Denbighshire County Council
Colomendy Industrial Estate Waste Transfer Station

Phase 1 Site Condition Report (SCR)

On behalf of **Denbighshire County Council / Cyngor Sir Ddinbych (DCC)**

Project Ref: 332610580/R1 | Rev: 02 | Date: September 2023

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For and on behalf of Stantec UK Limited				

Revision	Date	Description	Prepared	Reviewed	Approved
01	01/09/2023	First Version	CW	GW	SH
02	04/09/2023	Second Version Update following Eunomia review	CW	GW	SH
03					
04					

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1 Introduction

1.1.1 Eunomia Research & Consulting Ltd, on behalf of Denbighshire County Council / Cyngor Sir Ddinbych (DCC), has commissioned Stantec UK Ltd ("Stantec") to prepare a Site Condition Report (SCR) to support an Environmental Permit (EP) application for a Waste Transfer Station (WTS) located on undeveloped land adjacent to Colomendy Industrial Estate in Denbigh ("the Site").

1.1.2 DCC initially commissioned Daear Geo Consulting ("Daear") to prepare a SCR. An initial version of a SCR was drafted but could not be finalised. The findings presented in Section 2 of this SCR prepared by Stantec are based on Stantec's assessment of the information presented by Daear in the previous draft version of the SCR.

1.1.3 The location of the Site is illustrated in Figure 001 and the EP Boundary and Site Layout is illustrated in Figure 002a. The proposed development comprises hardstanding for parking in the western area of the Site and a recycling facility with associated storage bays in the eastern area. Structures on the Site include storage bays with 4m high pre-cast concrete segregating push walls and a number of retaining walls to accommodate the sloping nature of the Site.

1.1.4 This SCR has been prepared in accordance with the Natural Resources Wales (NRW) Guidance for Applicants H5 Site Condition Report (NRW, 2014) and using the H5 template v5, dated October 2014. The objective of the SCR is to record and describe the condition of the land at the time of the EP application. The SCR will provide a point of reference and baseline environmental data so that when the EP is surrendered it can be demonstrated that there has been no deterioration in the condition of the land and it is in a 'satisfactory state' on surrender of the EP.

1.1.5 Sections 1 to 3 of the NRW SCR template have been completed in the preparation of this document, which comprises the following:

- Site details;
- Condition of the land at permit issue;
- Geology;
- Hydrogeology;
- Hydrology;
- Pollution History;
- Evidence of historic contamination;
- Permitted activities; and,
- Risk Assessment based on NRW guidance *Environmental risk assessment - H1.*

1.1.6 Sections 4 to 7 of the SCR template will be maintained during the life of the EP and Sections 8 to 10 will be completed and submitted in support of the application to surrender the EP.

2 Site Condition Report H5 Template

1.0 SITE DETAILS	
Name of the applicant	Denbighshire County Council
Activity address	Colomendy Waste Transfer Station Denbighshire County Council Waste Recycling Centre Graig Road Denbigh Denbighshire LL16 5US
National grid reference	SJ 05395 67429

Document reference and dates for Site Condition Report at permit application and surrender	Report Reference: 332610580/R01, September 2023

Document references for site plans (including location and boundaries)	Figure 001 – Site Location Plan (Eunomia, 2022) Figure 002 – Environmental Permit Boundary and Site Layout (Denbighshire County Council, 2022) Figure 002b – Site Drainage Plan (Denbighshire County Council, 2022) Figure 003 – Sources, Pathways and Receptors Plan (Eunomia, 2022).

