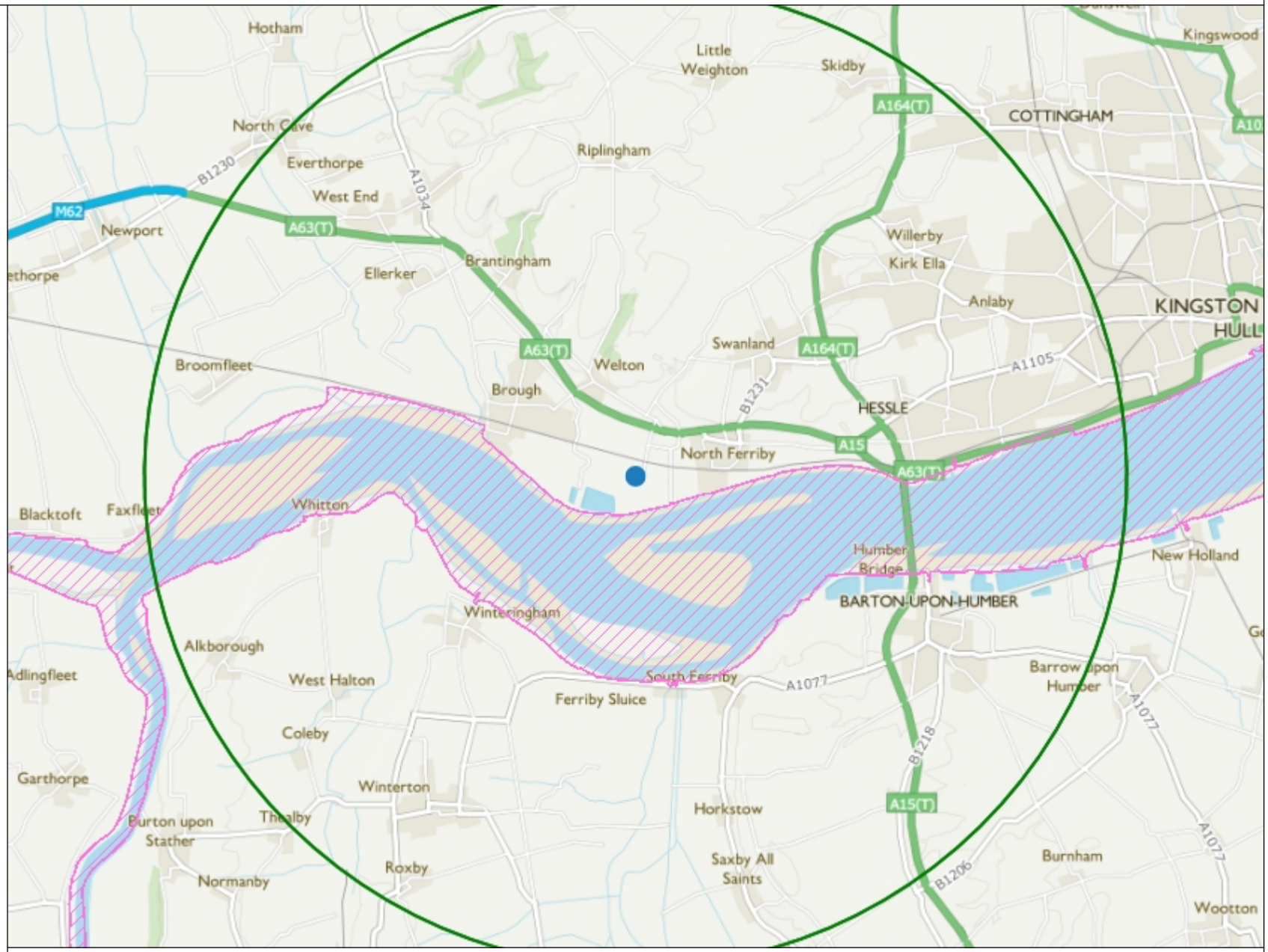
Please note, the enclosed pre-application map(s) is valid for a period of **6 months**. If you plan to submit your application more than 6 months after the map(s) was generated, you must request that the screen is re-run. This will ensure that you have used the most current information on heritage and nature conservation interests in your application.

