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DUST EMISSIONS MANAGEMENT PLAN
for
AGGREGATE RECYCLING FACILITY
OLYMPIC WAY, BLACKPOOL

Report No 102/6

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For

JN CIVILS

DOCUMENT CONTROL

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1. INTRODUCTION

1.1 Report Context

1.1.1 Starling Environmental Limited (SEL) has been commissioned by JN Civils Limited (the operator) to prepare a Dust Emissions Management Plan (DEMP) to accompany an environmental permit variation application for the aggregate recycling facility located at Olympic Way, Blackpool, Lancashire, FY4 4QE.

1.1.2 The site is regulated under environmental permit EPR/KP3025SY which is a standard rules permit SR2010 No12 for the treatment of waste to produce soil, soil substitutes and aggregate. This allows dry processing such as screening of waste soil/stones to produce aggregates.

1.1.3 The operator has recently secured planning permission for construction of a washing plant and also construction of a building for the crushing activity. The proposed permit changes are:

- Add a soil washing activity for production of recycled aggregates
- Increase of the annual throughput
- Revise the waste codes permitted to match the WRAP protocol list

1.1.4 The waste arisings will come from JN Civils core business streams of installation of utilities infrastructure and civil engineering projects. Material will be delivered to site in HGVs. The treatment and movement of waste, storage of wastes and aggregate products, and associated HGV movements have the potential to generate dust emissions which may pose a risk of dust soiling, ecological impacts or risks to human health.

1.1.5 This document has been produced in the interests of limiting dust and air pollution, to protect the local residents, neighbouring land users and ecological sites. The aim is to identify the potential risks of dust emissions from operations at the site, consider the impact to identified receptors and set out the required mitigation measures.

1.1.6 The DEMP is part of the Environmental Management System (EMS) for the site and is for use by management and site operators. A copy will be located within the site office. The DEMP has been prepared using the following guidance:

- Environment Agency Risk Assessment for Environmental Permits[1]
- Institute of Air Quality Management (IAQM)[2]

[1] https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit

[2] IAQM Guidance on the assessment of dust from demolition and construction, January 2014. Whilst this guidance is specifically for 'construction dust', in the absence of separate guidance for dust from waste or mineral sites, the IAQM guidance can be used as a starting point for waste dust assessment with appropriate modification or minor adjustments.

1.1.7 All drawings referenced are contained in Appendix A.

1.2 Site Location and Surrounding Area

1.2.1 The site is located off Olympic Way, Blackpool, Lancashire, FY4 4QE. The national grid reference for the site is SD 34333 33712. The location of the site is shown on Drawing No 102/02.

1.2.2 The site is a former gas works and was occupied by two large gas holders. These were demolished in 2015 and all associated infrastructure has been removed from the site, with just the concrete slabs remaining. The site is surfaced with a combination of concrete beneath the gas holder footprints, and tarmac and hardstanding elsewhere.

1.2.3 The area of the site is approximately 1.7 hectares.

1.2.4 The site is situated in an industrial area in the south-west of Blackpool, approximately 4 km west of the shore front. It is bordered by the following land uses:

North Cadent depot and beyond the Car Wash, Clifton Road and the residential area of Mereside

East Cadent depot and beyond Blackpool Police Headquarters

South the A5230 Yeadon Way/ M55 motorway

West Olympic Way and beyond the wider industrial area

1.3 Site Layout

1.3.1 The site is securely fenced with palisade fencing approximately 2.5 m high. The site entrance is on Olympic Way. Site features are described below and shown on the Site Layout Plan, Drawing No 102/01B.

1.3.2 A waste processing building will be constructed to house the crushing operation and store products. The building will be located at the northern extent of the site with the doorway facing south, into the site. It will be constructed from a steel frame, concrete panel walls up to 4.5 m and steel panels on the upper walls and roof. Two roller shutter doors will allow access.

1.3.3 The wash plant will be constructed on the southern part of the site with further information provided in Section 3.1.

1.3.4 Other equipment to be installed at the site includes a weighbridge, wheel wash, gate house, small electricity substation, offices and welfare facilities and weighbridge cabin.

1.3.5 The site office and welfare facilities will be provided by portacabin style units which will be brought to site ready for placement. Four portacabins will be placed adjacent to each other to allow walk through. Three will serve as offices and one as welfare.

1.3.6 The site is surfaced with a combination of concrete, tarmac and loose stone chippings. The concreted areas will remain unchanged, but the tarmac is quite worn and so the tarmac and some hardstanding areas will be resurfaced with tarmac. Surfacing is shown on the Site Layout Plan, Drawing No 102/01B.

1.3.7 The northern and western boundaries will be planted with a hedge on the inside of the fence for screening and for ecological benefit. The stone chippings are around the periphery of the site and are at a higher elevation to the hard surfaced areas. They will not be converted to hard surfacing as they will not be used for waste operations or for vehicle access, but will be enhanced with further planting for ecological purposes and also to minimise the amount of hard surfacing for drainage purposes.

1.3.8 Surface water currently drains into a sub-surface network and then out to sewer via an interceptor. A detailed drainage design has been undertaken and drainage improvements are required as shown on Drawing No 2023-065-03 Proposed Drainage Detail by BEK Enviro. Surface water will be collected within the site via an upgraded drainage network. It is proposed to harvest surface water for use on site using an underground tank. Water will be collected via a silt trap and interceptor to remove suspended solids and any trace oil or fuel so that it is fit for use.

2. AIR QUALITY LEGISLATION

2.1 Environment Act 2021

2.1.1 The Environment Act 2021 requires the Secretary of State to develop, implement and maintain an Air Quality Strategy. This includes the statutory duty, also under Part IV of the Environment Act 1995, for local authorities to undergo a process of local air quality management and declare an Air Quality Management Area (AQMA) where pollutant concentrations exceed the national air quality objectives. Where an AQMA is declared, the local authority needs to produce an Air Quality Action Plan (AQAP) which outlines the strategy for improving air quality in these areas.

2.1.2 The Act will implement key parts of the government's Clean Air Strategy and include targets for tackling air pollution in the UK. The following points are relevant to air quality:

- For the Secretary of state for Defra to set long-term legally binding targets on air quality. These targets must be of at least 15 years in duration, and be proposed by late 2022;
- For the Secretary of State to publish a report reviewing the Air Quality Strategy every five years;
- For the government to set two targets by October 2022: the first on the amount of $PM_{2.5}$ pollutant in the ambient air (the figure and deadline for compliance remain unspecified) and a second long-term target set at least 15 years ahead to encourage stakeholder investment;
- For local authorities' powers to be extended under the current Local Air Quality Management framework, including responsibilities to improve local air quality and to reduce public exposure to excessive levels of air pollution;
- For "air quality partners" to have a duty to share responsibility for dealing with local air pollution among public bodies.

2.2 Air Quality Standards Regulations 2010 (amended in 2016) (England)

2.2.1 The Air Quality Standards Regulations 2010 (amended in 2016) defines the policy framework for 12 air pollutants known to have harmful effects on human health or the natural environment. The Secretary of State for the Environment has the duty of ensuring compliance with the air quality limit values (pollutant concentrations not to be exceeded by a certain date).

2.2.2 Some pollutants have standards expressed as annual average concentrations due to the chronic way in which they affect health or the natural environment, i.e. effects occur after a prolonged period of exposure to elevated concentrations. Other pollutants have standards expressed as 24-hour, 1-hour or 15-minute average concentrations due to the acute way in which they affect health or the natural environment, i.e. after a relatively short period of

exposure. Some pollutants have standards expressed in terms of both long and short-term concentrations. Air quality limit values and objectives are quality standards for clean air. Therefore, in this assessment, the term 'air quality standard' has been used to refer to the national limit values.

2.2.3 Following the UK exit from the European Union, The Air Quality Standards Regulations were retained EU-derived domestic legislation under S.2 of the European Union (Withdrawal) Act 2018. Practical amendments to ensure air quality management would continue were made via the Air Quality (Amendment of Domestic Regulation) (EU Exit) Regulations 2019.

2.3 The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023

2.3.1 These regulations were made on 30 January 2023 and include air quality targets for $PM_{2.5}$ as required under the Environment Act 2021.

2.3.2 The annual mean concentration target is that by the end of December 2040 the annual mean level of $PM_{2.5}$ in ambient air must be equal to or less than 10 µg/m³.

2.3.3 In addition, the regulations include a population exposure reduction target of at least a 35% reduction in population exposure by the end of December 2040 ("the target date"), as compared with the average population exposure in the three-year period from 1st January 2016 to 31st December 2018 ("the baseline period").

2.3.4 Table 1 sets out the national air quality standards for nitrogen dioxide (NO2) and particulate matter (PM10 and PM2.5).

Pollutant	Averaging period	Limit value / objective
Human health		
Nitrogen Dioxide (NO2)	Annual mean	40µg/m3
	1-hour mean	200µg/m3 [1]
Fine Particulate Matter (PM10)	Annual mean	40µg/m3
	24-hour mean	50µg/m3
Very Fine Particulate Matter (PM2.5)	Annual mean	10µg/m3
Natural environment (ecological receptors)		
Oxides of nitrogen (NOx, as NO2)	Annual mean	30µg/m3
[1] not to be exceeded more than 18 times a year (99.79th percentile		

Table 1: UK Air Quality Standards

3. CURRENT OPERATIONS

3.1 A standard rules permit was issued in 2023 however no waste has been imported to date.

3.2 The current permit allows importation of a range of waste types for processing to make aggregate products and soil substitute. The permitted annual throughput is 75,000 tonnes and the maximum permitted quantity of waste for storage is 40,000 tonnes.

3.3 The site is undergoing preparatory works following grant of planning permission for construction of the wash plant and crusher building. Preparatory works include site works to achieve the proposed site layout described in Section 1.3.

3.4 Following completion of the preparatory works, the site will operate in accordance with the current standard rules permit whilst waiting for the variation to be processed.

4. PROPOSED OPERATIONS

4.1 It is proposed to add a soil washing activity to allow high quality recycled aggregate products to be produced. Washing will be carried out in a fixed wash plant. The plant will be located on a concrete surface and the location and layout is shown on Drawing No 102/01B. A process flow chart for the operation is shown in Figure 1 and described below.

4.2 The majority of waste received will be from utilities trenching and consist of mixtures of soil and sub-base aggregate. Waste will be processed using a fixed wash plant which separates the soil from the stone through washing and then screens the clean stone into different size products for re-use. Proposed waste types that will be subject to soil washing are listed in Table 1 below. This list mirrors the waste types allowed under the end of waste protocol.

Waste Code	Description
01 04 08	Waste gravel and crushed rocks other than those mentioned in 01 04 07 *May include excavation from mineral workings*
01 04 09	Waste sand and clay *Must not include contaminated sand*
10 11 03	Waste glass based fibrous material *Waste without organic binders only*
15 01 07	Glass packaging
17 01 01	Concrete *Must not include concrete slurry*
17 01 02	Bricks
17 01 03	Tiles and ceramics
17 01 07	Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02 02	Clean glass Must not include fibreglass or glass fibre
17 03 02	Bituminous mixtures other than those mentioned in 17 03 01 *Only bituminous mixtures from the repair and refurbishment of the asphalt layers of roads and other paved areas (excluding bituminous mixtures containing coal tar and classified as waste code 17 03 01)* *Must not include coal tar or tarred products* *Must not include freshly mixed bituminous mixtures*
17 05 04	Soil and stones other than those mentioned in 17 05 03 *Must not contain any contaminated soil or stone from contaminated sites*
17 05 06	Dredging spoil other than those mentioned in 17 05 05 *Only inert aggregate from dredgings* *Must not contain contaminated dredgings* *Must not contain fines*
17 05 08	Track ballast, soil and stones other than those mentioned in 17 05 07 *Must not contain soil and stones from contaminated sites*
17 09 04	Mixed construction and demolition waste other than those mentioned in 17 09 01, 17 09 02 and 17 09 03 *mixed construction and demolition waste, limited to that generated from utilities trenching, consisting of sub base aggregates, and containing only material that would be described as 17 01 01, 17 03 02 and 17 05 04*

Table 1 (continued over): Proposed Waste Types

Waste Code	Description
19 12 05	Glass *Does not include glass from cathode ray tubes*
19 12 09	Minerals (eg sand, stones) *Must not contain contaminated concrete, bricks, tiles, sand, stone or gypsum from recovered plasterboard*
20 01 02	Glass *Must not include fibreglass*
20 02 02	Garden and park waste (including cemetery waste) – soil and stones *Must not contain contaminated stones from garden and parks waste*

Table 1 continued: Proposed Waste Types

4.3 Incoming waste will be deposited in a stockpile next to the washplant and loaded into a hopper which feeds the 'Log Wash', which is the main wash box. From this stone is screened into separate stockpiles to produce various sizes for use as pipe bedding (eg. <40mm, <20mm and <10 mm). Sand is also separated through a cyclone to produce a coarse grit sand and a fine sand for reuse. The components and configuration of the wash plant is shown on Drawing No 102/5 Wash Plant layout and Elevations.

4.4 Products will be stored in 4 m high concrete block bays around the wash plant as they are produced and then moved to either the storage building or to the 4 m high concrete block storage bays outside of the building. The incoming waste stockpile will not be in a bay, this will be freestanding. It will be maintained at a maximum height of 4 m and will be situated to the east of the wash plant so that it is sheltered from the prevailing wind. This is presented on Drawing No 102/10 Stockpile Location and Detail.

4.5 Wash water will be returned into a thickening tank where it is separated into water/sludge by flocculation. Sludge will be sent for filtration and water is returned to the water feed tank for reuse. The plant will be a closed loop system, there will be no discharge of water. Water is lost as moisture in the filtercake and the system will be topped up with clean water. The water source will initially be harvested surface water and mains water.

4.6 The sludge will be filtered through a plate and frame filter press to produce a filtercake with a consistency of dry clay. This is stored below the press in a covered housing.

4.7 Any oversized material (eg. whole bricks of large pieces of concrete) will be crushed prior to washing using mobile crushing plant. To contain dust, a new building will be constructed to house the crushing operation and also store lightweight products that may be easily wind blown or generate dust.

4.8 Recycled products will be produced to meet Highways Agency specification for aggregates and in accordance with the WRAP quality protocol[3]. This protocol will enable the products to achieve 'end of waste' status so that they can be reused in engineering projects as recycled products

[3] Quality Protocol. Aggregates from inert waste; End of waste criteria for the production of aggregates from inert waste. WRAP October 2013

5. BASELINE INFORMATION

5.1 Background Air Quality

5.1.1 The site is not located within an Air Quality Management Area (AQMA) with reference to the interactive DEFRA AQMA mapping tool[4].

5.1.2 The UK Ambient Air Quality Interactive Map[5] shows background concentrations of pollutants for the area as below the current air quality standards, presented in Table 2 below.

Pollutant	2022 Background concentration µg/m³	Limit value / objective µg/m³
Human health		
Nitrogen Dioxide (NO_2)	<10	40
Fine Particulate Matter (PM_{10})	< 13	40 µg/m³
Very Fine Particulate Matter ($PM_{2.5}$)	6 - 8	10 µg/m³
Natural environment (ecological receptors)		
Oxides of nitrogen (NOx, as NO_2)	11 - 20	30 µg/m³

Table 2: Background Air Quality 2022

5.2 Climate Details

5.2.1 Figure 1 shows a wind rose for data collected at Blackpool Squires Gate which is the closest recording station at approximately 3.5 km to the south-west.