2.0 CONDITION OF THE LAND AT PERMIT ISSUE	
Environmental setting including: • geology • hydrogeology • surface waters	***Environmental Setting*** The Site comprises agricultural land located directly north of the Colomendy Industrial Estate, on the northern fringe of the town of Denbigh. The approximate grid reference is SJ 05395 67429. ***Geology*** The British Geological Survey Website (BGS, 2023) shows that superficial deposits comprise Devensian glacial till and are likely to be present beneath the whole Site area. The bedrock geology at the Site is comprises Carboniferous Limestone beneath the west of the Site and Kinnerton Sandstone to the east. A fault separates the two rock types, which runs across the Site in a N-S direction. The limestone bedrock is quarried approximately 250m west of the site and outcrops to the west of the Site. The limestone is identified as a potential source of radon gas. The Envirocheck report states that the Site is situated within a lower probability radon area. Source: BGS Geoindex Online Database (1:50,000), (2023) ***Hydrogeology*** The Envirocheck report (2019) indicates that the bedrock aquifer designation is classified a 'Principal' aquifer which has high intergranular and/or fracture permeability, usually providing a high level of water storage. The superficial deposits are classified a 'Secondary Undifferentiated'. Secondary Undifferentiated are aquifers where it is not possible to apply either a Secondary A or B definition because of the variable characteristics of the rock type. These have only a minor value. Groundwater and surface water flows are likely to be to the east, following the local topography. The glacial till is likely to be a low permeability stratum, with groundwater flows limited to the near surface topsoil and subsoils and any granular horizons within the strata. Groundwater flows are likely to be controlled by fissure flows within the limestone and intergranular flows within the sandstone. Source: Envirocheck (2019) ***Groundwater Vulnerability*** The soils are of low leaching potential soils in which pollutants are unlikely to penetrate the soil layer because water movement is largely horizontal, or they have large ability to attenuate diffuse pollutants. Lateral flow from these soils can contribute to groundwater recharge elsewhere in the catchment. Source: Envirocheck (2019)

2.0 CONDITION OF THE LAND AT PERMIT ISSUE	
	Source Protection Zone The Site is not situated within a groundwater Source Protection Zone. There are two designated Source Protection Zones approximately 1km to the east of the Site. One is classified as Zone II (Outer Protection Zone) and the other a Zone III (Total Catchments). There is one abstraction license within 1.5km Southeast of the Site for general farming and domestic use from a single point well. ***Surface Water Features*** There is a small ditch running along the southern boundary and a small stream, likely seasonal, originating from a pond mid-way along the northern site boundary and running east adjacent to the northern Site boundary towards the Henllan Brook approximately 1.2km east which flows onward to the Clwyd River. Approximately 2.5km South of the Site, the River Ystrad runs east to west. Source: Magic Maps (2023) ***Flooding*** ***River or Coastal Flooding*** The Envirocheck Report states that the Site does not lie within an area at risk from flooding of rivers or seas. Surface Water FloodingNRW Flood Risk mapping suggests that there is a low (1 in 1000) to medium (1 in 100) risk of flooding from surface water and small watercourses to the north of the site (NRW, 2023). ***Groundwater Flooding*** The Envirocheck Report states that the Site is susceptible to groundwater flooding. ***WFD Water Bodies*** It is indicated that the Site is located within the WFD surface water body catchment area for the Hellan Brook. The rivers closest point to the Site is approximately 1.2km to the east and in 2021 recorded an overall rating of **Moderate**. ***Cultural and Natural Heritage / Sensitive Land Uses*** The Site is not located in an area of sensitive land use i.e., areas of outstanding natural beauty, local nature reserves, or world heritage sites. There are however two designated ancient woodlands located within 250m west of the Site, and a further 10 ancient or semi ancient within 2km. A site of special scientific interest (SSSI) is situated within 500m west of the Site, identified as Crest Mawr Wood. Additionally, within 1km southwest of the Site Graig Quarry is located which is also identified as a SSSI. Figure 003 illustrates the sensitive land uses within 1km of the Site.

2.0 CONDITION OF THE LAND AT PERMIT ISSUE	
Pollution history including: • pollution incidents that may have affected land • historical land-uses and associated contaminants • any visual/olfactory evidence of existing contamination • evidence of damage to pollution prevention measures	**Pollution History** The Envirocheck report, included in this application as **Appendix A,** includes full details of pollution incidents on and off site. Below is an overview of pollution incidents: **On site:** There are no on-Site pollution incidents recorded in the Envirocheck datasheet report. **Off site:** Within 1km of the Site there have been four pollution incidents. Three of these are 'Category 3 incidents' which had the potential to cause minor impact to land and water quality, as well as one Category 2 (significant) incident. The nearest recorded incident to the site occurred 63m southeast of the Site and was associated with industrial solid waste as a consequence of mechanical failure. This incident was recorded in 1996. The Category 2 (significant) incident was recorded 342m southeast of the Site and was associated with an 'accidental spillage/leakage' of 'mud/clay/ soil' at the Castle View Petrol Station on 19th February 1992. No Category 1 – Major Incidents are recorded within a 500m radius of the Site. **Historical Land-uses** Both Google Earth Pro imagery and the Envirocheck Report (which includes historical maps of the Site and its surroundings dating back to 1880) have been used to assess historical land uses and understand the general condition of the land and its surroundings. ***Historical Map Review*** **On site:** The historical maps do not show any evidence of development on the Site itself, which has remained as agricultural land since the first edition OS map in 1879. There has been no significant change to the field boundaries. The Site is therefore considered as greenfield. **Off site:** The Colomendy Industrial Estate, which is present along the southern Site boundary extending further to the east was first shown on OS maps in 1977 comprising several small units identified as small factories, engineering works, warehouses, and a bakery. The industrial estate is currently made of a mixture of light industrial, commercial, and retail premises. A number of 'tanks' and electrical substations are identified in the Colomendy Industrial Estate directly south of the Site in the OS mapping from 1990. A large limestone quarry measuring approximately 750m (north to south) and up to 300m (east to west) is located approximately 250m west of the site. The