SAC

Environment Agency

Legend

- SAC (England)
- SAC (Wales)



0 1,176 2,352 3,528

Metres

N W E S

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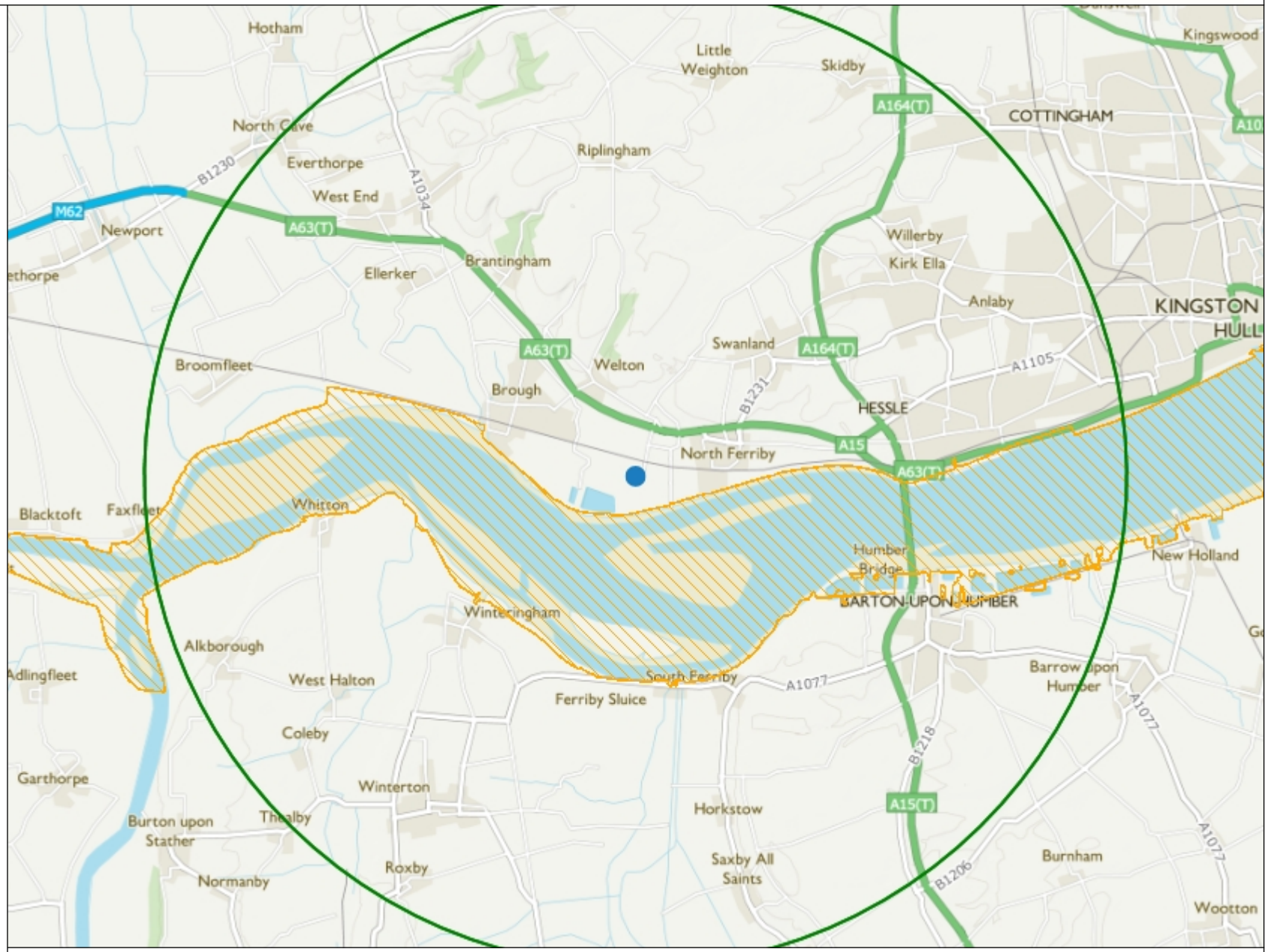
SPA

Environment Agency

Legend

- SPA (England)
- SPA (Wales)