5.2.2 The wind rose shows that the prevailing wind direction is from the west with wind speeds most frequently between 10 – 20 mph, ie moderate to fresh breeze on the Beaufort scale. The strongest winds typically come from the west-southwest and are recorded at speeds greater than 20 mph, ie strong breeze and above. Winds from the east are typically lower in strength and most frequently recorded at speeds less than 15 mph.

5.2.3 With reference to the data it is considered that wind direction will be variable but with a prevalence towards the north-east, east and south-east.

[4] https://uk-air.defra.gov.uk/aqma/maps
[5] Data obtained using interactive background maps https://uk-air.defra.gov.uk/data/gis-mapping.

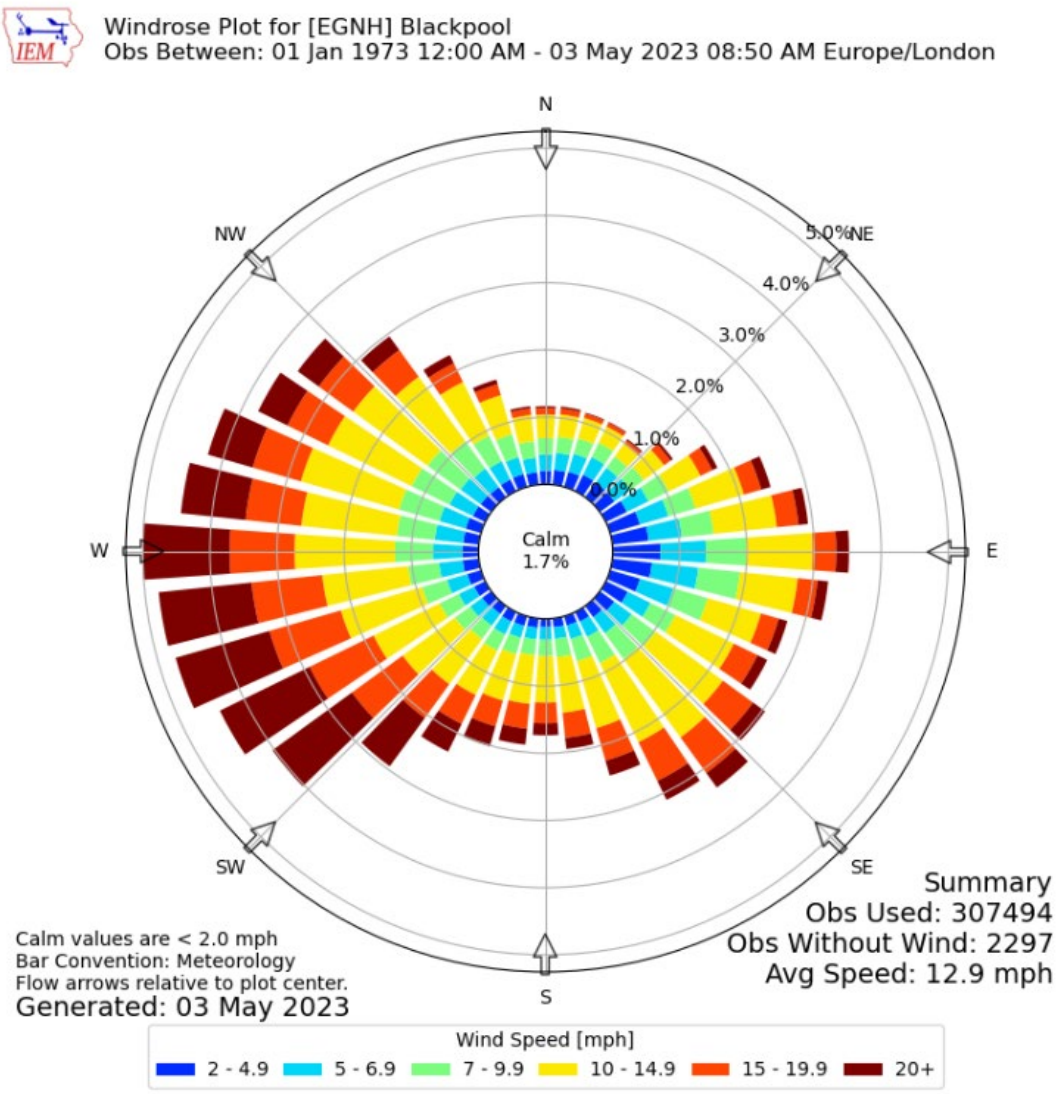


Figure 1: Wind Rose

Rainfall

5.2.4 Reference has been made to rainfall data for Blackpool Squires Gate Climate Station available on the met office website[6]. Total average annual rainfall during the period 1991 to 2020 was 886 mm. The number of days of rainfall greater than or equal to 1 mm was 147 days on average each year, therefore providing natural dampening approximately 40% of the year.

[6] https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages/gctcfvseb

6. DUST IMPACT ASSESSMENT

6.1 Assessment Method

6.1.1 IAQM guidance on assessment of dust impacts is available for mineral sites and construction/demolition sites. The minerals guidance covers quarrying activities including processing of minerals such as screening and haulage of extracted material. The construction guidance covers dust from demolition, crushing/screening, earthworks, construction activities and haulage of material.

6.1.2 Although both sets of guidance cover screening/crushing and the assessment methods are similar, the assessment will be carried out following the guidance on construction and demolition as this includes a method of assessment of receptors which is more applicable to built-up areas. This guidance requires assessment of four phases of operations:

Demolition – this is applied to demolition of buildings and processing the material including crushing and screening. Although no demolition is required**,** waste processing operations are considered most similar to this phase and have been assessed accordingly.
Earthworks – applied to cut and fill operations where material is removed or imported. This is not applicable to the proposed development.
Construction – this applies to the site preparation phase and construction of the new building.
Trackout – this applies to the access route to assess off-site impacts from traffic traveling to and from site.

6.1.3 The assessment method follows the IAQM guidance which is detailed in Appendix B.

6.2 Dust Emission Magnitude

6.2.1 Dust from waste processing has been determined to be ‘large’ to represent the ongoing recycling activities. Although there will be no actual demolition of buildings, crushing and washing activities will be ongoing on a large scale.

6.2.2 There will be no earthworks required so this has not been considered further.

6.2.3 The construction element will be small based on the criteria in Table A1 in Appendix B.

6.2.4 The trackout magnitude has been determined as small because the guidance states that the trackout is based on vehicles leaving site after moving over unpaved ground. Although there may be up to 50 outward movements in one day, there will be no expanse of unpaved road. The surface material will be a combination of concrete and tarmac and so have low potential for dust release.

6.2.5 The dust emission magnitude is summarised in the Table 3 below:

Activity	Dust Emission Magnitude
Waste Processing	Large
Construction	Small
Trackout	Small

Table 3: Dust Emission Magnitude Summary

6.3 Receptors

6.3.1 Receptors within 1 km of the site have been identified, and a further assessment has been made to identify their sensitivity. Drawing No 102/13 shows the site and surrounding receptors.

6.3.2 Table 4 lists the receptors and their distance and direction from the site, along with the reference as per Drawing No 102/13.

6.4 Receptor Sensitivity Assessment – Waste Processing and Construction

6.4.1 The sensitivity of each receptor to dust soiling, human health effects and the ecological effects of dust deposition has been assessed using the assessment method described in Appendix B. This is presented in Table 4 for receptors within 1 km of the site.

6.4.2 The sensitivity of surrounding receptors to human health effects has been assessed based on 2022 background annual mean PM_{10} concentration at <13.0 µg/m^3 which is well below the annual mean Air Quality Objective of 40 µg/m^3.

Residential Receptors

6.4.3 The closest domestic dwellings are to the north of the site in the suburb of Mereside, on Clifton Road, Deepdale Road and Branstree Road. The closest of these is 210 m from the site boundary to the edge of the property. Whilst residential receptors are classified as ‘high sensitivity’ receptors to both dust soiling and human health effects, this reduces with the distance from source, so these properties are assessed as having low sensitivity to dust soiling from site operations.

6.4.4 The properties are assessed as having low sensitivity to human health impacts from site operations due to the distance from the site and low background levels of PM_{10}.

Ref	Receptor	Direction from Site	Approximate Distance from Site at closest point (m)	Approx. No of Receptors	Receptor Sensitivity		
					Dust Soiling	Human Health Impacts	Ecological Impacts
Domestic Dwellings							
1	Properties in Mereside	N	210 - 1000	>100	Low	Low	-
	Whalley Villa Holiday Park	W	825	>100	Low	Low	-
	Properties in Walker Hill	SW	360 – 1000	>100	Low	Low	-
	Blackpool South Caravan Park	S	485		Low	Low	-
Industrial/Commercial Premises							
2	Cadent Depot	N, E	Adjacent	<10	Medium	Low	-
	Tradewinds, Nutrition Group, Trans Continental	W	30	10-100	Low	Low	-
	Car Wash	N	50	<10	Medium	Low	-
	Marshall Mercendes-Benz	SW	60	10-100	Medium	Low	-
	Booker Blackpool	SW	115	10-100	Low	Low	-
	Industrial Premises on Spen Business Park	W	180	10-100	Low	Low	-
	Lookers Volkswagen	SW	240	10-100	Low	Low	-
	Blackpool Police Headquarters	E	100	10-100	Low	Low	-
	Tesco Supermarket & Petrol Station	E	185	10-100	Low	Low	-
	Government Offices	SE	170	10-100	Low	Low	-
	Spen Business Park	NW	190	>100	Low	Low	-
	Industrial Properties off Brunel Way	SW	310	10-100	Low	Low	-
	Suez Recycling Centre	SW	270	10-100	Low	Low	-
	Walkers Hill Business Park	SW	500 - 1000	>100	Low	Low	-
	Government Buildings	NNE	740	>100	Low	Low	-
Water Features							
3	Small ponds	S	170 - 1000	-	-	-	Low
	Spen Dyke	S	750	-	-	-	Low
	Drains	N, W, S, E	480 - 1000	-	-	-	Low
Amenity/Recreation							
4	Mereside Park	N	80	10-100	Low	Low	-
	Community Centre	N	230	10-100	Low	Low	-
	Sandham's Green	NE	140	10-100	Low	Low	-
	Playing Fields	NW	720	10-100	Low	Low	-

Table 4 (continued over) Receptor Sensitivity to Site Operations

Ref	Receptor	Direction from Site	Approximate Distance from Site at closest point (m)	Approx. No of Receptors	Receptor Sensitivity		
					Dust Soiling	Human Health Impacts	Ecological Impacts
Highway/Major Road or Transport Link							
5	Yeadon Way (A5230)	S	55	-	Low	Low	-
	Progress Way (A5230)	SW	230	-	Low	Low	-
	M55 Motorway	SSE	510	-	Low	Low	-
	Preston New Road (A583)	E, N, NW	590 - 720	-	Low	Low	-
Public Rights of Way							
6	Footpath 5-15-4	E	330	-	Low	Low	-
	Footpath 7	SW	325	-	Low	Low	-
	Footpath 11	N	750	-	Low	Low	-
Ecological Sites							
7	Priority Habitat Woodland (Arnott Wood)	SSE	330	-	Low	-	Low
	Priority Habitat Shrubland	SSW	585	-	Low	-	Low
Educational Institutions							
8	Mereside Primary Academy	NW	560	-	Low	Low	-
	The Manor Nursery School	NE	715	-	Low	Low	-
Hospitals/Care Homes							
9	The Harbour Hospital	NE	710	-	Low	Low	-

Table 4 continued: Receptor Sensitivity to Site Operations

Commercial/Industrial Receptors

6.4.5 The IAQM consider places of work as being 'medium sensitivity' receptors to both dust soiling and human health effects. The closest commercial/industrial premises is the Cadent Depot which surrounds the site to the north and east. This property includes a number of buildings and yard areas which are used for storage. Due to the short distance between the site and the cadent depot this is a medium sensitivity receptor to dust soiling from site operations.

6.4.6 The classification for the car wash, around 50 m to the north, would be reduced from medium to low sensitivity following the guidance as it is greater than 20 m from the site. However, this has been retained as medium sensitivity to dust soiling due to the nature of the operation is considered to be particularly sensitive. It has not been upgraded to 'high' as once the cars have been through the car wash, they will leave site so any exposure to the clean cars will be brief. Screening will also be provided by the proposed building.

6.4.7 Likewise the Mercedes-Benz car dealership around 60 m to the south of the site has been retained as a medium sensitivity receptor rather than reduced to low as dust soiling would have an impact on their operations. This premises will benefit from some screening provided by the intervening buildings and vegetation and from not being in the direction of the prevailing wind.

6.4.8 There are two other car dealerships to the south of the site but these are over 100 m from the site and not in the direction of the prevailing wind and so they have been classified as low sensitivity following the assessment method.

6.4.9 All of the other places of work within 1 km are classified as low sensitivity to dust soiling from site operations due to their distance from the site.

6.4.10 All of the places of work in the vicinity of the site are assessed as having low sensitivity to human health impacts from site operations. This is due to the distance from the site and low background levels of PM_{10}.

Surface Water

6.4.11 There are two small ponds to the south of the site. These are classified as having low sensitivity to ecological effects from dust deposition as they are not designated sites.

Amenity/Recreation

6.4.12 Mereside Park is located approximately 80 m north of the site and this consists of a playing field and a children's play area. In accordance with IAQM, playing fields are considered as having low sensitivity to both dust soiling and human health impacts due to the transient nature of exposure.

6.4.13 However, further consideration has been given to the use of the playing fields and the location as there is no screening between Clifton Road and the field. If used for exercise eg, for grass roots football matches, these would usually take place at weekends or on summer evenings. The children's play area would be used throughout the week by pre-school children and at weekends and in summer evenings by older children. The play area is set back from Clifton Road and is approximately 196 m from the northern site boundary. It also benefits from some vegetation screening to the east and west.

6.4.14 Processing would not be carried out during weekends and evenings, which would reduce the risk of exposure. Although the site would be operational on Saturday mornings this is proposed for maintenance only, not for large scale processing.

6.4.15 Following consideration of the above the low sensitivity classification is considered appropriate.

Transport Links

6.4.16 In accordance with IAQM, receptors where human exposure is transient (eg. roads) are considered as having low sensitivity to both dust soiling and human health impacts.

Hospitals/Care Homes

6.4.17 There is one hospital within 1 km of this site. This is the Harbour Hospital which is an NHS hospital described on its website as 'a 154 bed mental health hospital, which provides care and treatment for adults who cannot be safely treated at home'. This was classed as low sensitivity due to the distance from site.

Public Rights of Way

6.4.18 In addition to public footpaths associated with the surrounding roads, there are three designated public footpaths. The closest of these is 330 m from the site and they have been classed as low sensitivity due to the distance from site.

Designated Sites/Ecological Receptors

6.4.19 There are no locally or nationally designated sites within 1 km of the site. The closest ecological site is Marton Mere which is designated as a Local Nature Reserve and Site of Special Scientific Interest. The site is approximately 1.3 km to the north.

6.4.20 The Ribble and Alt Estuary Ramsar site and Special protection Area is located approximately 4.4 km south-west of the site.

6.4.21 Both sites are outside of the zone of influence of site operations and trackout.

6.4.22 There is some priority habitat woodland and shrubland to the south of the site, with the closest at 330 m from the site. They have been classed as low sensitivity due to the distance from site.

Schools/Colleges

6.4.23 There are two schools within 1 km of the site. The closest is 560 m away and they have been classed as low sensitivity due to the distance from site.

6.5 Receptor Sensitivity Assessment – Trackout

6.5.1 The sensitivity of each receptor to dust soiling, human health effects and the ecological effects of dust from trackout has been assessed using the assessment method described in Appendix B. The access route is from Yeadon Way -> Ashworth way -> Clifton Road -> Olympic Way. This is shown on Drawing No 102/06.