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	quarry was shown on the first OS map in 1879, when it was a small quarry approximately 600m south-southwest of the site. The quarry gradually extended northwards over the years. There are no records of any landfilling at the quarry. The land to the east is used for agricultural purposes, beyond which are a road (the modern A525), railway line and a number of residential properties, offices and depots. By 1984 the railway line is marked as 'dismantled' and a large roundabout and the modern A525 and A543 roads have been constructed. Additionally, a caravan/ camping site is located to the east, beyond the main road. A residential housing estate was constructed to the east by 1984 as an expansion of Denbigh and has remained similar since. The land use to the north of the site has remained as largely agricultural and parkland. **Current Site Use** A Site visit was carried out by a Daear Geo Consulting (Daear) representative on 24 and 25 January 2019 to review the Site and carry out geo-environmental investigations. According to Daear, the Site is rectangular in shape, measuring approximately 250m east-west and 85m north-south and is used solely for agricultural use with hedgerow bordering the land with large trees scattered to the north and south. It is accessed from Ffordd y Graig Road, which runs along the western boundary. **General Waste Management Activities in the area** The Envirocheck Report states that there are no active or historical landfill sites within a 500m radius of the site. Three waste management facilities are located within 500m of the Site, two of which hold effective licenses. These are all located to the south of the Site. Additionally, a registered nonhazardous waste transfer station is located within 278m south of the Site. **Ground investigations** A ground investigation of the development area was carried out by Daear on 24 and 25 January 2019 and comprised the following: • 18 machine excavated trial pits to establish shallow ground conditions; • Five window sample boreholes which were advanced to a maximum depth of 5m;

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- 17 Dynamic Probe tests to provide California Bearing Ratio (CBR) values;
- Standard Penetration Tests (SPTs) were carried out at 1m intervals in the window samples;
- One Infiltration test, which was carried out in TP07;
- Two groundwater monitoring standpipes.

The ground conditions generally comprise a relatively uniform horizon of topsoil overlying cohesive glacial till with non-persistent horizons of granular soils of various thicknesses.

Made ground was only encountered in a trial pit located next to the approaching road (TP18), and represented hardstanding aggregate from an old farm track, which had fallen into disuse and was covered by a thin layer of topsoil and turf.

No bedrock was encountered.

Ground Conditions are summarised in the table below:

Ref	Depth of Stratum (m)				
	Made Ground	Topsoil	Clay	Granular	Ground water (m)
WS01	-	0.3	5*	3.0-3.4	seepage @ 2.7m; standpipe installed
WS02	-	0.4	4.1*	-	dry
WS03	-	0.3	3.6*	-	dry
WS04	-	0.4	3.9*	-	dry
WS05	-	0.4	2.5*	-	dry; standpipe installed
TP01	-	0.23	1.2*	0.6-0.9	dry
TP02	-	0.25	1.9*	0.8-1.3	local seepage 1.6m
TP03	-	0.25	1.4*	0.75-1.1	localised seepage
TP04	-	0.22	0.9	1.4*	0.9m after 3hrs
TP05	-	0.25	1.3*	-	dry
TP06	-	0.32	1.4*	-	dry
TP07	-	0.25	2*	0.9-1.7	1.4
TP08	-	0.25	1.7	0.9-1.3	seepage from base below 1.3m
TP09	-	0.2	1.1	1.3*	inflow from 1.1, standing at 0.75m
TP10	-	0.25	1.5*	-	seepage from 1.2m
TP11	-	0.23	1.3*	-	dry
TP12	-	0.25	1.2*	-	surface water from topsoil
TP13	-	0.22	1.2*	-	upwelling from base (slight) below 1.1m
TP14	-	0.22	1.2*	-	dry