0 1,176 2,352 3,528

Metres

N W E S

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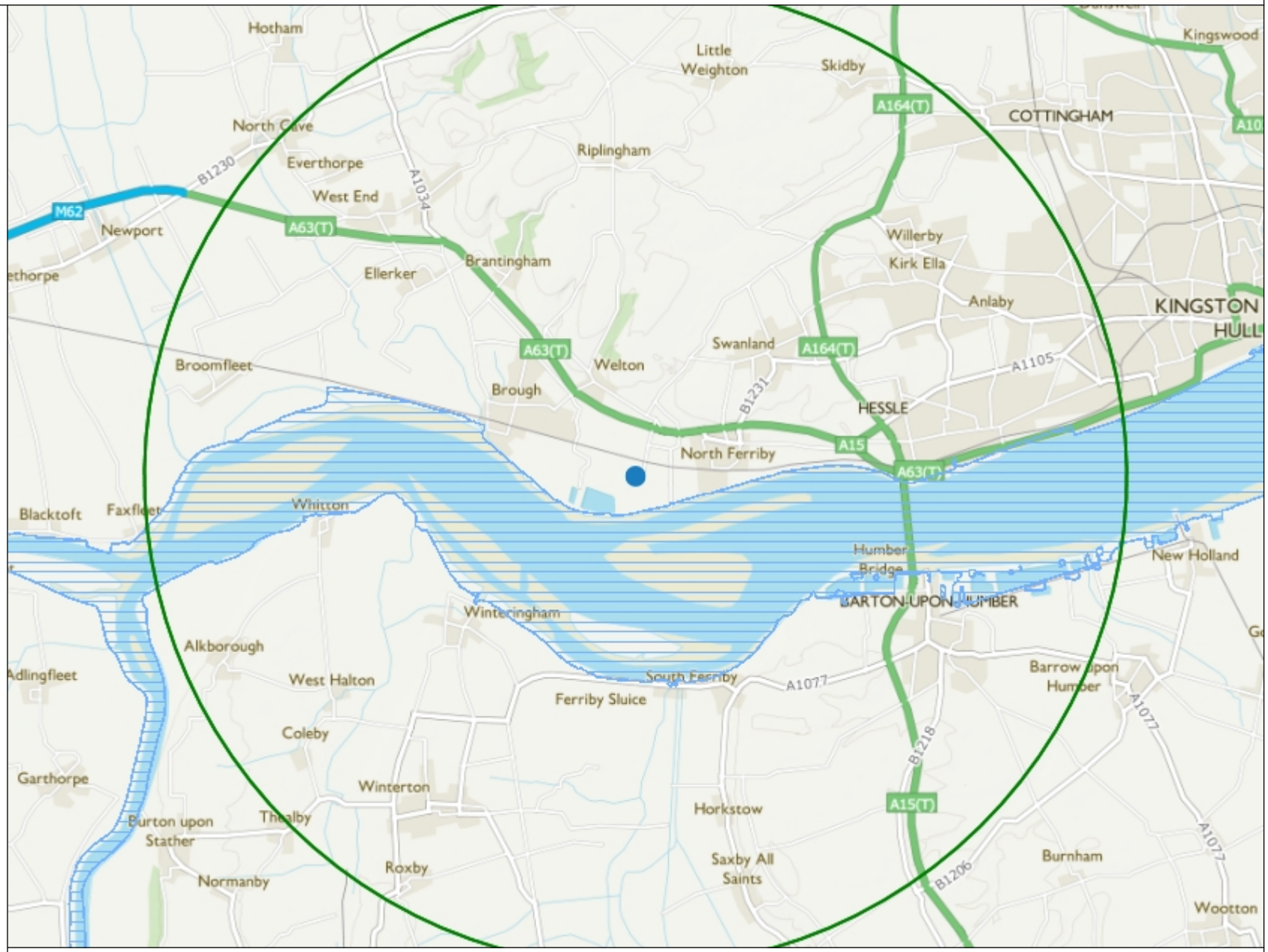
Ramsar

Environment Agency

Legend

- Ramsar (England)
- Ramsar (Wales)



