

RIG SCORRIER LIMITED

ENVIRONMENTAL PERMIT VARIATION – EPR/DP3892HD

BEST AVAILABLE TECHNIQUES (BAT) ASSESSMENT

JUNE 2024



Wardell Armstrong

Sir Henry Doulton House, Forge Lane, Etruria, Stoke-on-Trent, ST1 5BD, United Kingdom Telephone: +44 (0)1782 276 700 www.wardell-armstrong.com



DATE ISSUED: JUNE 2024 JOB NUMBER: NT16545 **REPORT NUMBER:** 004 **VERSION:** V1.0 **STATUS: FINAL RIG SCORRIER LIMITED ENVIRONMENTAL PERMIT VARIATION – EPR/DP3892HD BEST AVAILABLE TECHNIQUES (BAT) ASSESSMENT JUNE 2024 PREPARED BY:** Jack Piercy Mineral Surveyor **REVIEWED BY:**) Branfid- Men Dominiqua Drakeford-Allen Associate Director **APPROVED BY:**

This report has been prepared by Wardell Armstrong LLP with all reasonable skill, care and diligence, within the terms of the Contract with the Client. The report is confidential to the Client and Wardell Armstrong LLP accepts no responsibility of whatever nature to third parties to whom this report may be made known.

Technical Director

No part of this document may be reproduced without the prior written approval of Wardell Armstrong LLP.



Alison Cook

Oleson Sales

RIG SCORRIER LIMITED ENVIRONMENTAL PERMIT VARIATION – EPR/DP3892HD BEST AVAILABLE TECHNIQUES (BAT) ASSESSMENT



CONTENTS

1	INTRODUCTION	1
2	COMPLIANCE WITH 2018 BAT CONCLUSIONS	3
3	USE OF WATER	14
4	USE OF RAW MATERIALS	15
5	USE OF ENERGY	16
6	WASTE MINIMISATION	19

APPENDICES

Appendix 1 Hazardous Storage – Proposed Plant Layout
Appendix 2 Asbestos Storage – Proposed Plant Layout

DRAWINGS

Drawing No.	Title	Scale
NT16773-001	Section 73 General Arrangement Plan	1:500 @ A1
NT16773-003	Section 73 Drainage Plan	1:500 @ A1
NT16773-005	Leachate Lagoon Sections	As shown on drawing



1 INTRODUCTION

- 1.1.1 RIG Scorrier Ltd ('RIG') have commissioned Wardell Armstrong to prepare a permit variation for their Site on the land adjacent to Parc-an-Chy mine, Cornwall.
- 1.1.2 The Site is located off Treskerby Road, Scorrier Estate, Scorrier, Cornwall, TR16 5AU.
 The National Grid Reference for the Site is SW 72185 43281.
- 1.1.3 The Site is currently permitted as a waste transfer station, which accepts non-hazardous waste suitable for treatment to produce soils, soil substitutes and aggregates at a throughout of 74,999 tonnes per annum. The extant permit number is EPR/DP3892HD. Additionally, metals arising from construction and demolition sites are permitted to be accepted, stored, manually sorted and transferred, however it is not RIG's intention to store and transfer metals.
- 1.1.4 This permit variation seeks to add a new state-of-the-art wash plant to facilitate the treatment of waste soils and aggregates, including contaminated wastes, to produce recycled aggregate products. In addition to the new treatment plant, the annual throughput is proposed to be increased to 350,000 tonnes per year. The range of wastes to be accepted onto Site for treatment and storage is proposed to expand to include wastes which may be contaminated from sites such as brown field sites, and RIG have invested in suitable technology and Site infrastructure to enable the safe and effective recovery of wastes which may have contaminants present. The process and equipment have been designed to enable potentially contaminated wastes to be treated for recovery, in order to expand RIG's positive impact toward a circular waste economy.
- 1.1.5 As some of the incoming wastes will include hazardous wastes, and the throughput is increasing, the permit is being varied from a waste permit to an installations permit, as more than 10 tonnes per day of hazardous waste will undergo physico-chemical treatment and this is a listed activity in the Environmental Permitting Regulations (England and Wales) 2016 under Section 5.3 Part A(1)(a)(ii).
- of up to 1,000 tonnes at any one time which is also a listed activity in the Environmental Permitting Regulations (England and Wales) 2016; Section 5.6 Part A(1)(a)(ii) temporary storage of hazardous waste with a total capacity exceeding 50 tonnes pending any of the activities listed in...Section 5.3