2.0 CONDITION OF THE LAND AT PERMIT ISSUE

	<table><tr><td>TP15</td><td>-</td><td>0.2</td><td>1.1*</td><td>-</td><td>dry</td></tr><tr><td>TP16</td><td>-</td><td>0.2</td><td>1.3*</td><td>-</td><td>dry</td></tr><tr><td>TP17</td><td>-</td><td>0.18</td><td>1.3*</td><td>-</td><td>dry</td></tr><tr><td>TP18</td><td>0.15</td><td>-</td><td>0.6</td><td>1.3*</td><td>dry</td></tr><tr><td>**Notes**.</td><td colspan="5">* Base of Stratum not proven</td></tr></table> Samples were tested from topsoil and shallow soils around the proposed structure to provide baseline conditions for a selection of metals, sulphur, cyanide, phenols, polyaromatic hydrocarbons and asbestos. All test results were at concentrations either below detection levels or below published guidance for residential properties.
Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	No historic site investigations available (other than ground investigation carried out by Daear in January 2019). The Site has been classified as undeveloped.
Baseline soil and groundwater reference data	Full details of the ground investigation by Daear are provided in two geotechnical reports prepared for the Site (**Appendix C** and **Appendix D**)
Supporting information	**Appendix A – Envirocheck Report** **Appendix B – H1 Environmental Risk Assessment** **Appendix C – Plot 1 Geotechnical Report** **Appendix D – Plot 1; Supplementary Ground Investigation & Geotechnical Report.**

3.0 PERMITTED ACTIVITIES

Permitted activities.	**Permitted Activities** The proposed permitted activities under the EP at the Site will comprise a Hazardous Waste Transfer Station with treatment consisting only of manual sorting, separation, screening, baling of waste into different components for disposal, (no more than 100 tons per day) or recovery. **R3:** Recycling or reclamation of organic substances which are not used as solvents. **R4:** Recycling/reclamation of metals and metal compounds. **R5:** Recycling or reclamation of other inorganic materials. **R13:** Storage of wastes pending the operations numbered R3 and R5. **D9:** Physico-chemical treatment not specified elsewhere in Annex II which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D8 and D10 to D12. **D14:** Repackaging prior to submission to any of the operations numbered D1 to D13. **D15:** Storage pending any of the operations numbered D1 to D14. **Environmental Risk Assessment** An Environmental Risk Assessment (ERA) for the proposed Waste Transfer Station has been completed by Eunomia (2023) in accordance with the Environment Agency's approach to completing Risk Assessments (which has been adopted by NRW). The aim of the assessment is to identify any significant risks and demonstrate that the risk pollution or harm will be acceptable by taking the appropriate measures. A summary table of the ERA, including source, pathway and receptors can be found in **Appendix B**. The qualitative risk assessment considers noise, fugitive emissions, dust, released to water, litter and the potential for accidents and incidents. The assessment by Eunomia (2023) concludes that with the implementation of the outlined risk management measures, potential hazards from the proposed development are not likely to be significant and no further assessment is required.
Non-permitted activities undertaken	Waste collection vehicle storage
Document references for: • Plan showing activity layout; and	Figure 001 – Site Location Plan (Eunomia, 2022) Figure 002 – Environmental Permit Boundary and Site Layout (Denbighshire County Council, 2022) Figure 002b – Site Drainage Plan (Denbighshire County Council, 2022) Figure 003 – Sources, Pathways and Receptors Plan (Eunomia, 2022). **Appendix B – H1 Summary Environmental Risk Assessment (Eunomia, 2023)**

• Environmental risk assessment.	A formal Environmental Risk Assessment has been carried out by Eunomia Research and Consulting and submitted as part of the Permit Application. Document reference: DCC.002 Environmental Risk Assessment V3.1

3 Statement of Site Condition

This H5 Phase 1 EP Application SCR has been carried out using information gathered from publicly available sources, preliminary ground investigations and an Envirocheck report. The SCR provides a baseline statement of the condition of the Site prior to the construction of a new waste transfer station as part of the Local Authority waste re-organisation program.