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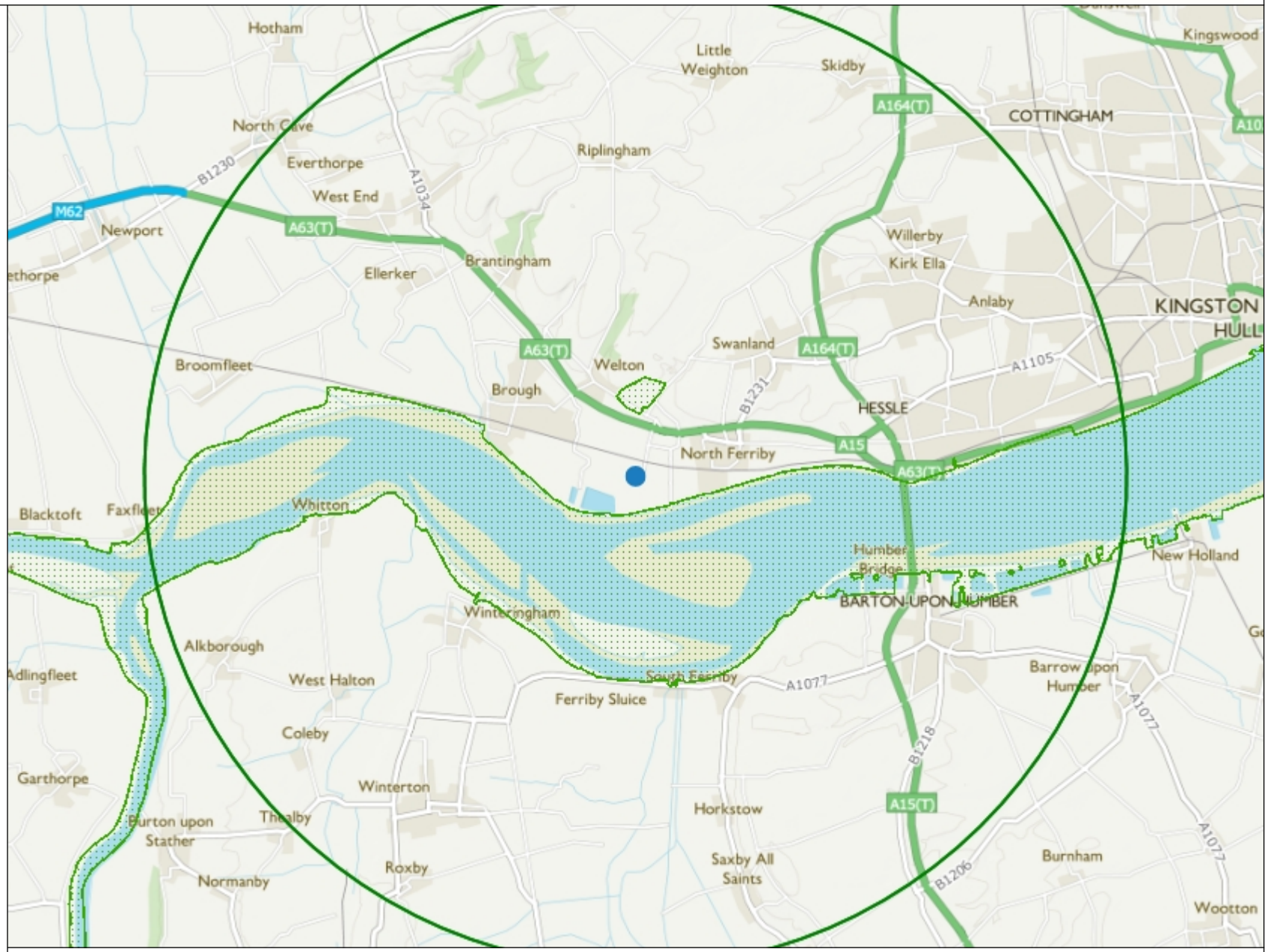
SSSI

Environment Agency

Legend

- SSSI (England)
- SSSI (Wales)