6.5.2 The assessment is presented in Table 5 for receptors within a 50 m radius of the access route, up to 500 m from the site entrance.

Ref	Receptor	Approx. No of Receptors	Receptor Sensitivity	
			Dust Soiling	Human Health Impacts
1	Property on Deepdale Road	1	Medium	Low
2	Cadent Depot	< 10	Medium	Low
	Tradewinds, Nutrition Group, Trans Continental	10-100	Medium	Low
	Car Wash	<10	Medium	Low
	Marshall Mercendes-Benz	10-100	Medium	Low
	Industrial Premises on Spen Business Park	10-100	Medium	Low
4	Mereside Park	10-100	Low	Low

Table 5: Receptor Sensitivity to Trackout

6.5.3 There is just one residential property on Deepdale Road which is the edge of the 50 m impact zone from trackout. This has been assessed as having medium sensitivity to trackout.

6.5.4 Workplaces within 50 m of the access route were identified in Table 5 as being the Cadent Depot, Tradewinds, Nutrition Group, Trans Continental, Car Wash, Marshall Mercendes-Benz, and Industrial Premises on Spen Business Park. All of these are assessed as having medium sensitivity to dust soiling from trackout.

6.5.5 Mereside Park is considered as having low sensitivity to both dust soiling and human health impacts due to the transient nature of exposure.

6.6 Summary of Receptor Sensitivity

6.6.1 The receptor sensitivity assessment is summarised in Table 6 below.

Potential Impact	Sensitivity of the Surrounding Area		
	Waste Processing	Construction	Trackout
Dust Soiling	Medium	Medium	Medium
Human health	Low	Low	Low
Ecological	Low	Low	n/a

Table 6: Receptor Sensitivity Summary
n/a = not applicable

6.7 Risk of Impacts

6.7.1 Taking into consideration the dust emission magnitude and the sensitivity of the area, the risk of the site to dust soiling and human health has been classified for all activities as presented in Table 7.

Activity	Sensitivity of the surrounding area		
	Dust soiling	Human health	Ecological Effects
Waste processing	High Risk	Medium risk	Negligible
Trackout	Low risk	Negligible	Negligible
Construction	Low risk	Negligible	Negligible

Table 7: Summary dust risks prior to mitigation

7. CONTROL OF EMISSIONS

7.1 Waste Deliveries

7.1.1 HGVs will enter the site via the gated entrance. Drivers will be given specific instruction that all waste loads should be covered prior to entering site. This is the usual practice and is a requirement for loads travelling on the public highway.

7.1.2 If a load is inspected at the weighbridge and found to be dusty, it will be dampened down before and during tipping using the bowser.

7.1.3 Drivers removing aggregate products from site are instructed to cover loads on leaving the site.

7.2 Processing

7.2.1 Processing will consist of crushing and washing waste. The predominant waste types will be concrete, bricks, soil and stones from construction, demolition and excavation works. The washing activity will provide dampening and is not considered to be a dust raising activity. The crushing activity is likely to be a source of dust.

7.2.2 Recycled aggregate products will be manufactured according to a Quality Protocol and tested in accordance with end of waste requirements therein. Stockpiled products may be a source of dust in dry conditions.

7.2.3 Control of exhaust emissions from crushing plant will be predominantly through use of high tier emissions standard[7] plant and regular inspection and maintenance.

7.2.4 Dust emission mitigation and control will primarily be through avoidance and containment. Residual emissions will be mitigated by suppression.

7.3 Containment

7.3.1 Crushing will be carried out inside the building to contain dust. The building will be enclosed with four walls and a roof with access via two roller shutter doors as shown on Drawing No 102/04. The building will not be fitted with dust extraction. A water misting system will be installed above the doors to knock down any dust escaping from the building when doors are opened for access and exit.

7.3.2 The site will operate with a number of conveyors. The wash plant conveyors are used to convey wet products, so the material will not raise dust and the conveyors will not be enclosed.

[7] Emissions Standards are set out in the 'Non-Road Mobile Machinery (Emission of Gaseous and Particulate Pollutants) Regulations 1999' as amended.

7.3.4 A further conveyor is on the crusher output feed. This will not be enclosed as it has a water spray for dust suppression and the crusher will be situated inside the building. These measures are considered adequate to control dust emissions without enclosing the conveyor.

7.3.5 Lightweight products which may be easily wind blown (eg sand and 6F5) will be stored inside the building.

7.3.6 There are no silos on site for storage of powders or dusty material. Powders and dust will not be accepted, only the waste types listed in Table 1.

7.4 Minimisation of Drop Heights

7.4.1 Drop heights from conveyors will be set to the minimum height necessary for efficient functioning. The conveyors from the wash plant will be set to clear the 4m stockpile walls and no higher. The crusher conveyor will be set as low as possible for material to clear the conveyor.

7.5 Wheel Cleaning

7.5.1 A wheel wash will be installed for exiting HGVs and it will be positioned as shown on the site layout plan on the tarmacked surface. It will be a drive through water bath with rumble strips on the bottom. HGVs will enter the site and follow the one way system via the weighbridge and waste reception area, then through the wheel wash to exit the site. This is the most effective position as vehicles do not have to drive out of their way to go through it.

7.5.2 The area around the wheel wash and the entrance and exit roadways are concrete surfaced so vehicles do not exit the wheel wash onto unpaved, muddy ground. The site roads and access road will be swept daily using a road sweeper.

7.5.3 The wheel wash will be topped up with fresh water using a water bowser when the water level drops below the recommended fill level, although it will also be topped up naturally by rainfall. The silt at the bottom will be removed monthly and disposed off site.

7.5.4 The access road and site surface will be inspected daily by the site foreman and if staining is observed leaving the site then the wheel wash will be cleaned out and topped up with fresh water.

7.6 Speed Restrictions

7.6.1 A site speed limit of 10 mph will be in place to prevent raising dust.

7.7 Material Handling

7.7.1 Movement of material at the site will be conducted by trained operators who are aware of the requirement for careful movement and avoidance of double handling.

7.7.2 All HGVs transporting material into or out of the site will be covered.

7.8 Storage

7.8.1 External stockpiles will be housed in concrete block bays with 0.5 m freeboard to prevent wind whipping.

7.8.2 The incoming waste stockpile is free standing and will be sited to the east of the wash plant to provide some screening form the prevailing wind from the west.

7.8.3 Storage is also available in the building for lightweight products as stated in 7.3.5.

7.9 Dust Suppression Equipment

7.9.1 The crusher will include integrated dust suppression. A water spray bar will be mounted on the output conveyor.

7.9.2 A water bowser will be used to damp down stockpiles and site surfaces. The water bowser has a back spray valve which can be positioned flat to spray the yard surface and road or can be angled upwards to spray stockpiles at height. The back spray has a range of approximately 4.5 m so can cover a 4 m stockpile. In addition, the bowser has a lance attachment which can be used to spray target areas by operatives from gantries or other mobile plant. As the bowser is mobile it can be taken to any position on site and covers all of the site and surfaces. The bowser will be stored next to the processing building, close to the mains water supply as shown on the site layout plan.

7.9.3 Moisture content of stockpiles will be manged by damping down on dry days (ie. when not raining). Damping will be carried out using the bowser and recorded in the site diary.

7.9.4 A water misting system will be fitted to the building entrance to knock down any dust escaping from the building. The location is shown on the site layout plan.

7.10 Water Supply

7.10.1 Water used for dust suppression will be sourced from harvested surface water and mains water.

7.10.2 In the unlikely scenario that mains water is unavailable, and the weather conditions gave rise to a high risk of dust emissions, waste operations would be suspended.

7.10.3 If mains water is to be unavailable for an extended period, a water tanker will be brought in so that operations can continue.

7.11 Housekeeping

7.11.1 A road sweeper will be used for the concreted surface in the yard and the off-site road. In addition, the site surfaces will be scraped clean using the loading shovel.

7.11.2 Table 8 below details the housekeeping schedule that is in place.

Frequency	Action
Daily	Visual inspection for mud on road, dust on surfaces and plant – any actions required are recorded in the site diary Shovelling/tidying debris using loading shovel
Weekly	Wheel wash topped up Road sweeper deployed to clean access road
Monthly	Wheel wash cleaned out

Table 8: Housekeeping Schedule

7.12 Mobile Plant and Equipment

7.12.1 Gaseous emissions will be produced by the diesel engine of the crusher and mobile plant (eg loader, shovel). The operator will ensure all mobile plant used at the site will be predominantly high tier[9] emissions ratings plant.

7.12.2 IAQM guidance states that mobile plant are *'unlikely to make a significant impact on local air quality'*, and would not need to be assessed as part of an Air Quality Assessment.

7.12.3 Regular servicing of plant, vehicles and machinery will be carried out. Any major services and repairs required for mobile plant will be conducted off site. If replacement of plant/machine is required then the highest emission standard available will be purchased.

7.12.4 Daily checks on vehicles and plant will be carried out by operatives before use and these are recorded on a check sheet.

7.12.5 All drivers of mobile plant and operators of stationary plant will be trained in the correct and safe use of the relevant machinery to ensure that the operating techniques are undertaken in line with the guidance within the manufacturers' instructions. Training records will be maintained.

7.12.6 Staff will be trained on the use of mobile plant to reduce emissions where possible, including anti-idling.

7.12.7 Plant will be refuelled from the on-site bunded fuel tank as required.

8. DUST MANAGEMENT PLAN

8.1 Responsibility for Implementation of Plan

8.1.1 The Site Manager (SM) has overall responsibility for the control of the waste operations at the site and is responsible for ensuring that the procedures in the Plan are followed. The SM will:

- Ensure that the plan is effectively communicated to all staff, and that any additional staff that may be required are competent to undertake their roles;

- Ensure that all operations and management procedures outlined in this document are implemented and complied with;

- Ensure that the plan is reviewed annually, or following:
  - Permit variation
  - Accident, complaint or breach of permit
  - A new environmental issue
  - Any major changes to site operations

- Completion and storage of all required records for the plan.

8.1.2 The SM may delegate some mitigation tasks to site representatives (eg dust monitoring, use of water bowser for dust suppression, training of other staff).

8.2 Sources and Control of Dust

8.2.1 Potential emissions that may be generated from waste operations at the site are predominantly dust/particulates and include the following:

- Dust from HGV movements, uncovered vehicles carrying waste soils/aggregates, or mud on the wheels deposited from vehicles off-site

- Dust from tipping, movement, and processing of waste

- Dust from stockpiled wastes/aggregates

- Exhaust emissions from the use of mobile plant, and

- Exhaust emissions from HGV movements.

8.2.2 Tables 9 and 10 below detail the sources of emissions at the site and include the pathways to identified receptors. Proposed mitigation and control measures are provided for each source-pathway-receptor linkage, and an assessment of residual risk is provided for each emission source.

Source	Pathway	Receptor	Type of Impact	Mitigation and Control Measures	Residual Risk
Mud: HGV movements, or from uncovered vehicles Brought out on wheels of vehicles and deposited off-site	Wheels and vehicles tracking mud on and off-site and dropping off when dry, then resuspension as airborne particles	Local residents Surrounding workplaces	Dust deposition soiling surfaces Visible dust plumes Elevated PM_{10} and associated health impacts Ecological impacts	**Avoidance/ Containment:** Wheel washing facility. Limit vehicle speeds to < 10 mph. Haulage operators instructed to use wheel wash on leaving. **Suppression:** Use of bowser to dampen site surfaces. Use of road sweeper to dampen roads. **Management Control (EMS):** Regular monitoring of off-site roads and use of road sweeper if required. Visual dust monitoring during daily checks. All vehicles will be covered before entering and leaving site in accordance with Waste Acceptance Procedures.	**Low**
Dust /particulates: Generated from waste tipping, processing, movement and stockpiles storage	Atmospheric dispersion (wind-blown dust)	Local residents Surrounding workplaces	Dust deposition soiling surfaces Visible dust plumes Elevated PM_{10} and associated health impacts Ecological impacts	**Avoidance/ Containment:** All dry processing carried out inside a building. Minimise drop heights during tipping and movement of wastes/aggregates. Clean up any spillages that occur during material loading into vehicles. Careful placement of material onto the crusher/screener, into vehicles or stockpiles by fully trained and competent operatives. **Suppression:** Use of mobile water bowser to dampen stockpiles if dust is being generated. Dust suppression system installed in crusher and on building entrance. **Management Control (EMS):** Visual dust monitoring during daily checks.	**Low**

Table 9: Assessment of Risks from Dust/Particulates

Source	Pathway	Receptor	Type of Impact	Mitigation and Control Measures	Residual Risk
Gaseous pollutants: HGV exhaust emissions	Atmospheric dispersion	Local residents Surrounding workplaces	Increase in airborne particles	**Avoidance/ Containment:** Regulatory controls and best practice measures are in place. **Management Control (EMS):** Ensure all vehicles switch off engines - no idling vehicles. Regular inspection and maintenance. Use of higher tier emission standard[9] machinery/plant where available.	**Very Low**
Gaseous pollutants: Mobile plant exhaust emissions	Atmospheric dispersion	Local residents Surrounding workplaces	Increase in airborne particles	**Avoidance/ Containment:** Regulatory controls and best practice measures are in place. Use of higher tier emission standard machinery/ plant[9] where available. **Management Control (EMS):** Ensure all vehicles switch off engines - no idling vehicles. Regular inspection and maintenance.	**Very Low**

Table 10: Assessment of Risks from Gaseous Pollutants

8.3 Monitoring and Inspections

8.3.1 The SM or delegated representative will undertake daily on and offsite inspections for dust soiling of surfaces and mud on the road to monitor effectiveness of the Plan. Inspection results will be recorded in the site diary, and a record kept detailing weather conditions.

8.3.2 The offsite checks will be made at dust monitoring points around the site boundary shown on Drawing No 102/01B.

8.3.3 If visible dust is observed offsite, this will trigger the deployment of the road sweeper and use of dust suppression after review of the likely source of dust. Operatives will be trained to be more aware of dust potential during periods of strong winds and waste processing may be temporarily suspended.

8.3.4 Quantitative monitoring of dust is not proposed at this time due to the avoidance, containment and suppression mitigation measures in place. In addition, the site is not in an AQMA for dust and the background dust concentrations are low.

8.4 Contingency Action Plan

8.4.1 In the event that dust/particulates or excessive vehicle emissions are perceived as a concern following monitoring or as the result of a complaint, the source will be investigated by the SM.

8.4.2 When investigating any such report, the following factors will be considered:

- Location of the source relative to receptors;
- Prevailing wind directions on site; and
- Dust and vehicle emissions from external sources

8.4.3 Remedial actions will be undertaken immediately where possible. Appropriate actions will be taken on an escalating basis and include the following:

- Simple repairs or modifications to plant or machinery or switching off equipment.
- Deployment of road sweeper to clean and dampen site surfaces and external roads
- Use of water suppression on stockpiles or site surfaces.

8.4.4 The SM with the support of the Managing Director (MD) will coordinate more complex responses, which could include implementing a local community engagement exercise or liaising with regulators.

8.4.5 Any incidents, their outcomes and details of any remedial actions taken related to emissions will be recorded in the site diary.

8.4.6 The SM will ensure that the site is equipped with contingency provisions for replacement plant and parts relating to emissions management equipment (eg suppression sprays and road sweeping equipment). The aim will be to repair equipment within 24 hours of breakdown. If key suppression equipment cannot be repaired or replaced within 24 hours, or other failure occurs (eg freezing water), the SM will consider whether to suspend processing operations based on the potential for dust emissions as a result of the breakdown.