Following ground investigations carried out in January 2019, it is evident that the Site is undeveloped. It is noted that none of the samples taken for contamination testing exceeded residential end use criteria. The only made ground comprised hardstanding from a former access track, encountered in trial pit 18 (TP18) located next to the approaching road west of the Site. This is the area proposed for widening for new access. The contamination test results did not identify any significantly elevated concentrations.

Historical mapping suggests the Site has been used for agricultural purposes since the 1800s and bounded by hedgerow and trees. This previously undeveloped nature means Site is defaulted to a ‘Greenfield’ site.

In accordance with the current regulatory surrender guidance (RG9, 2017), the Site will be required to return to the baseline conditions upon surrender.

4 References

Eunomia Research & Consulting (2023), DCC.002 Environmental Risk Assessment V3.1

Google Earth Pro Images (2023)

Magic Map Application (2023). [online]
Available at Magic Map Application (defra.gov.uk) [Accessed 30/08/2023]

Mapapps.bgs.ac.uk (2023) *Geology of Britain viewer* | *British Geological Survey (BGS)*. [online]
Available at: http://mapapps.bgs.ac.uk/geologyofbritain/home.html [Accessed 30/08/2023].

NRW (2014) Environmental Permitting Regulations, Guidance for Applicants H5: Site Condition Report, guidance and templates; v5 October 2014.

NRW Flood Risk Maps (2023). [online]
Available at: Flood and Coastal Erosion Risk Maps (naturalresources.wales) [Accessed 30/08/2023].