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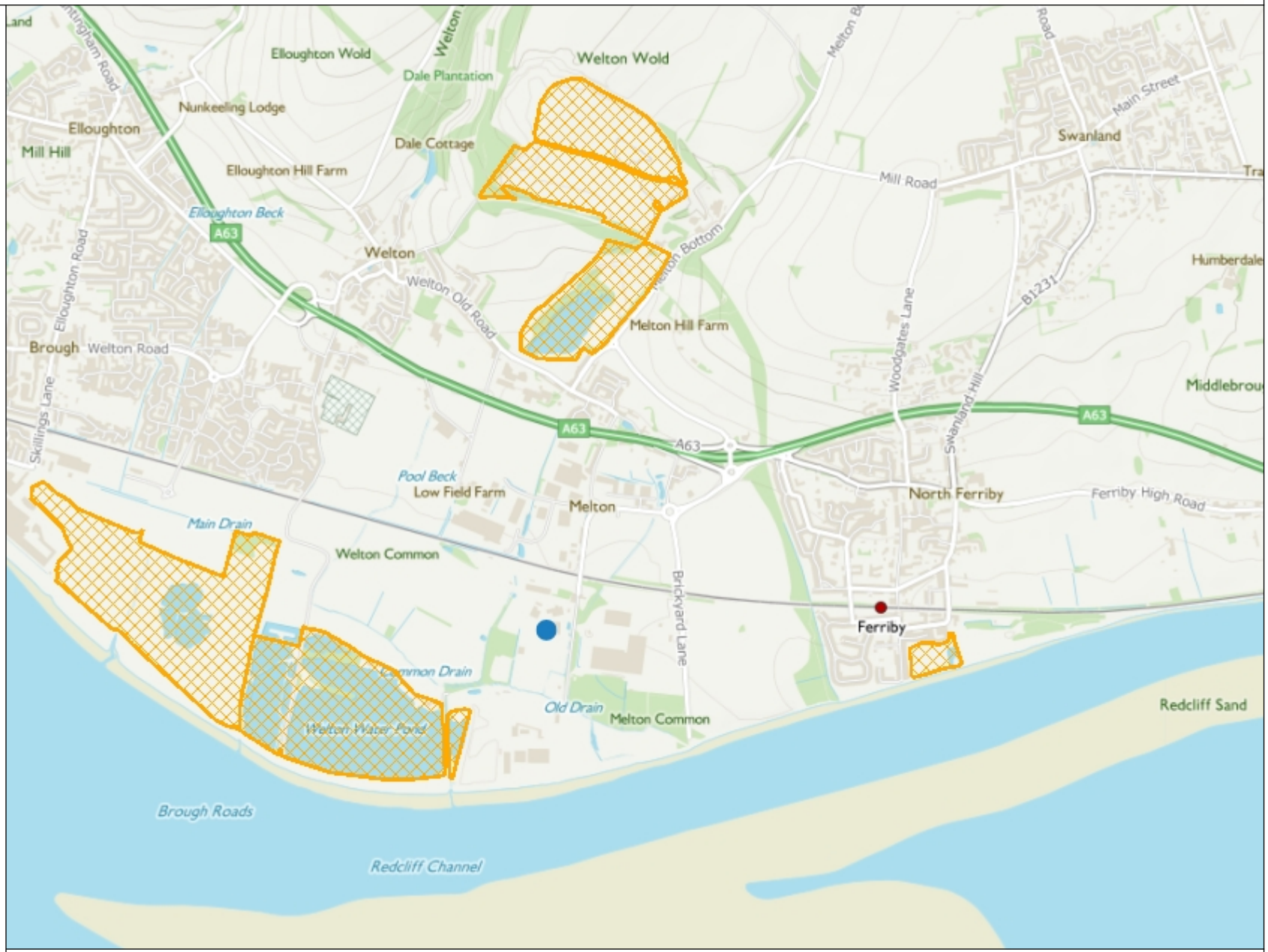
LWS