Adverse Weather

8.4.7 Approximation of wind strength is by the physical effects on site. A force 6 strong breeze on the Beaufort Scale is described as 'large branches in motion; whistling heard in telegraph wires; umbrellas used with difficulty'. This would be the conditions under which external operations would be suspended if dust was being carried across the site.

8.4.8 A force 7 near gale on Beaufort Scale is described as 'whole trees in motion; inconvenience felt when walking against the wind'. Under these conditions all external processing would be suspended.

Out of Hours Arrangements

8.4.9 The site operates Monday to Saturday and is closed on Sundays and Bank Holidays. In dry weather the stockpiles and surfaces will be damped on Saturdays before closing up for the weekend. The site can be viewed remotely by CCTV when not manned.

8.4.10 In prolonged dry spells the duty manager will visit the site and damp down on Sundays or bank holidays.

Failure of Water Supply

8.4.11 If the mains water supply fails then water tankers will be hired in for suppression.

Summary

8.4.12 Contingency Actions are summarised in Table 11 below.

Event	Action
Dust soiling on surfaces within site	- check if surfaces and stockpiles have been damped down, repeat if dry - check drop heights on conveyors are as low as possible - check locations outside of site boundary for off-site dust
Staining or debris along access road	- as determined by site manager during daily inspection - deploy road sweeper
Visible dust plume being carried off site	-temporarily suspend operations to investigate source/cause of dust emission - repeat damping down of surfaces and stockpiles - suspension of treatment during strong winds if dust cannot be adequately contained (see definition of strong winds in paragraphs 8.4.7 and 8.4.8)
Complaints received from neighbours	- investigate the weather conditions on the day of complaint - check plant settings and identify any issues or errors - depending on cause of complaint carry out appropriate action listed above - report back investigation findings and action taken to complainant

Table 11: Contingency Actions

8.5 Complaints Procedure

8.5.1 Any complaints relating to the site will be recorded in the site diary. A complaints form is not used as it is considered better to keep all information in one place for discussion during daily meetings.

8.5.2 All complaints received will be recorded and investigated by the SM. A response will be reported back to the complainant within 24 hours.

8.5.3 A record of incidents, accidents or non-conformances will be kept including the following information:

- Date and time of incident
- What happened
- What caused it
- Details of any contamination
- Who was involved
- What action was taken
- Were external agencies involved
- Any changes that have been made to the procedures/ EMS to ensure the incident does not reoccur

8.5.4 If numerous complaints are received operations will cease whilst an investigation is carried out and the issue is rectified.

8.6 Management Responsibilities

8.6.1 The responsibility of handling complaints is with the SM with support from the MD. Incidents are investigated by the SM whereby rectifying action is determined.

8.7 Community Liaison

8.7.1 Liaison with immediate neighbours is undertaken by phone call or by visiting in person.

8.7.2 A community liaison group will be established if liaison with the wider community is required.

9. SUMMARY AND CONCLUSIONS

9.1 Waste operations at the site will consist of processing construction, demolition and excavation wastes to produce recycled aggregate products using a mobile crusher and a fixed washing plant.

9.2 This dust impact assessment has been carried out in accordance with IAQM guidance. Site operations were determined to be large in magnitude and the surrounding receptors were determined to be 'medium sensitivity. The following assessment resulted in impacts being classed as 'high risk' from dust soiling, medium risk for human health effects and negligible for ecological effects.

9.3 Mitigation measures have been adopted as recommended in the IAQM guidance for high risk sites. Residual risks have been reduced to 'low' following implementation of mitigation measures.

9.4 All dry processing will be carried out inside a building which reduces the likelihood of dust migration from the site. The building entrance will face into the site, away from the sensitive commercial receptor to the north.

9.5 Further containment of emissions will be conducted through; use of a wheel wash, regular inspections of off-site roads, limiting vehicle speeds, and anti-idling policy. Suppression measures include the use of water sprays on the crusher and building entrance and mobile water bowser to dampen surfaces and stockpiles. The overall risk of emissions following mitigation measures has been determined as low.

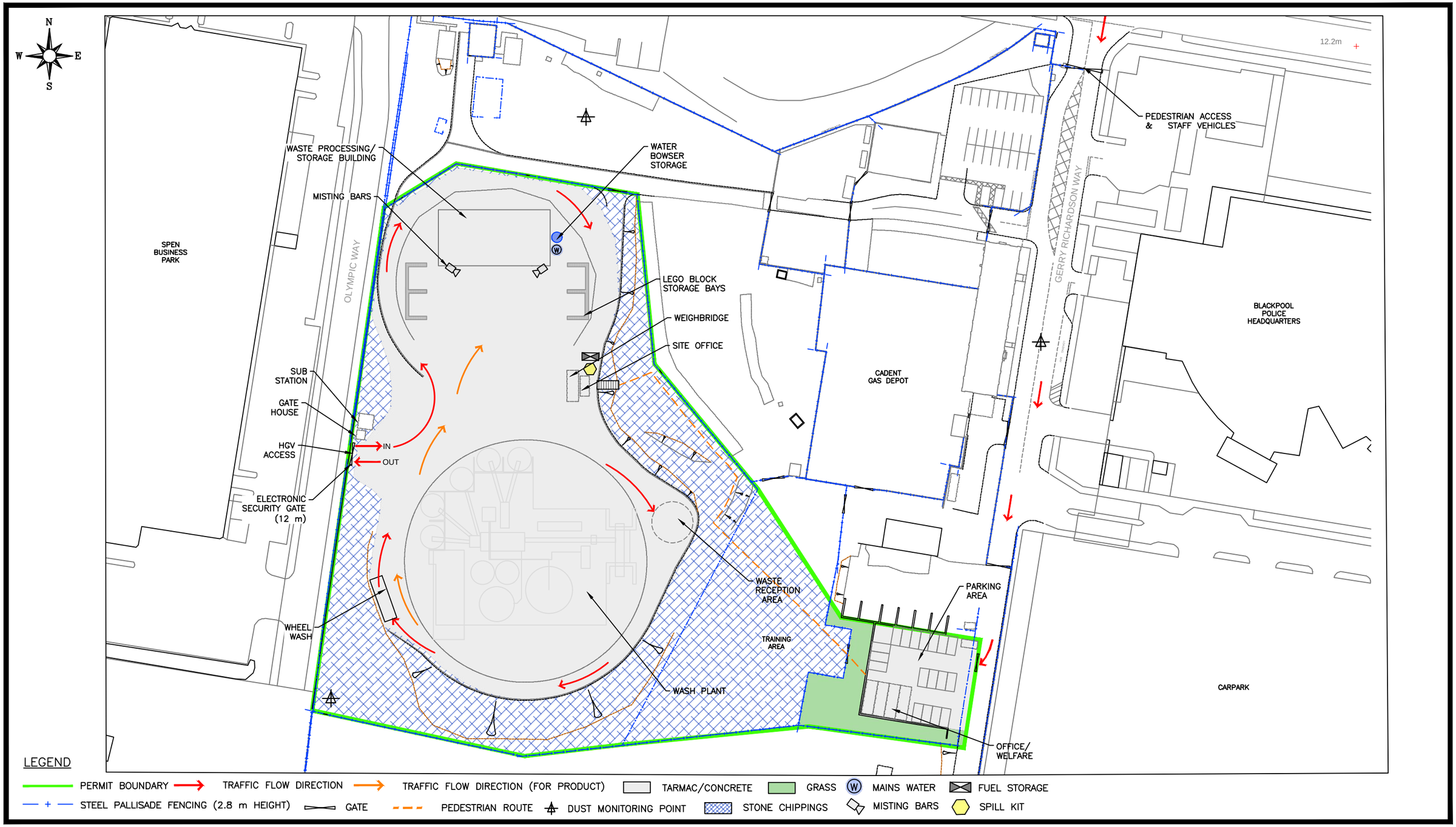
9.6 Stockpiles will be contained in bays and damped down in dry weather. Products which are light weight and easily wind blown eg sand and 6F5 will be stored inside the building.

9.7 Daily dust monitoring will be carried out at locations outside of the site boundary and contingency actions will be implemented if dust is observed.

9.8 The Plan will be reviewed annually, or following any complaints received relating to emissions or any changes to site operations.

APPENDIX A

Drawings



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67 Chorley Old Road, Bolton, Greater Manchester, BL1 3AJ
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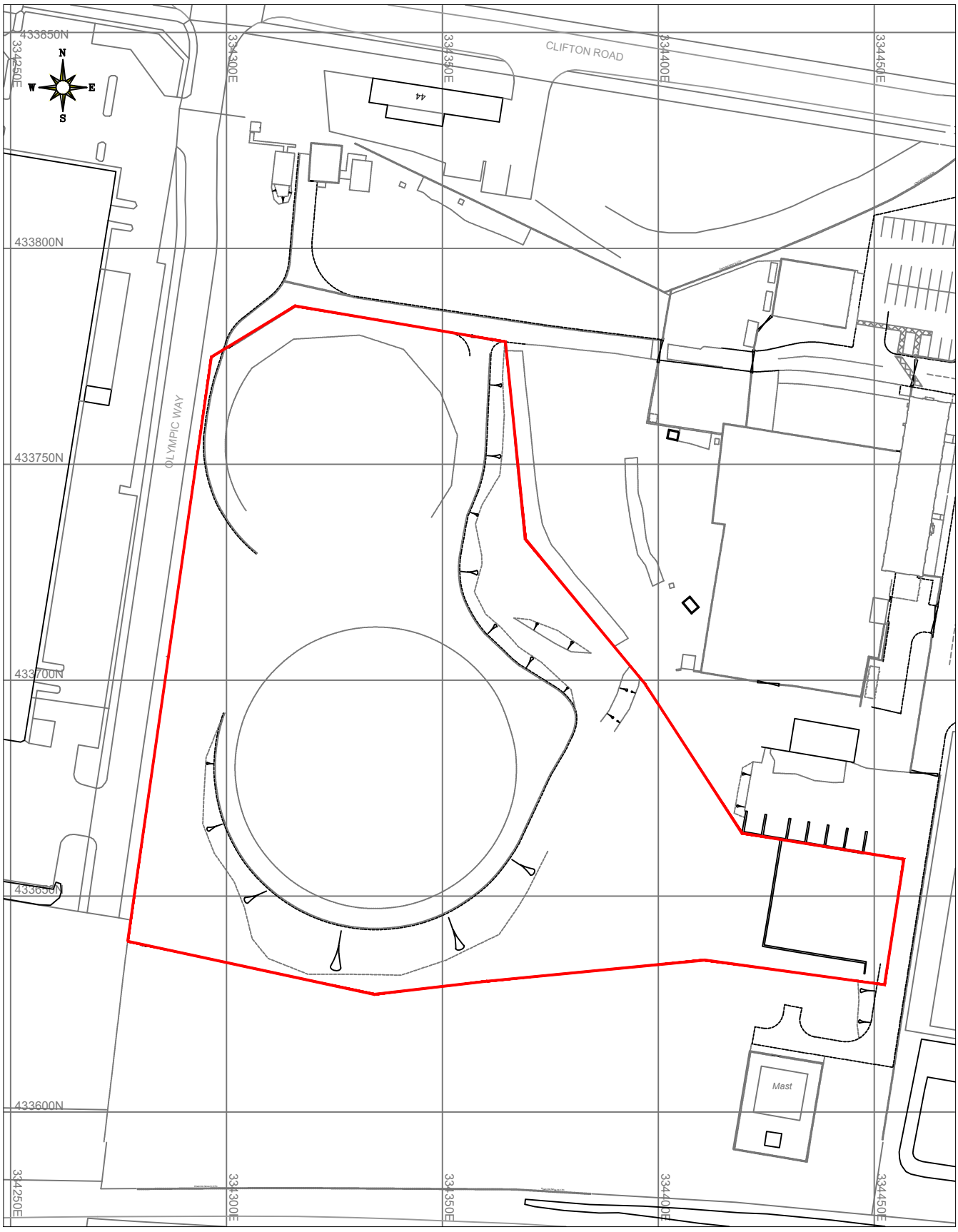
Tel: 07989 673122

CLIENT: JN CIVILS LIMITED		DRAWN BY. M.Y.B	APPROVED BY. C.G
JOB TITLE. AGGREGATE RECYCLING FACILITY, OLYMPIC WAY, BLACKPOOL		DATE. 10/07/23	DRAWING No. 102/01B
DRAWING TITLE. SITE LAYOUT PLAN		SCALE @ A3. 1:1000	



LEGEND ——— SITE BOUNDARY

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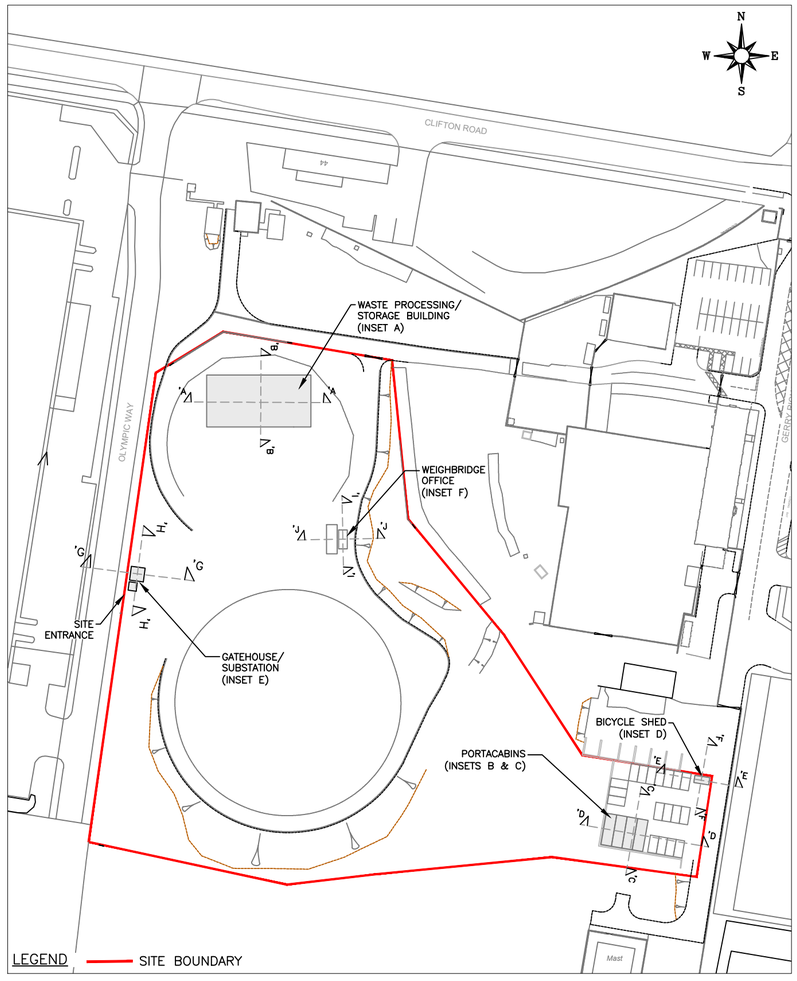
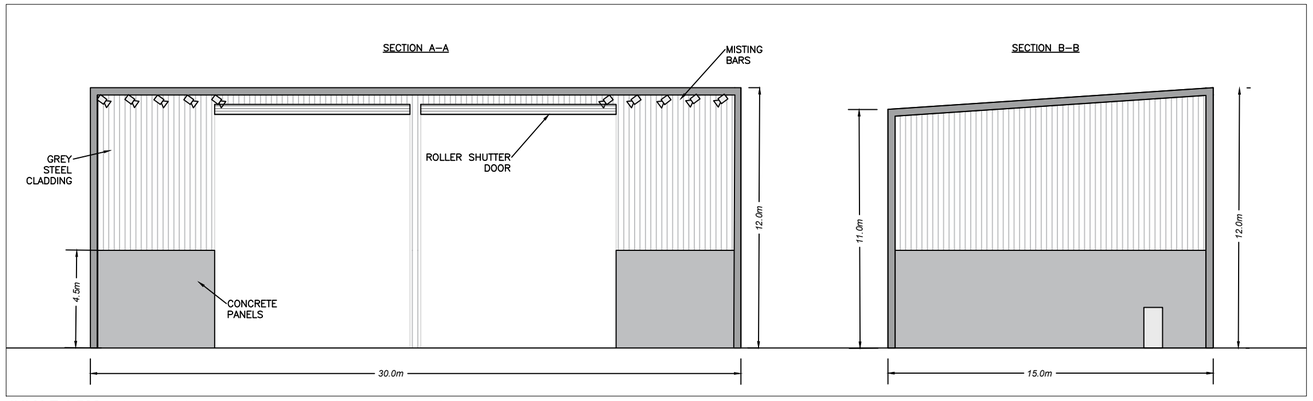
CLIENT: JN CIVILS LIMITED		DRAWN BY: M.Y.B	APPROVED BY: C.G
JOB TITLE: AGGREGATE RECYCLING FACILITY, OLYMPIC WAY, BLACKPOOL		DATE: 17/07/23	DRAWING No. 102/02
DRAWING TITLE: SITE LOCATION PLAN		SCALE @ A4: 1:1,250	