NRW (2017), Regulatory Guidance Series, No RGN 9 Surrender – Version 6

Figures

Figure 001 Site Location Plan

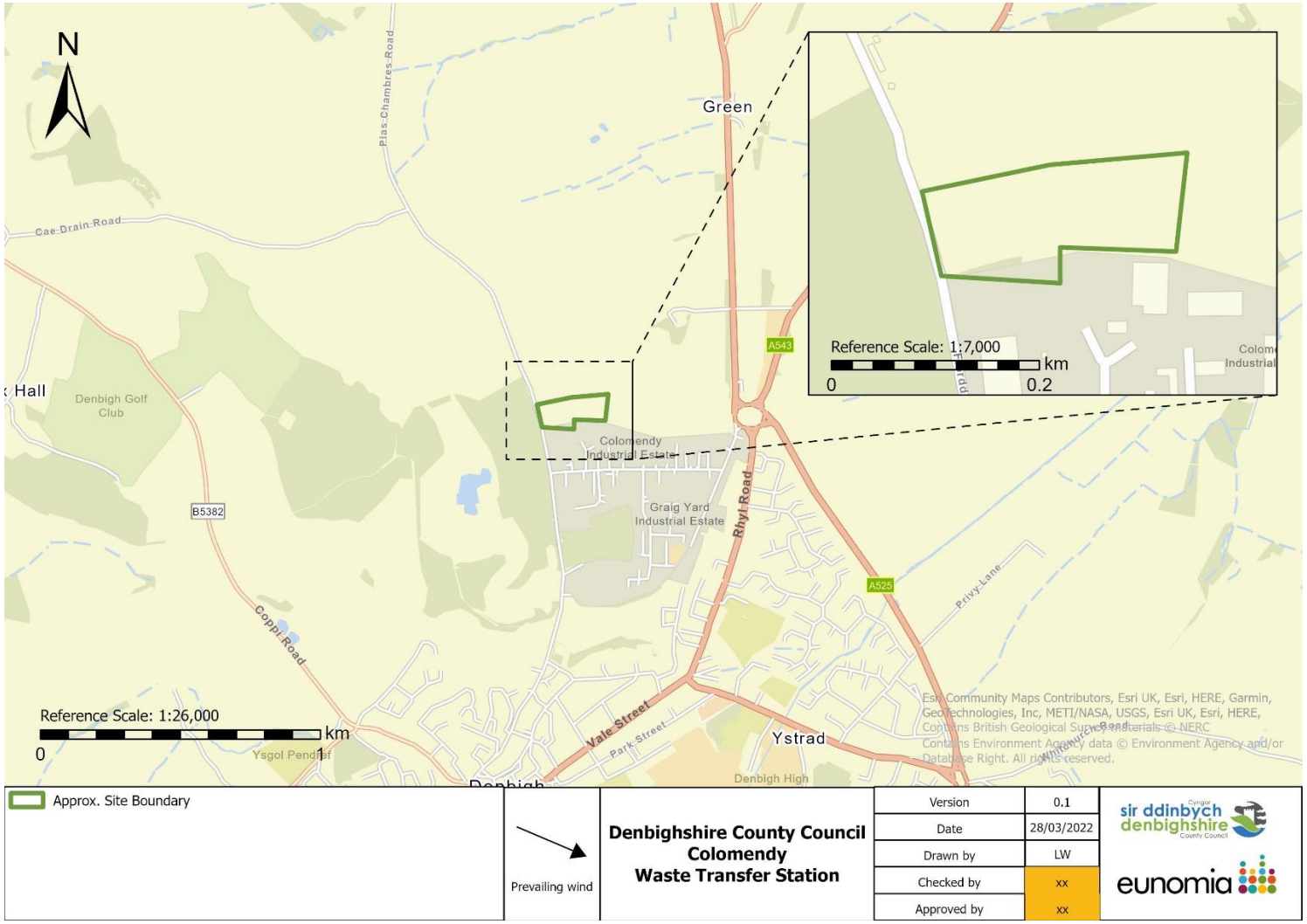
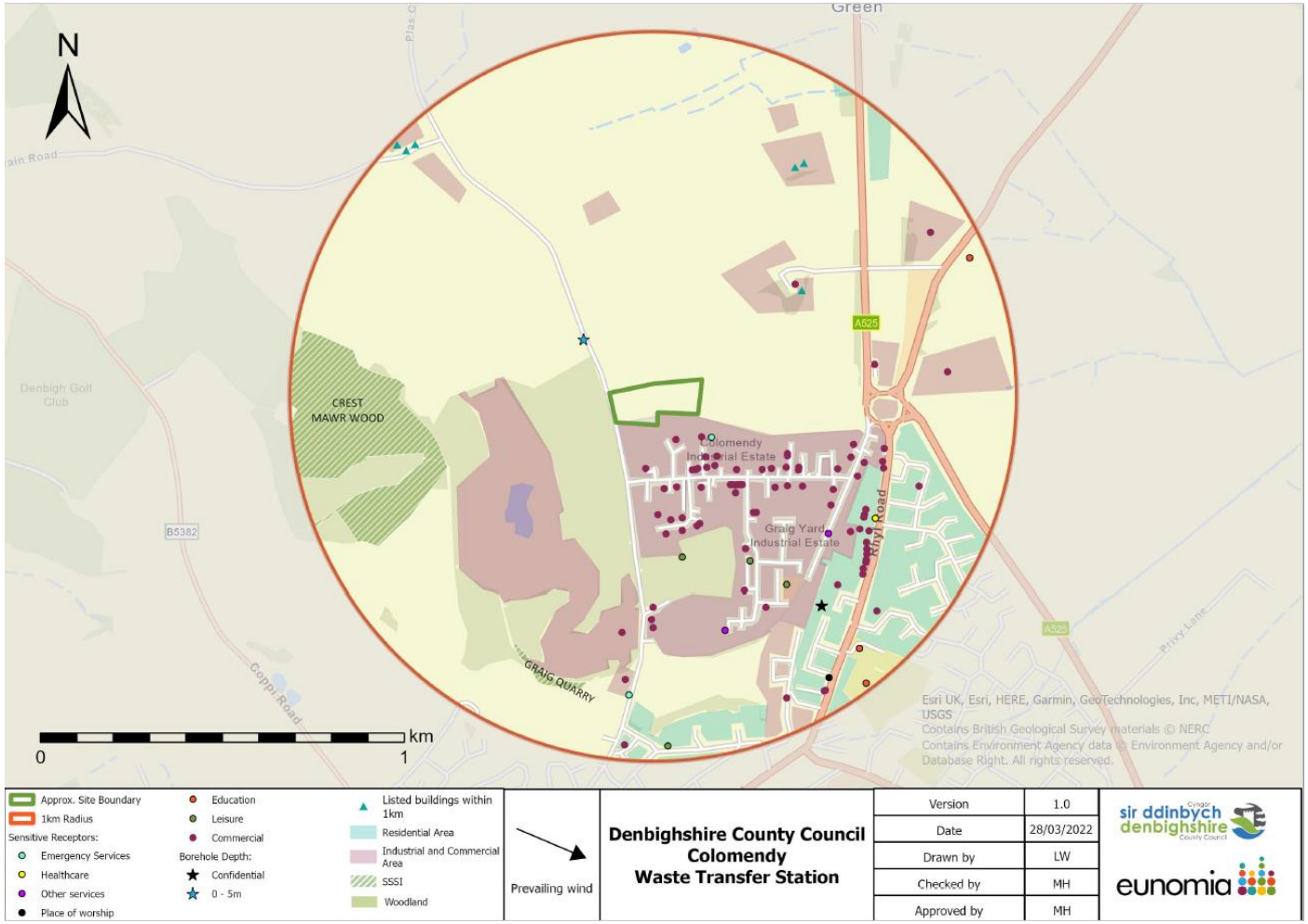