Environment Agency

Legend

Local Wildlife Sites



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Metres

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W E
S

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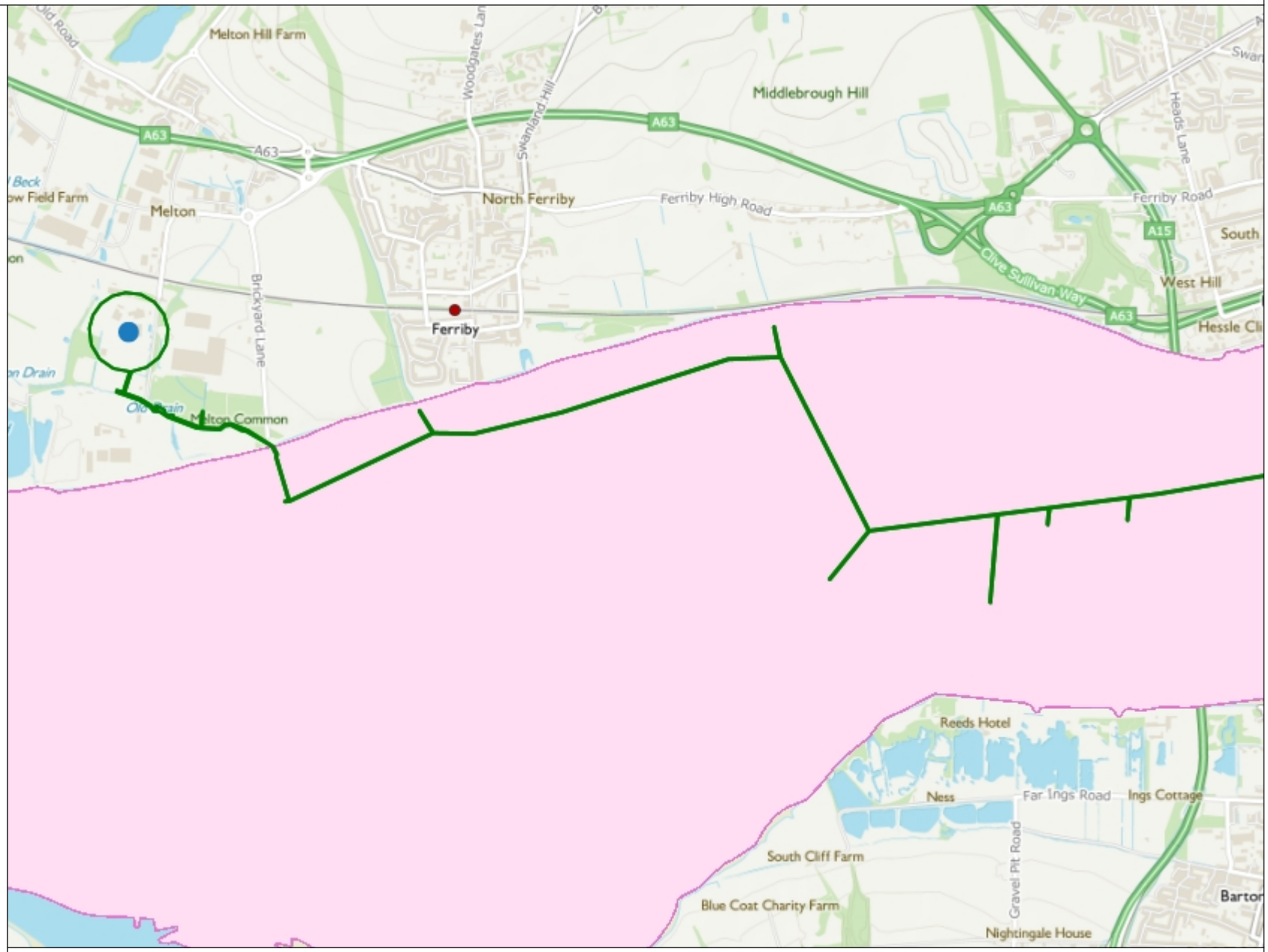
Protected Species

Environment Agency

Legend

Protected species screened for Env Permits - complete set

- Protected species, non fish
- Protected fish
- Protected fish migratory route



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Metres

N W E S

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APPENDIX II
FLOOD RISK ASSESSMENT AND EA CONSULTEE RESPONSE

PROPOSED RETENTION AND EXTENSION OF EXISTING BUILDINGS TO FORM SRF (SOLID REFINED FUEL) BUILDING AT WASTE TREATMENT PLANT, GIBSON LANE, MELTON

piercy design
CHARTERED ARCHITECTS

FLOOD RISK ASSESSMENT

Criteria for Assessment

The main factors to be considered when undertaking a flood risk assessment are the likely maximum predicted flood level and the nature of existing flood defences. In terms of potential flooding from the nearby Humber Estuary, the flood level should be calculated from the level of a 1 in 200 year tidal event whilst also taking account of the effect of climate change over the next 50 years. Table 4 in the Technical Guidance to NPPF however recommends contingency allowances for net sea level rise relative to 1990 based on administrative region. For the East of England (south of Flamborough Head) the net sea level rise varies between a figure of 4mm/year over the period 1990 – 2025, 8.5mm/year 2025-2055, 12.0mm/year 2055-2085 and 15.0mm/year over the period 2085 - 2115.

The 1 in 200 year tidal level (including the allowance for climate change) of the Humber Estuary at Hull should therefore be taken as being 5.712m AOD based on the net sea level rises indicated in Table 4 of the Technical Guidance to NPPF to the year 2065 - an additional 150mm could be added to this level to allow for a 1 in 500 year flood event giving an extreme water level of 5.862m AOD.

Site Elevation

Existing terrain plans underestimate the current elevation of the site above AOD. The entire site including the footprint of the proposed AD plant has previously been raised through the importation of aggregate to the same level as the adjacent Transwaste operations to the north. The entire site is above 5.4m AOD at present, and site preparation works and the creation of the hardstanding to accommodate the development will increase the minimal height AOD of the development site to 6m. Existing surveyed spot heights of the site and the adjacent Transwaste site are provided on the topographic survey plan.