SITE LAYOUT



SCALE 1:1000

INSET A: WASTE STORAGE & PROCESSING BUILDING ELEVATIONS



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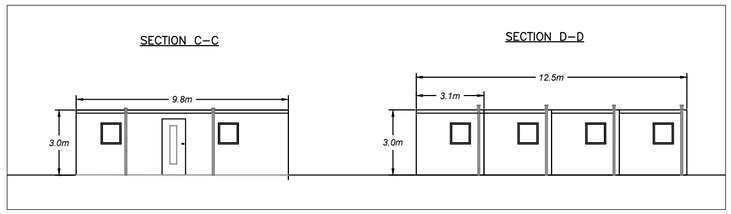
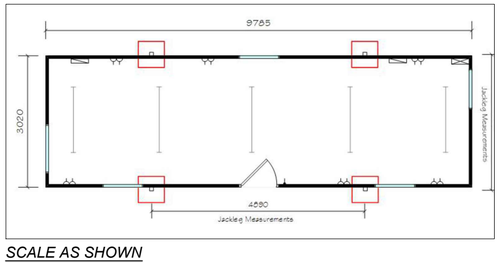
INSET B: PORTACABIN ELEVATIONS



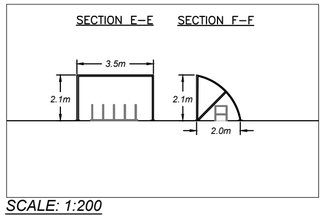
SCALE 1:200

INSET C: PORTACABIN FLOOR PLAN (INDICATIVE)



SCALE AS SHOWN

INSET D: BIKE STORAGE ELEVATIONS



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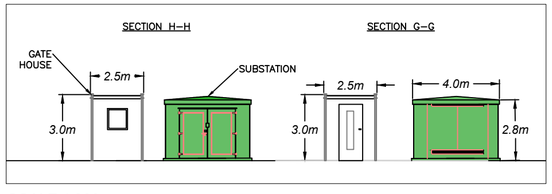
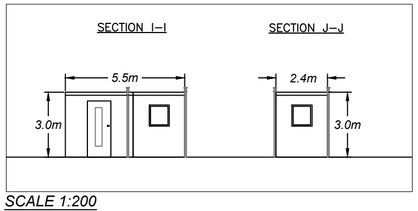
INSET E: GATE HOUSE & SUBSTATION



SCALE 1:200

INSET F: WEIGHBRIDGE OFFICE



SCALE 1:200

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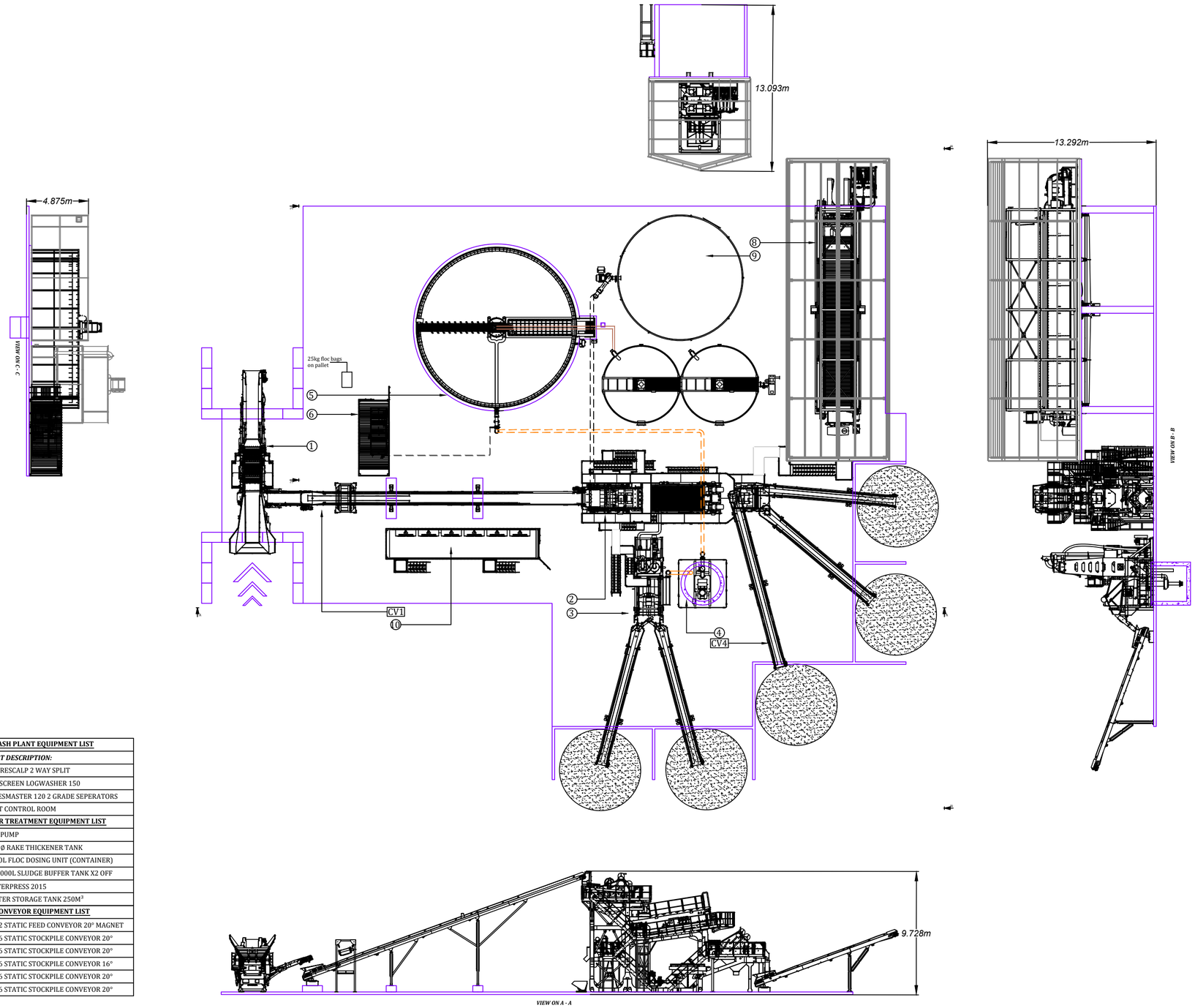
CLIENT: JN CIVILS LIMITED		DRAWN BY: M.Y.B	APPROVED BY: C.G
JOB TITLE: AGGREGATE RECYCLING FACILITY, OLYMPIC WAY, BLACKPOOL		DATE: 23/10/23	DRAWING No.: 102/04
DRAWING TITLE: BUILDING ELEVATIONS & FLOOR PLANS		SCALE @ A3: AS SHOWN	



WASH PLANT EQUIPMENT LIST	
TAG ID:	*PART DESCRIPTION:*
1	AGGRESCALP 2 WAY SPLIT
2	PRESCREEN LOGWASHER 150
3	FINESMASTER 120 2 GRADE SEPERATORS
10	40FT CONTROL ROOM
WATER TREATMENT EQUIPMENT LIST	
4	VSP PUMP
5	12MØ RAKE THICKENER TANK
6	5000L FLOC DOSING UNIT (CONTAINER)
7	150,000L SLUDGE BUFFER TANK X2 OFF
8	FILTERPRESS 2015
9	WATER STORAGE TANK 250M^3
CONVEYOR EQUIPMENT LIST	
CV1	7532 STATIC FEED CONVEYOR 20° MAGNET
CV2	4026 STATIC STOCKPILE CONVEYOR 20°
CV3	4026 STATIC STOCKPILE CONVEYOR 20°
CV4	5026 STATIC STOCKPILE CONVEYOR 16°
CV5	4026 STATIC STOCKPILE CONVEYOR 20°
CV6	4026 STATIC STOCKPILE CONVEYOR 20°

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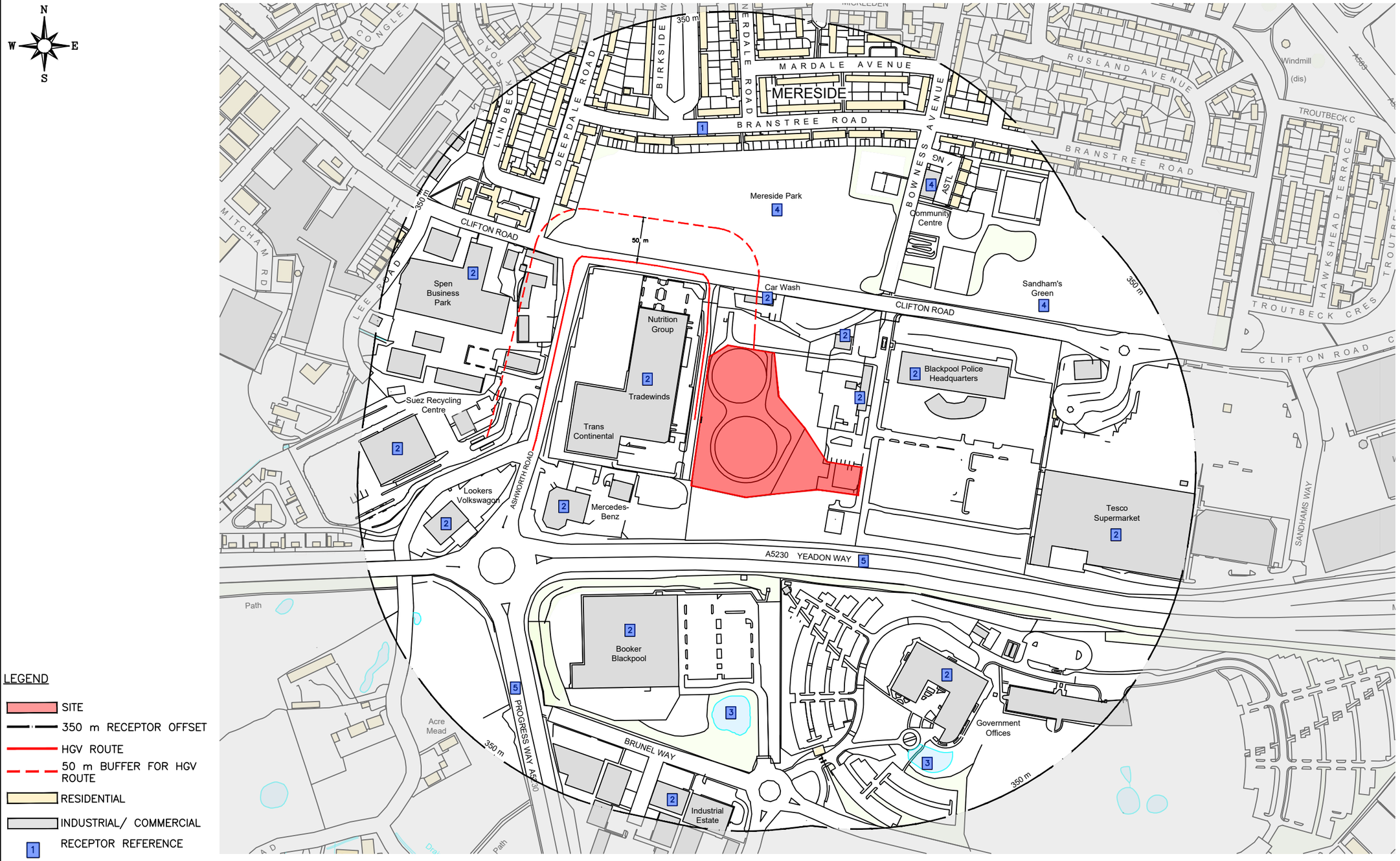
CLIENT.
JN CIVILS LIMITED

JOB TITLE.
AGGREGATE RECYCLING FACILITY
OLYMPIC WAY
BLACKPOOL

DRAWING TITLE.
WASH PLANT LAYOUT AND ELEVATIONS

REV.	DESCRIPTION	DATE	BY

DRAWN BY. M.Y.B
APPROVED BY. C.G
DATE. 20/10/23
DRAWING No. 102/05
SCALE @ A2. AS SHOWN



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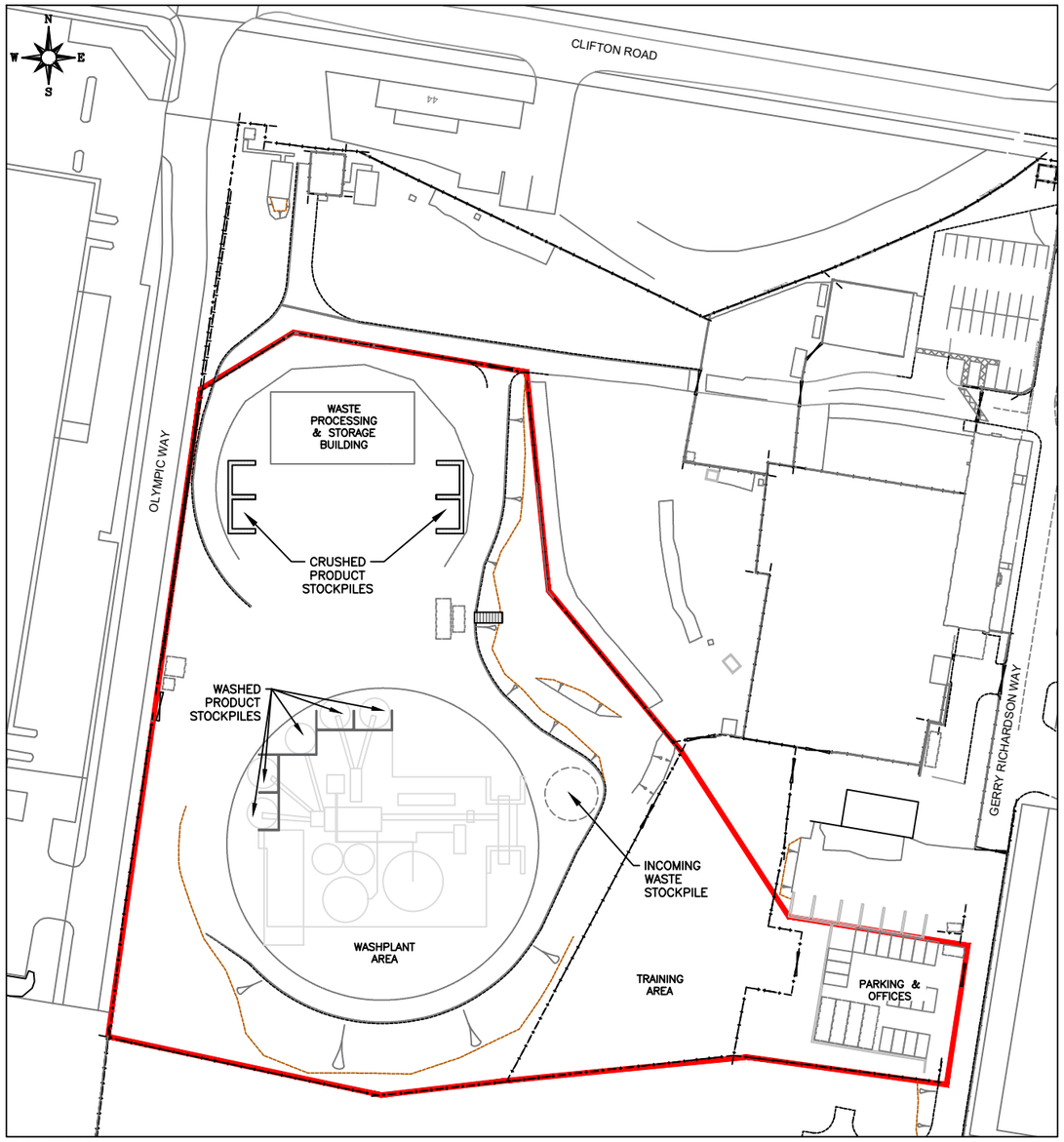
email: claire@starlingenvironmental.co.uk
Tel: 07989 673122