Figure 002a Environmental Permit Boundary & Site Layout

Figure 002b Site Drainage

Figure 003 Sources, Pathways and Receptors (Eunomia, Environmental Risk Assessment v3.1 (2023)



Appendix A Envirocheck Report

Appendix B Environmental Risk Assessment (Eunomia, 2023)

Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
Local human population	Releases of particulate matter (dusts) and micro-organisms (bioaerosols).	Harm to human health - respiratory irritation and illness.	Air transport then inhalation.	Medium	Medium	Medium	Permitted waste types do not include dusts, powders or loose fibres but the treatment activities will produce particulate matter so a high magnitude risk is estimated. There is potential for exposure if anyone is living or working close to the site (apart from the operator and employees).	A Dust Management Plan is in place. The EMS for the site will contain a section detailing how dust will be managed on site should it arise to ensure it doesn't cause any pollution. Site is not located within an AQMA designated for PM10. The site benefits from impermeable surfacing which is easy to clean. A Dust & Odour Management System (Mist-Air System) covers the main and secondary building to control any issued with dust with a water mist. Good housekeeping will be in place as per the EMS.	Low
Local human population	As above	Nuisance - dust on cars, clothing etc.	Air transport then deposition	Medium	Low	Low	Local residents often sensitive to dust.	As above.	Low

Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
Local human population, livestock and wildlife.	Litter	Nuisance, loss of amenity and harm to animal health	Air transport then deposition	Medium	Medium	Medium	Local residents often sensitive to litter.	Most waste is stored internally inside the WTS building and secondary building. Waste that is stored externally is not easily windblown. i.e., glass and bales or is in covered bays, i.e. road sweepings. Daily checks are made within and around the site for litter which may escape during the waste handling and processing operations within and around the waste transfer building. The site benefits from impermeable surfacing which is easy to clean. The newt pond and landscape strip that runs outside the northern boundary fence line will be managed by DCC Countryside Service to remove any litter. Good housekeeping will be in place as per the EMS.	Low
Local human population	Waste, litter and mud on local roads	Nuisance, loss of amenity, road traffic accidents.	Vehicles entering and leaving site.	Medium	Medium	Medium	Road safety, local residents often sensitive to mud on roads.	The entire working area is surfaced by impermeable concrete or hard standing. All waste handling and processing will take place on impermeable surfacing which is served with sealed drainage. Any vehicle leaving the site will be checked to ensure that they are clear of loose material and that waste is secure. Where necessary, vehicles will be cleaned before leaving site. If mud, or debris is deposited onto public areas, by accident or neglect, that material will be cleaned as soon as practicable and cause of mud/debris escape investigated, and corrective measure activated to avoid future occurrences. Mud and litter management will be part of the EMS.	Low