The developed building will, therefore, be of a similar level AOD to the Transwaste site to the north, parts of which are in Flood Zone 1.

The existing building is located 550m to the north of the Humber Estuary. Existing flood defences along the Humber to the south of the site are set above the critical flood level for the Estuary, as detailed above, and will therefore not be over topped in anticipated flooding events. Even in the event of these defences failing, no flooding of the site would occur. With an average site level of at least 6m AOD, on completion, the site is above the height of the flood defences and as such any potential flood event. Therefore, the risk of the site experiencing flooding from the

Humber Estuary is considered to be extremely low.

It is also noted that the site operator has confirmed that the site did not flood during the extreme flood event of 2007.

Safeguarding the development and site personnel

As stated above, no part of the developed site would be located at a level below 6m AOD. The existing building on the site, is of a two storey construction and provides a refuge area for site staff in the event of a flood.

Contribution to flood risk elsewhere

It is not envisaged that there will be any significant discharge of surface water to the natural environment outwith the site.

Any excess run off from the site would be collected in the consented SUDs Lagoon which forms part of the adjacent proposed Energy from Waste scheme, which has the capacity to accommodate this volume. This will also be used as a source of water for the AD process.

It is not considered that the proposed development would result in any potential to increase flood risk outwith the site.

Sequential Test

The wood burning plant is integral to the processing of existing material which is already imported onto the Transwaste site and therefore needs to be located in the identified location in order to reduce highway movements.

Mr Matthew Sunman
East Riding of Yorkshire Council
Planning & Development Control
County Hall
Cross Street
Beverley
North Humberside
HU17 9BA

Our ref: RA/2019/139836/01-L01
Your ref: 19/00313/CM

Date: 15 March 2019

Dear Mr Sunman

ERECTION OF EXTENSIONS TO REAR AND SIDE OF EXISTING BUILDING TO FORM WASTE TREATMENT PLANT PRODUCTION BUILDING (SOLID REFINED FUEL) FOLLOWING DEMOLITION OF EXISTING STRUCTURES (RETROSPECTIVE)
TRANSWASTE RECYCLING AND AGGREGATES LIMITED GIBSON LANE SOUTH MELTON EAST RIDING OF YORKSHIRE HU14 3HH

Thank you for consulting the Environment Agency regarding the above mentioned proposed development. We have reviewed the information submitted and we wish to make the following comments

Environment Agency Position

Flood Risk

We have no objection to this retrospective application.

Considerations For Managing Flood Risk

The following issues are not within our direct remit or expertise, but nevertheless are important considerations for managing flood risk for this development. Prior to deciding this application we recommend that consideration is given to the issues below. Where necessary, the advice of relevant experts should be sought.

- Details and adequacy of an emergency plan for users of the site
- Provision of and adequacy of a temporary refuge
- Details and adequacy of flood proofing and other building level resistance an resilience measures

We can provide the following information on the characteristics of flooding at this site to help with your decision:

Whilst we do not object to this application on the basis that the flood risk is considered to be sufficiently low with the mitigation in place (FFL at 6.2mAOD) and assuming the land use vulnerability is considered ‘Less Vulnerable’. We would highlight that we do not agree with the applicant’s assessment of the extreme water level of 5.86mAOD for the 50 year lifetime of the development. With climate change factored in this level may be closer to 6.4mAOD at this location based on the Interim Water Level data from 2015.

In this way, in order to minimise the cost and impact of flooding we would strongly recommend flood proofing measures, to include any flood sensitive equipment or services in this building being raised, to a minimum of 600mm above Finished Floor Level where this is possible in retrospect.

It is also considered appropriate for the LPA to approve an amended flood warning and evacuation plan with details of this development to ensure future operators are kept safe in the event of a flood.

Pollution Control

On the understanding that this is a retrospective application to authorise retention and extension of buildings built in a different place to original permission, we have no objection.

Trans waste have been advised that this will need a variation of the environmental permit relating to the SRF activity.

Should you require any additional information, or wish to discuss these matters further, please contact me on the number below.

Yours sincerely

Ms CLAIRE DENNISON
Sustainable Places - Planning Advisor

Direct dial 02030256425
Direct team 02030256862
Direct e-mail claire.dennison@environment-agency.gov.uk

End