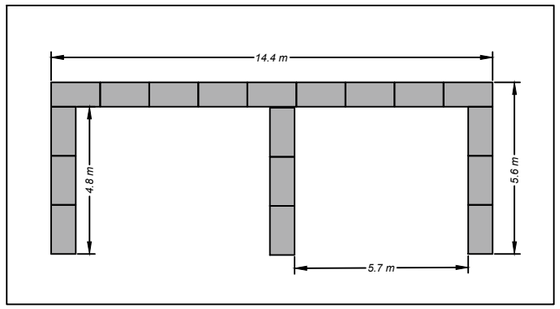
CLIENT	JN CIVILS LIMITED
JOB TITLE.	AGGREGATE RECYCLING FACILITY, OLYMPIC WAY, BLACKPOOL
DRAWING TITLE.	RECEPTORS PLAN
DRAWN BY.	M.Y.B
APPROVED BY.	C.G
DATE.	30/10/23
SCALE @ A3.	1:4000
DRAWING No.	102/06

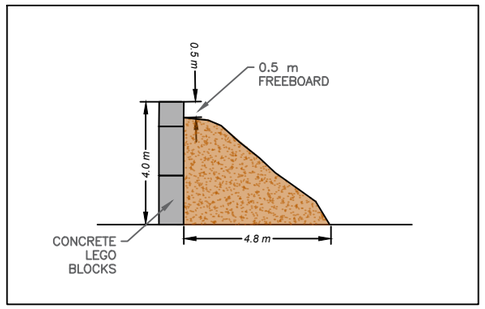
STOCKPILE LOCATION PLAN



SCALE 1:1250

CRUSHED PRODUCT STOCKPILE & BAYS
(SCALE 1:200)





INCOMING WASTE STOCKPILE
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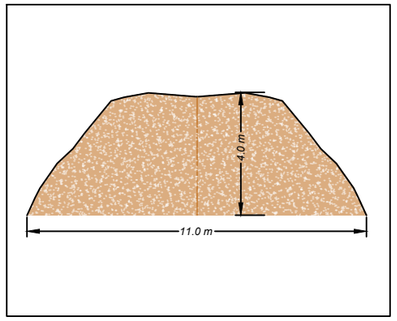

WASHED PRODUCT STOCKPILE & BAYS
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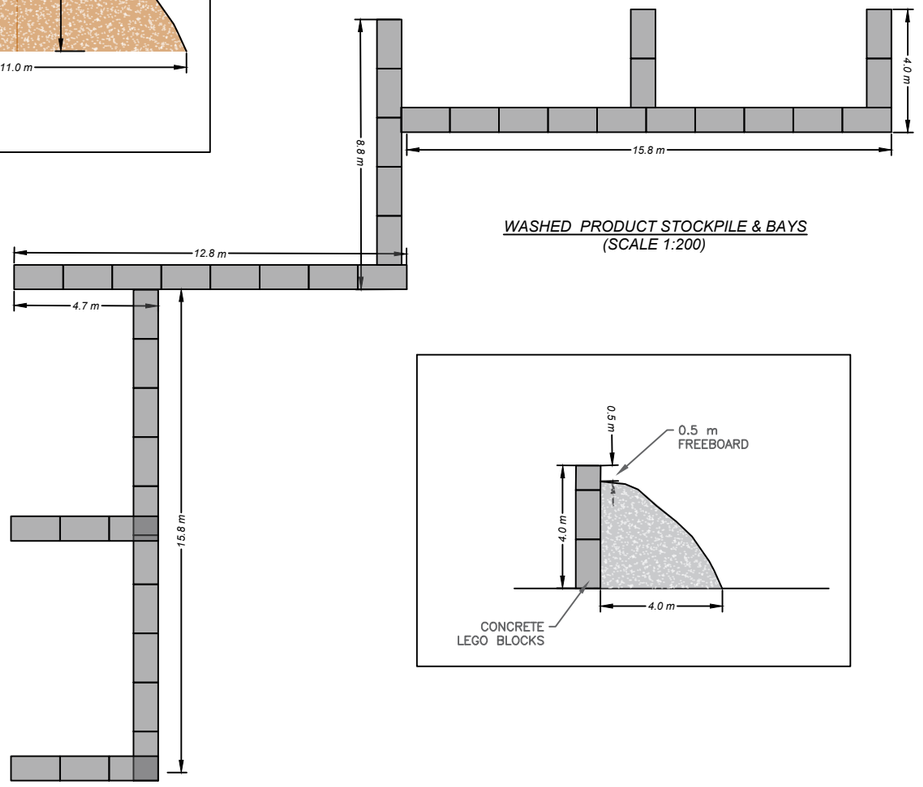

LEGEND

SITE BOUNDARY

FURTHER DETAILS: A WHITE PAINTED LINE WILL SHOW THE MAXIMUM HEIGHT FOR PRODUCT TO BE STORED SO THAT THERE IS ALWAYS A 0.3 M FREEBOARD FOR EACH STORAGE BAY.

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CLIENT: JN CIVILS LIMITED

JOB TITLE: AGGREGATE RECYCLING FACILITY OLYMPIC WAY BLACKPOOL

DRAWING TITLE: STOCKPILE LOCATION & DETAIL PLAN

REV.	DESCRIPTION	DATE	BY

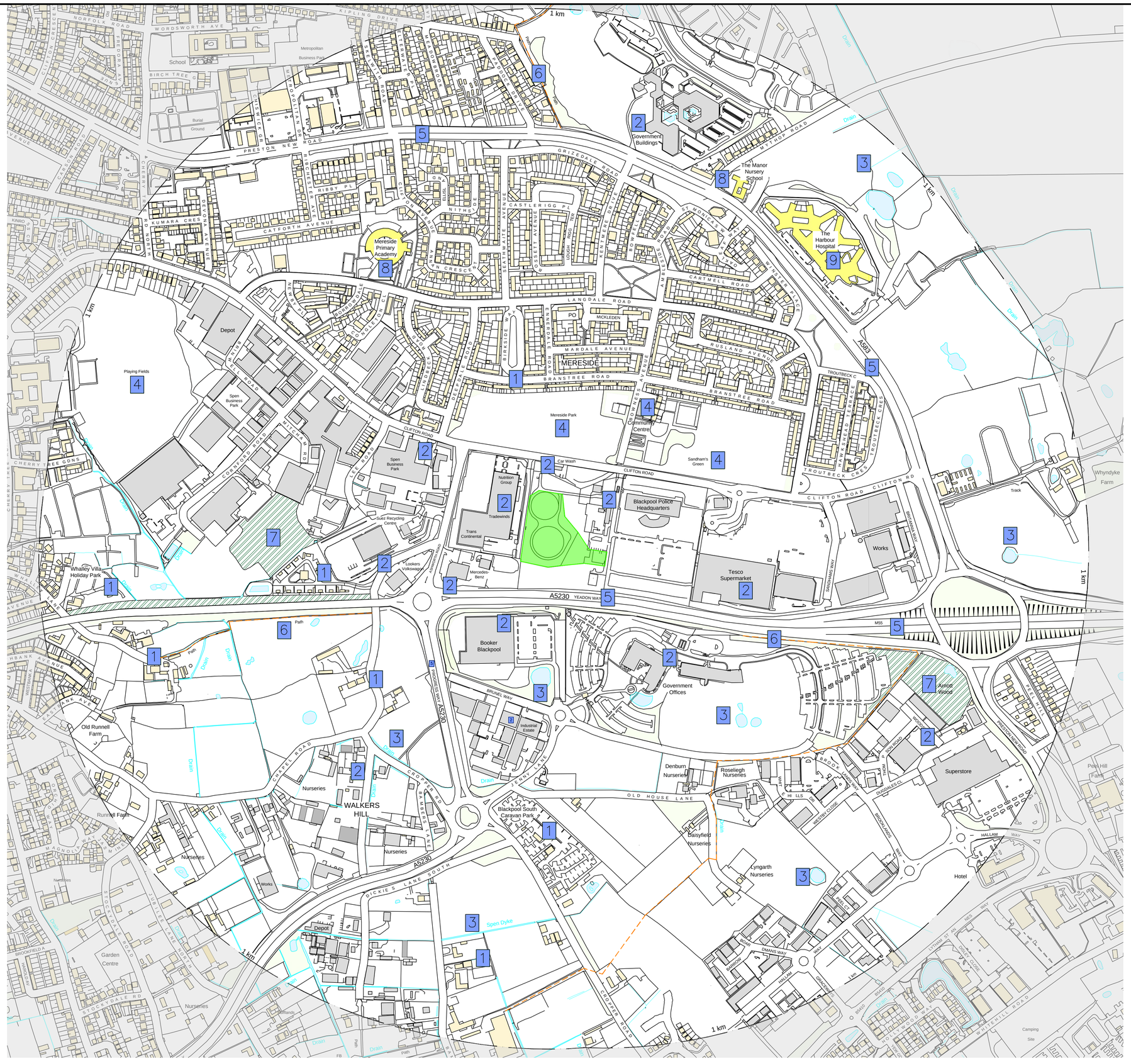
DRAWN BY: M.Y.B

APPROVED BY: C.G

DATE: 06/11/23

DRAWING No.: 102/10

SCALE @ A3.: AS SHOWN



LEGEND

- PERMIT AREA
- 1 KM RECEPTOR BOUNDARY
- FOOTPATHS
- RESIDENTIAL AREA
- INDUSTRIAL/COMMERCIAL AREA
- PRIORITY HABITAT
- WATERBODIES/WATERWAYS
- 1 RECEPTOR REFERENCE

PREVAILING WIND DIRECTION (FROM THE WEST)

REV.	DESCRIPTION	DATE	BY

STARLING ENVIRONMENTAL LIMITED
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Greater Manchester, BL1 3AJ
www: starlingenvironmental.co.uk
email: claire@starlingenvironmental.co.uk
Tel: 07989 673122

CLIENT.

JN CIVILS LIMITED

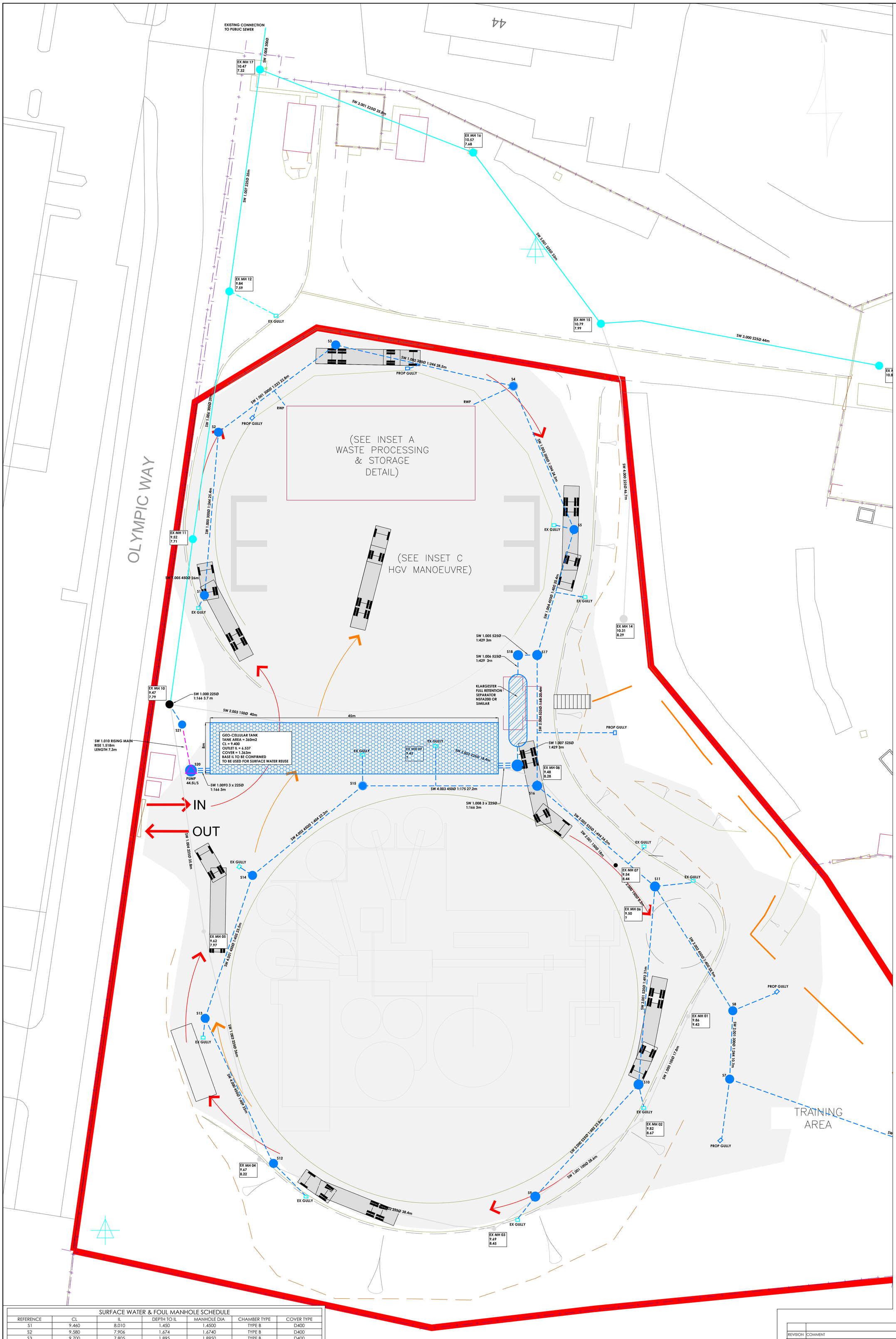
JOB TITLE.