Local human population	Odour	Nuisance, loss of amenity	Air transport then inhalation.	Medium	Medium	Medium	Local residents often sensitive to odour. The wastes which will be received on site which have the potential to cause odour are residual waste, garden waste, food waste and AHPs.	The majority of wastes are of a low odour risk (e.g., plastics, metal) and operatives will assess the waste at the point of collection (kerbside) to reduce the risk that excessively odorous or non-compliant waste is brought to site. The food waste handled at site is collected from household sources and will be transferred to the site soon after it is generated which will limit the extent of decomposition and the odour generated. Food waste will be collected in stillage RRVs in separate dedicated food pods. On arrival at the site, the food pods will be removed from the RRV and immediately tipped into the fully sealed food skips inside the secondary building. These food skips will remain closed when they are not in use and will be washed at least weekly as will the food pods on the RRVs. No food waste will be tipped on the floor and food waste will be on site for a maximum of 3 days. AHPs will be collected in bags and will be deposited within a sealed container located in the designated bay within the WTS building following collection and will remain on site for no longer than 5 days. The waste will remain in the bags during storage. The container will be washed down at least weekly. The contract which the authority has for residual waste allows for the daily removal of residual waste and hence residual waste will not be on site long enough to create odour issues outside the boundary. Any load received which is overly odorous will be quarantined and removed from site. Garden waste has the potential to become odorous once decomposition occurs. This waste is collected within 3 days of being received at site so is highly unlikely to become odorous under normal circumstances. Any residual odour issues will be addressed and mitigated through an odour management plan and defined procedure within the site's EMS. Odour monitoring will take place daily as per EMS 8.01 In addition, site has a Dust & Odour Management System (Mist-Air System) that covers the main and secondary building. This can emit a spray that includes additives to help control any odours arising in exceptional circumstances while	Low

Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
								additional mitigation procedures, as described in the site Odour Management Plan, can be put in place.	
Local human population and local environment	Accidental fire causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff or firefighters. Pollution of water or land.	Air transport then inhalation.	Medium	Medium	Medium	Risk of accidental combustion of waste is moderate.	FPMP in place to minimise the risk of a fire / reduce the impacts of a fire. A detection system is in place to enable a speedy incident response. The spread of fire will be restricted by firewalls and adequate separation distances between combustible materials. All hazardous wastes stored in secure containers. Waste is stored on an impermeable surface with sealed drainage and automated shut off valve in an event of a fire. Firewater will be contained on site through the use of penstock valves and site infrastructure. No tyres will be stored on site	Low
All surface waters close to and downstream of site.	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g. containing suspended solids.	Acute effects: oxygen depletion, fish kill and algal blooms. Impact on newt population.	Direct run-off from site across ground surface, via surface water drains, ditches etc.	Medium	Medium	Medium	Permitted waste types do not include sludges or liquids so only a medium magnitude risk is estimated. There is potential for contaminated rainwater run-off from wastes stored outside buildings especially during heavy rain.	All liquids shall be provided with secondary containment (applies to both wastes and non-wastes such as fuels). Run-off is restricted and storage of non-hazardous wastes normally in bulk containers or buildings. Hazardous wastes are stored in secure containers. Waste storage and treatment on impermeable surface with sealed drainage. Spill kits located around the site in key locations, e.g., near the fuel tanks. Staff trained to use spill kits to clear up spillages immediately upon discovery. Only clean rainwater will be used to fill the newt pond.	Very low
Abstraction from watercourse downstream of facility (for agricultural or potable use).	As above	Acute effects, closure of abstraction intakes.	Direct run-off from site across ground surface, via surface water drains, ditches etc. then abstraction.	Medium	Medium	Medium	Watercourse must have medium / high flow for abstraction to be permitted, which will dilute contaminated run-off.	The permitted activities shall not be within 50m of any well, spring, or borehole used for the supply of water for human consumption, including private water supplies.	Low

Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
Local human population	Contaminated waters used for recreational purposes	Harm to human health - skin damage or gastro-intestinal illness.	Direct contact or ingestion	Low	Medium	Low	Unlikely to occur but might restrict recreational use.	All liquids shall be provided with secondary containment (applies to non- wastes such as fuels) Waste storage and treatment on impermeable surface with sealed drainage.	Very low
Local human population and all surface waters close to and downstream of site.	Serious Fire	Nuisance, harm to human health, loss of amenity, deterioration of water quality	Air transport then inhalation or deposition. Direct run off of fire water across site to surface waters.	Low	High	Medium	Waste fires are not common but approximately 300 fires pa linked to waste activities. Impact on health and amenity can be significant for many days or weeks. In event of fire, fire water can be produced for days/ weeks. Contaminated firewater run-off can kill fish and aquatic life.	Tonnage is less than 55ktpa. Fire Prevention and Mitigation Plan in place. Firewater will be contained on site through the use of penstock valves and site infrastructure.	Low

Appendix C Plot 1 Geotechnical Report

Appendix D Plot 1; Supplementary Ground investigation and Geotechnical Report