AGGREGATE RECYCLING FACILITY
OLYMPIC WAY, BLACKPOOL

DRAWING TITLE.

RECEPTORS WITHIN 1 KM

DRAWN BY.	APPROVED BY.	DRAWING No.
M.Y.B	C.G	106/13
DATE. 18/05/24	SCALE @ A1. 1:4000	



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7. PROPOSED FINISHED LEVELS HAVE ONLY BEEN ASSUMED AND SHOULD BE FINALISED BY A CIVIL ENGINEER.
8. POSITION OF SOIL VENT PIPES & RAINWATER DOWN PIPES TO BE CONFIRMED BY THE ARCHITECT.

KEY

SW 1.000	PROPOSED SURFACE WATER DRAIN
EX SURFACE WATER	EXISTING PRIVATE SURFACE WATER SEWER
EX SURFACE WATER	EXISTING PRIVATE SURFACE WATER SEWER TO BE ABANDONED
SW 1.000	PROPOSED SURFACE WATER RISING MAIN
S1	PROPOSED SURFACE WATER MANHOLE
S1	EXISTING PRIVATE SURFACE WATER MANHOLE
EX MH	EXISTING PRIVATE SW MANHOLE TO BE ABANDONED
	FULL RETENTION SEPARATOR
PROP GULLY	PROPOSED GULLY
EX GULLY	EXISTING GULLY
PUMP	PUMPING STATION
	ATTENUATION TANK

PROPOSED LEVELS

COVER LEVELS HAVE BEEN BASED ON EXISTING LEVELS

SURFACE WATER ATTENUATION

GEO-CELLULAR TANK AREA = 360m2
CL = 9.400
OUTLET IL = 6.537
COVER = 1.363m
BASE IL TBC TO BE USED FOR SURFACE WATER REUSE.

CRATES TO BE SUITABLE FOR TRAFFICKED AREAS
SPECIFICATION TO BE PROVIDED BY CHOSEN MANUFACTURER

FLOW CONTROL

PUMP CHAMBER S20
DISCHARGE RATE = 44.5L/S
CHAMBER TO INCLUDE BACKUP PUMP AND HIGH LEVEL ALARM SYSTEM

PUMP SPECIFICATION TO BE PROVIDED BY CHOSEN MANUFACTURER

POLLUTION CONTROL

KLARGESTER NSFA200
FULL RETENTION SEPARATOR OR SIMILAR

PROPOSED DISCHARGE RATES

1 IN 1 YEAR = 44.5L/S
1 IN 30 YEAR = 44.5L/S
1 IN 100 YEAR + 50% CLIMATE CHANGE = 44.5L/S

SURFACE WATER & FOUL MANHOLE SCHEDULE

REFERENCE	CL	IL	DEPTH TO IL	MANHOLE DIA	CHAMBER TYPE	COVER TYPE
S1	9.460	8.010	1.450	1.4500	TYPE B	D400
S2	9.580	7.906	1.674	1.6740	TYPE B	D400
S3	9.700	7.805	1.895	1.8950	TYPE B	D400
S4	10.400	7.688	2.712	2.7120	TYPE B	D400
S5	9.700	7.438	2.262	2.2620	TYPE B	D400
S6	10.000	8.221	1.779	1.7790	TYPE B	D400
S7	10.000	7.989	2.011	2.0110	TYPE B	D400
S8	10.000	7.795	2.205	2.2050	TYPE B	D400
S9	9.500	7.775	1.725	1.7250	TYPE B	D400
S10	9.700	7.726	1.974	1.9740	TYPE B	D400
S11	9.500	7.663	1.837	1.8370	TYPE B	D400
S12	9.670	8.020	1.650	1.6500	TYPE B	D400
S13	9.630	7.958	1.672	1.6720	TYPE B	D400
S14	9.610	7.900	1.710	1.7100	TYPE B	D400
S15	9.500	7.845	1.655	1.6550	TYPE B	D400
S16	9.480	7.614	1.866	1.8660	TYPE B	D400
S17	9.600	7.312	2.288	2.2880	TYPE B	D400
S18	9.600	7.305	2.295	2.2950	TYPE B CATCH PIT	D400
SEP	9.450	7.298	2.152	2.1520	SEPARATOR	D400
S19	9.500	7.291	2.209	2.2090	TYPE B	D400
TANK	9.400	6.537	2.863	2.8630	GEO-CELL TANK	D400
S20	9.500	6.519	2.981	2.9810	TYPE B	D400
EXMH10	9.470	8.037	8.015	1.4630	TYPE B	D400

REVISION	COMMENT	DATE	BY

GEO-ENVIRONMENTAL CONSULTING

BEK ENVIRONMENTAL CONSULTING ENGINEERS LTD
Suite 1, No 3 Mitton Road Business Park, Mitton Road,
Whalley, Clitheroe BB7 9RX
TEL: 01254 377622

CLIENT:	JN CIVILS LTD
DATE:	14/12/2023
STATUS:	
PROJECT:	OLYMPIC WAY, BLACKPOOL
DRAWN BY:	CV
SCALE:	1:200
DRAWING TITLE:	PROPOSED DRAINAGE LAYOUT SHEET 1 OF 2
SIZE:	A0
DRAWING REFERENCE:	2023-065-02
REVISION:	

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- FULL RETENTION SEPARATOR
- PROP GULLY — PROPOSED GULLY
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OUTLET IL = 6.537
COVER = 1.363m
BASE IL TBC TO BE USED FOR SURFACE WATER REUSE.

CRATES TO BE SUITABLE FOR TRAFFICKED AREAS
SPECIFICATION TO BE PROVIDED BY CHOSEN MANUFACTURER

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PUMP CHAMBER S20
DISCHARGE RATE = 44.5L/S
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POLLUTION CONTROL

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EXMH10	9.470	8.037	8.015	1.4630	TYPE B	D400

REVISION	COMMENT	DATE	BY

GEO-ENVIRONMENTAL CONSULTING

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Suite 1, No 3 Mitton Road Business Park, Mitton Road, Whalley, Clitheroe BB7 9RX
TEL: 01254 377622

CLIENT: JN CIVILS LTD
DATE: 14/12/2023
STATUS:
PROJECT: OLYMPIC WAY, BLACKPOOL
DRAWN BY: CV
SCALE: 1:200
DRAWING TITLE: PROPOSED DRAINAGE LAYOUT SHEET 2 OF 2
SIZE: A0
DRAWING REFERENCE: 2023-065-03
REVISION:

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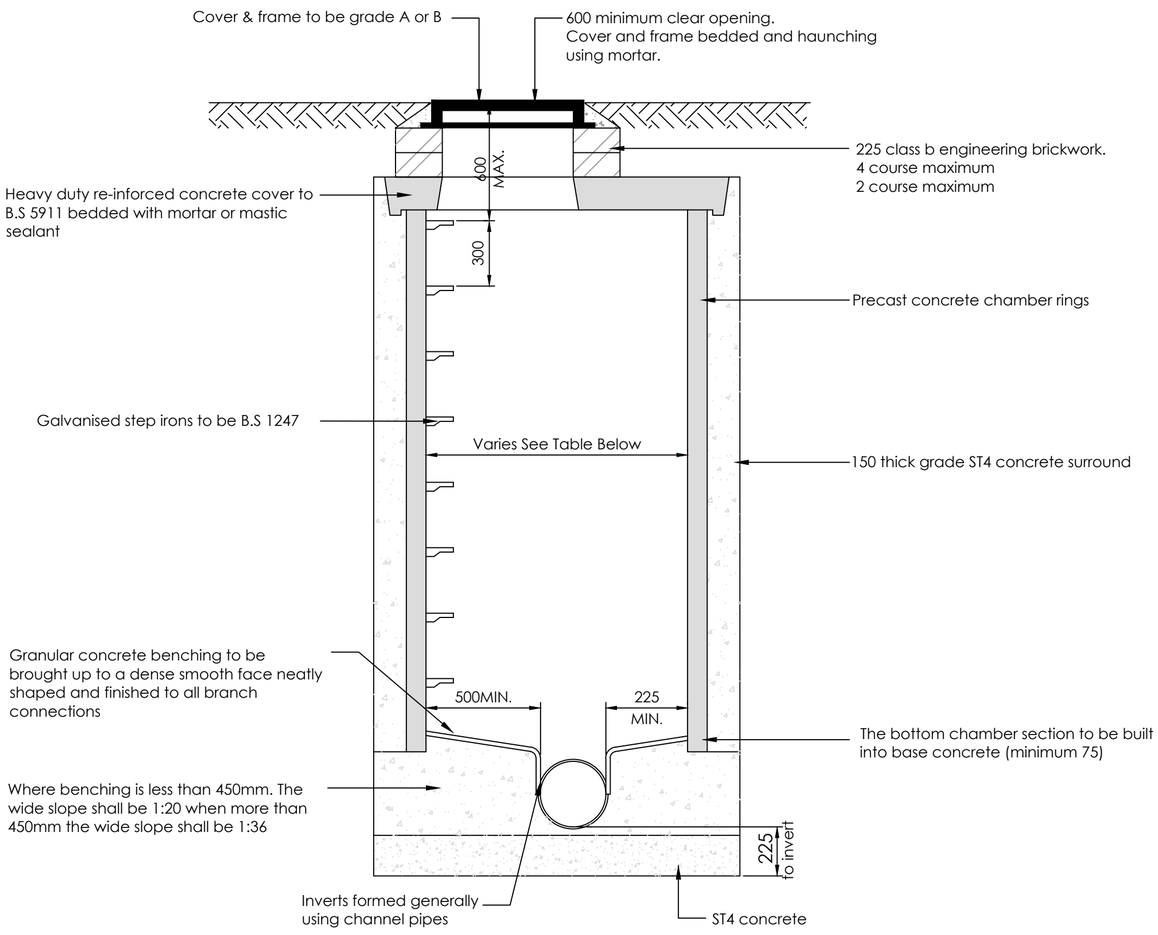
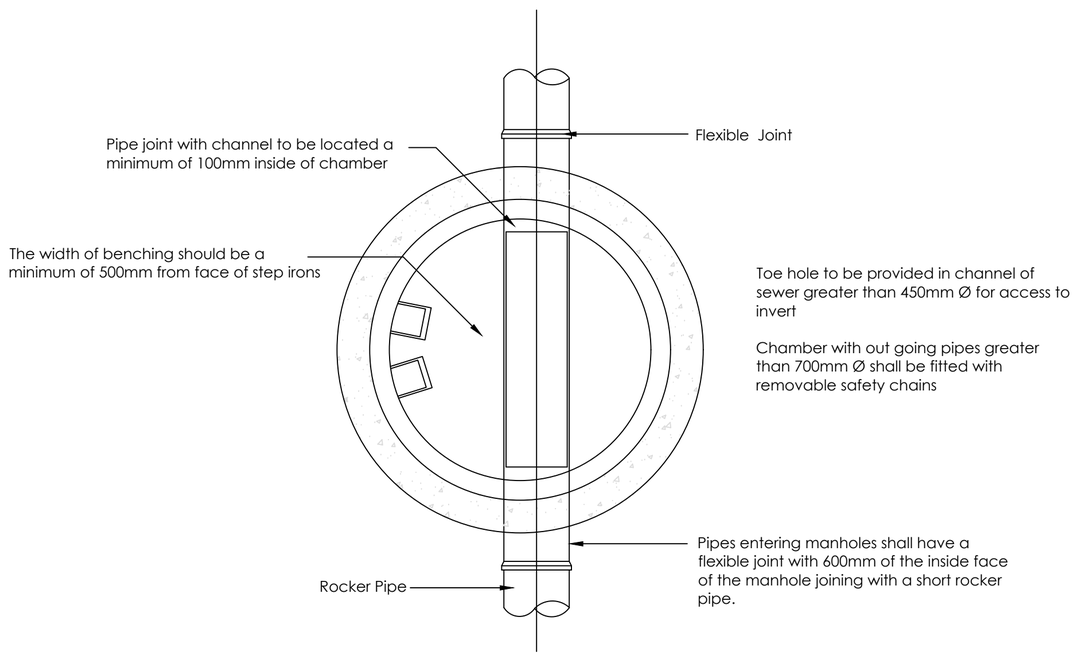


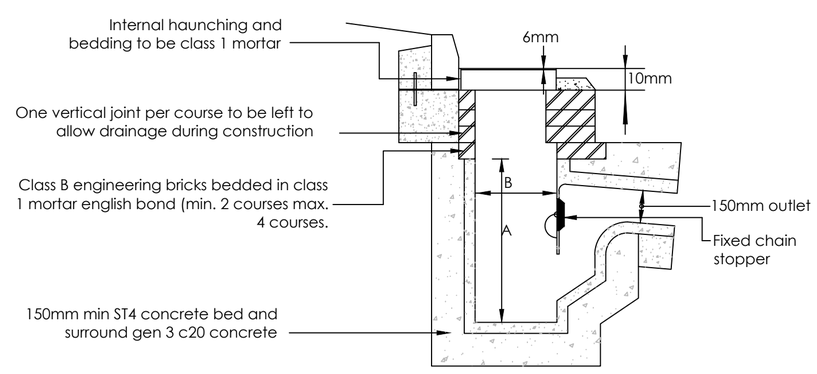
Typical Manhole Detail - Type B
Scale 1:20

(1.35m - 3m Deep with Step Irons)



Notes:
Double width step rungs to be Type D Class 1 complying to BS EN 13101:2002 spaced at 250mm centers, cast in vertical alignment.

Manhole covers shall/must have a clear opening of 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.



Gully grated to be BS EN 124 class 250.

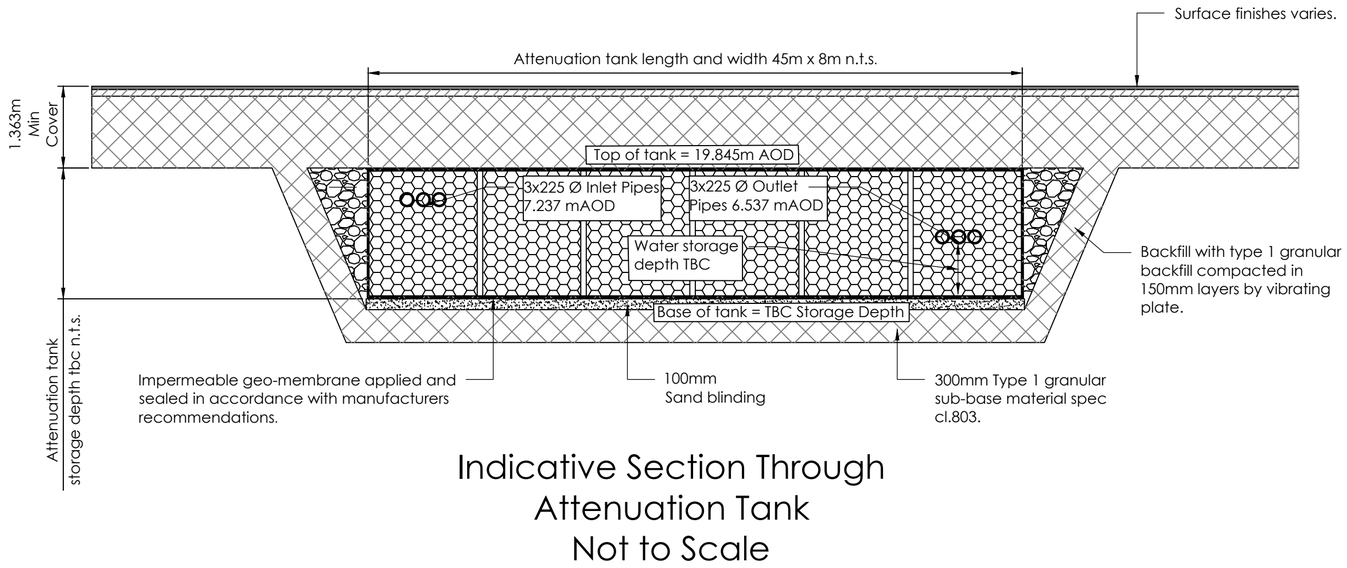
Ductile iron with captive hinge size 325 x 312mm clear opening.

Pedestrian friendly mesh type gravel to be fitted in shared access ways.

Gully Dimensions:
A = 750mm B = 375mm

Trapping p.conc gully pot to BS 5911 PA4-2

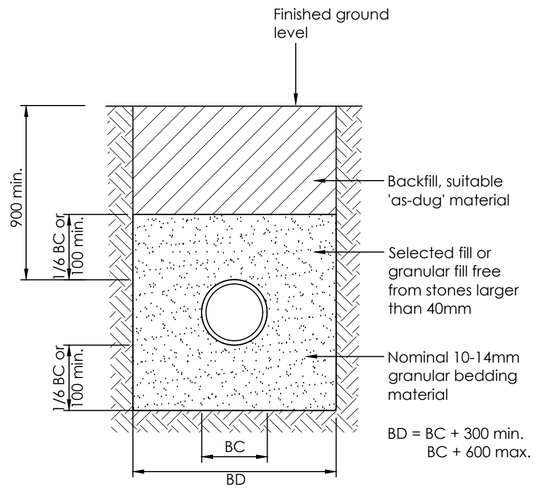
Pre-Cast Concrete Road Gully (1:20)



Indicative Section Through Attenuation Tank
Not to Scale

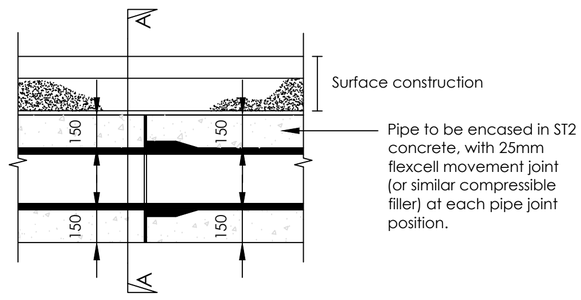
Installation Method:

- Specialist supplier to prepare and submit appropriate layouts, schedules and details to enable fully compliant installation of geo-cellular units
- Excavate
- Install sub-base
- Install impermeable geomembrane (in accordance with manufacturers recommendations)
- Install crate units + connections (in accordance with manufacturers recommendations)
- Install inspection chambers as required
- Install crate end plates
- Cover sides & top with geotextile membrane (note: care taken not to rip, tear or puncture membrane
- Seal membrane
- Lateral backfilling
- Cover & backfill



Typical Trench Detail
Scale 1:10

NOTE: To be used where cover depth:
- >0.6m fields & gardens
- >0.9m lightly trafficked areas e.g. light roads & drives



Joints for Concrete Encased Pipes
Scale 1:10

Minimum Recommended Trench Widths for Structured Wall Pipes in Poor Ground Conditions.

Native soil modulus between 3 & 4 MPA
Typical soil Classifications: Very loose gravel, loose sand, medium dense clayey silty sand, firm clay

Nominal pipe diameter (mm)	150	225	300	375	450	525	600	750	900
Minimum trench width (mm)*	450	525	600	750	900	1050	1200	1500	1800

* A vertical trench face has been assumed to allow a modulus of 7MPA to be achieved for the pipe bedding and sidefill material.

Other assumed values:
Depth of cover = 6m (max)
Traffic loading = main road
Pipe stiffness = SNB

Note: Where the native soil modulus is below 3MPA or the depth of cover exceeds 6m, guidance should be sought from the pipe manufacturer regarding structural design and installation details.

Extract from Table A2 WIS 4-08-02

Processed granular bedding & sidefill materials for flexible pipes

Pipe nominal bore (mm) (see note D)	Nominal Maximum particle size (mm)	Materials specified in British Standards (see note A)
100	10	10mm nominal single size
Over 100 to 150	15	10 or 14mm nominal single size or 14mm to 5mm graded
Over 150 to 300	20	10-14mm or 20mm nominal single size or 14-5mm graded or 20-5mm graded
Over 300 to 500	20	14 or 20mm nominal single size or 14-5mm graded or 20-5mm graded
Over 500	40	14 or 20mm or 40mm nominal single size or 14-5mm graded or 20-5mm graded or 40-5mm graded

Notes:
A. Processed granular materials to include aggregates and air cooled blast furnace slag to BS EN 12620:220 + A1:2008; and lightweight aggregates to BS EN 13101:2002.
B. -
C. For the purpose of this table, PE pipe of 630mm OD can be regarded as having nominal bores of over 550mm, irrespective of wall thickness.
D. Nominal bore is used in preference to DN because of the different nominal size classifications for flexible pipes.

SURFACE WATER ATTENUATION

GEO-CELLULAR TANK AREA = 360m2
CL = 9.400
OUTLET IL = 6.537
COVER = 1.363m
BASE IL TBC TO BE USED FOR SURFACE WATER REUSE.

CRATES TO BE SUITABLE FOR TRAFFICKED AREAS
SPECIFICATION TO BE PROVIDED BY CHOSEN MANUFACTURER

FLOW CONTROL

PUMP CHAMBER S20
DISCHARGE RATE = 44.5L/S
CHAMBER TO INCLUDE BACKUP PUMP AND HIGH LEVEL ALARM SYSTEM

PUMP SPECIFICATION TO BE PROVIDED BY CHOSEN MANUFACTURER

POLLUTION CONTROL

KLARGESTER NSFA200
FULL RETENTION SEPARATOR OR SIMILAR

REVISION	COMMENT	DATE	BY

GEO-ENVIRONMENTAL CONSULTING

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Suite 1, No 3 Mitton Road Business Park, Mitton Road, Whalley, Clitheroe BB7 9RX
TEL: 01254 377622

CLIENT: JN CIVILS LTD	DATE: 14/12/2023
	STATUS:
PROJECT: OLYMPIC WAY, BLACKPOOL	DRAWN BY: CV
	SCALE: AS SHOWN
DRAWING TITLE: TYPICAL DRAINAGE DETAILS	SIZE: A0
DRAWING REFERENCE: 2023-065-04	REVISION:

APPENDIX B

Impact Assessment Method

1 Assessment Method

1.1 The assessment proceeds stepwise as illustrated in Figure 2 below, reproduced from the IAQM Guidance on the assessment of dust from demolition and construction.

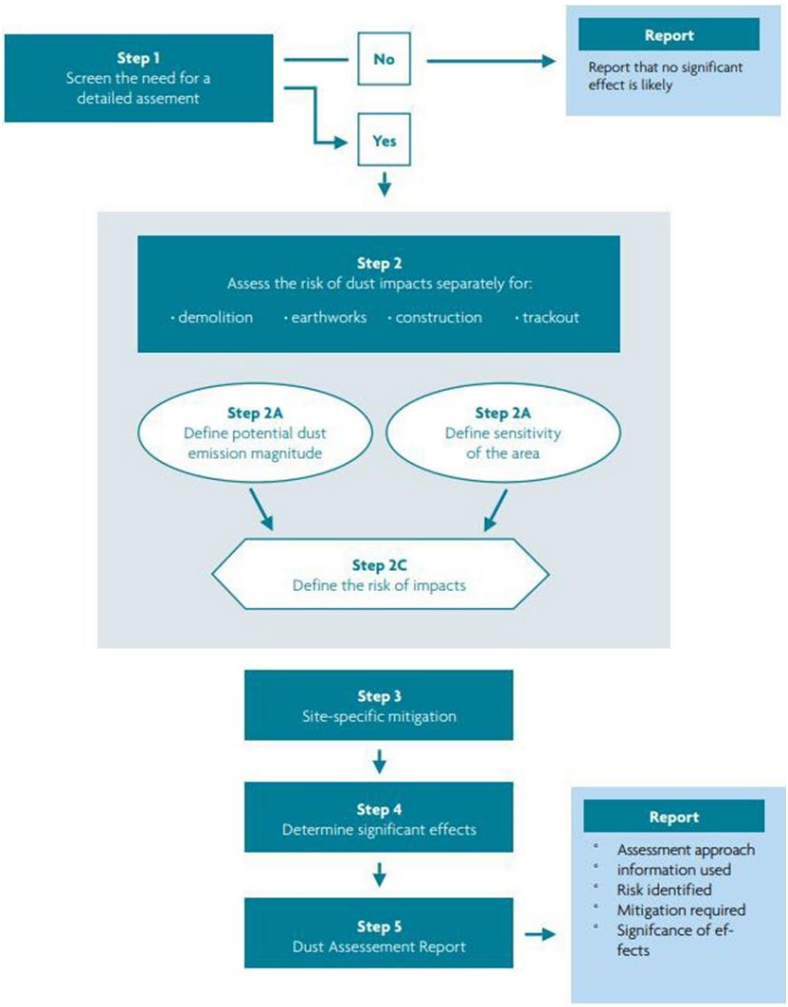

Figure A1: Assessment Procedure

2 Step 1: Screen the Need for a Detailed Assessment

2.1 An assessment is normally required when there is a human receptor within 350 m of the boundary of the site and 50 m of the route used by construction vehicles. This site fits within this location as it is surrounded by commercial operators which are considered human receptors and so will require an assessment.

3 Step 2: Assess the Risk of Dust Impacts

3.1 This step is split into three sections as follows:

- 2A -define the potential dust emission magnitude;
- 2B - define the sensitivity of the area; and
- 2C - define the risk of impacts.

3.2 In Step 2A, each of the dust-generating activities is examined and a dust emission magnitude determined depending on the scale and nature of the works based on the criteria shown in Table 3 below.

Dust emission magnitude		
Small	**Medium**	**Large**
Demolition		
• total building volume <20,000m^3 • construction material with low potential for dust release (e.g. metal cladding or timber) • demolition activities <10m above ground • demolition during wetter months	• total building volume 20,000 - 50,000m^3 • potentially dusty construction material • demolition activities 10 - 20m above ground level	• total building volume >50,000m^3 • potentially dusty construction material (e.g. concrete) • on-site crushing and screening • demolition activities >20m above ground level
Earthworks		
• total site area <2,500m^2 • soil type with large grain size (e.g. sand) • <5 heavy earth moving vehicles active at any one time • formation of bunds <4m in height • total material moved <10,000 tonnes • earthworks during wetter months	• total site area 2,500m^2 - 10,000m^2 • moderately dusty soil type (e.g. silt) • 5 – 10 heavy earth moving vehicles active at any one time • formation of bunds 4 – 8m in height • total material moved 20,000 - 100,000 tonnes	• total site area >10,000m^2 • potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size) • >10 heavy earth moving vehicles active at any one time • formation of bunds >8m in height • total material moved >100,000 tonnes

Table A1: Dust Emission Magnitude (continued over)

Construction		
• total building volume <25,000m^3 • construction material with low potential for dust release (e.g. metal cladding or timber)	• total building volume 25,000 - 100,000m^3 • potentially dusty construction material (e.g. concrete) • on-site concrete batching	• total building volume >100,000m^3 • on-site concrete batching • sandblasting
Trackout		
• <10 HDV (>3.5t) outward movements in any one day • surface material with low potential for dust release • unpaved road length <50m	• 10 – 50 HDV (>3.5t) outward movements in any one day • moderately dusty surface material (e.g. high clay content) • unpaved road length 50 – 100m;	• >50 HDV (>3.5t) outward movements in any one day • potentially dusty surface material (e.g. high clay content) • unpaved road length >100m

Table A1 continued: Dust Emission Magnitude

3.7 Step 2B requires the sensitivity of the surrounding area to be determined for each activity, based on the proximity and number of receptors, their sensitivity to dust, the local PM_{10} background concentrations and any other site-specific factors. Tables A2 to A4 show the criteria for defining the sensitivity of the area to different dust effects.

Receptor sensitivity	**Number of receptors**	**Distance from the source (m)**			
		< 20	**< 50**	**< 100**	**< 350**
High	> 100	High	High	Medium	Low
	10 – 100	High	Medium	Low	Low
	< 10	Medium	Low	Low	Low
Medium	> 1	Medium	Low	Low	Low
Low	> 1	Low	Low	Low	Low

Table A2: Sensitivity of the area to dust soiling effects

Background PM_{10} concentrations (annual mean)	Number of receptors	Distance from the source (m)				
		< 20	< 50	< 100	< 200	< 350
High receptor sensitivity						
> 32µg/m^3	> 100	High	High	High	Medium	Low
	10 – 100			Medium	Low	
	< 10		Medium	Low		
28 – 32µg/m^3	> 100	High	High	Medium	Low	Low
	10 – 100		Medium	Low		
	< 10					
24 – 28µg/m^3	> 100	High	Medium	Low	Low	Low
	10 – 100					
	< 10	Medium	Low			
< 24µg/m^3	> 100	Medium	Low	Low	Low	Low
	10 – 100	Low				
	< 10					
Medium receptor sensitivity						
> 32µg/m^3	> 10	High	Medium	Low	Low	Low
	< 10	Medium	Low			
28 – 32µg/m^3	> 10	Medium	Low	Low	Low	Low
	< 10	Low				
24 – 28µg/m^3	> 10	Low	Low	Low	Low	Low
	< 10					
< 24µg/m^3	> 10	Low	Low	Low	Low	Low
	< 10					
Low receptor sensitivity						
–	> 1	Low	Low	Low	Low	Low

Table A3: Sensitivity of the area to human health impacts

Receptor sensitivity	Distance from the source (m)	
	< 20	< 50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

Table A4: Sensitivity of the area for ecological impacts

3.8 The overall risk of the impacts for each activity is then determined (step 2C) prior to the application of any mitigation measures and an overall risk for the site derived.

Sensitivity of area	Dust emission magnitude		
	Large	Medium	Small
Demolition			
High	High risk site	Medium risk site	Medium risk site
Medium	High risk site	Medium risk site	Low risk site
Low	Medium risk site	Low risk site	Negligible
Earthworks			
High	High risk site	Medium risk site	Low risk site
Medium	Medium risk site	Medium risk site	Low risk site
Low	Low risk site	Low risk site	Negligible
Construction			
High	High risk site	Medium risk site	Low risk site
Medium	Medium risk site	Medium risk site	Low risk site
Low	Low risk site	Low risk site	Negligible
Trackout			
High	High risk site	Medium risk site	Low risk site
Medium	Medium risk site	Low risk site	Negligible
Low	Low risk site	Low risk site	Negligible

Table A5: Risk of dust impacts

3.9 The receptor sensitivity assessment and determination of impacts includes assessment of receptors within 350 m of the site boundary and within 50 m of the access route up to 500 m from the site.

4 Step 3: Site Specific Mitigation

4.1 Once each of the activities is assigned a risk rating, appropriate mitigation measures are identified based on recommendations in the IAQM guidance. Where the risk is negligible, no mitigation measures beyond those required as best practice are necessary.

5 Step 4: Determine Any Significant Residual Effects

5.1 Once the risk of dust impacts has been determined and the appropriate dust mitigation measures identified, the final step is to determine whether there are any residual significant effects. The IAQM construction dust guidance notes that it is anticipated that with the implementation of effective site-specific mitigation measures, the environmental effect will not be significant in most cases.

6 Step 5: Prepare a Dust Assessment Report

6.1 The last step of the assessment is the preparation of a dust assessment.

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