- 1.1.7 Hazardous waste will be stored in a dedicated area on Site , comprising of covered bays with impermeable flooring and appropriate drainage.
- 1.1.8 Further description of the Site infrastructure, drainage and management of hazardous waste is provided in this assessment.
- 1.1.9 The Site will operate in accordance with RIG's Environmental Management System. This BAT Assessment, along with the other documentation which make up the application show how the measures are applied to the new wash plant, which in addition to soils and inert waste will also process and treat contaminated waste streams.
- 1.1.10 Further detail regarding the measures in place is provided in the Operating Techniques, Dust Management Plan and Amenity and Accident Risk Assessment.
- 1.1.11 This document comprises a BAT assessment and demonstrates how the new wash plant will comply with 2018 BAT Conclusions for Waste Treatment.



2 COMPLIANCE WITH 2018 BAT CONCLUSIONS

- 2.1.1 Table 2.1 below describes how the Site will comply with the best available techniques as set out by the European Commission in the 2018 BAT Conclusions for Waste Treatment.
- 2.1.2 In addition, the following published guidance will be followed:
 - Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste
 Sector Guidance Note IPPC \$5.06
 - Appropriate Measures for Non-hazardous and Inert Waste.



Table 2.1 Compliance with the 2018 BAT Conclusions	
BAT Requirement	Compliance
BAT 1 Environmental Management System	RIG are a specialist waste management and engineering company, which provide technical solutions for complex waste problems.
	RIG is committed to protecting and enhancing the local, national and global environment.
	The Site will operate in accordance with RIG's Environmental Management System (EMS). The EMS includes procedures to ensure
	compliance with relevant legislation and the conditions of the environmental permit, as well as seeking continuous improvement
	in environmental matters.
	Standard operating procedures will be in place for waste pre-acceptance and acceptance and all waste treatment operations.
	Where necessary the EMS includes management plans submitted to the EA including an accident management plan.
	Environmental issues will be a factor in purchasing of equipment and any infrastructure improvements. Where possible equipment
	offering better energy efficiency and lower emissions will be selected, in accordance with RIG's EMS.
	Written procedures will be provided for all aspects of Site operations. These will include procedures for pre-acceptance and waste
	acceptance checks, rejection of waste, waste handling, waste treatment and waste dispatch. The procedures will ensure that
	activities are carried out in a manner which will secure legal compliance and protect the environment.
	Site operations will be audited internally on a monthly basis. This will confirm compliance with the written procedures. Audits will
	allow for a review of progress and the setting of targets for continuing improvement in the coming year.
BAT 2 Site pre-acceptance and acceptance	The Site will operate in accordance with strict pre-acceptance and acceptance procedures to ensure the technical and legal
procedures, waste tracking, sorting of waste,	suitability of the waste prior to the arrival of waste onto Site for either storage and transfer or treatment as applicable. Wastes
waste segregation and managing the quality	which could potentially be hazardous will be sampled and tested to confirm the hazardous properties of the waste and to ensure
of outputs	the waste is permitted to be accepted and is handled according to the hazardous waste acceptance procedures.
	RIG use Waste Acceptance Procedures (WAP) for logging and tracking incoming and outgoing waste.



Table 2.1 Compliance with the 2018 BAT Conclusions	
BAT Requirement	Compliance
	Records will be kept of all incoming waste, any treatment process to which it was subjected and all outgoing materials. Where
	appropriate manual sorting will take place to remove non-conforming materials or those that might impact waste treatment.
	Recycled aggregate product produced from the treatment process will confirm with RIG's Material Quality Plan and will conform
	to the relevant standards. Residual fines will be tested in accordance with the 'Residuals Sampling Testing Protocol'.
BAT 3 Inventory of waste gas and	Waste Gas
wastewater streams	Waste gas is not expected to arise from the activities undertaken on Site .
	Waste water
	Water using in the wash plant process is recirculated within the plant, providing the most water efficient solution.
	The plant has been designed so that wastewater generated passes through a dewatering screen and remaining organics and
	lightweight materials are removed. Flocculant is added to help with the settlement of particles and overflow water is collected
	within sumps and pumped back into the process to be recirculated.
BAT 4 Adequate storage at an optimised	Inert materials will be stockpiled on Site . Site is large and has sufficient capacity to accept and store the increased throughput of
location. Separate storage for hazardous	the waste.
waste.	Hazardous, or potentially hazardous waste streams require enclosure/coverage, and these wastes will be directed to the hazardous
	waste storage shed, a roofed three-sided structure with impermeable surfacing with a fall to a sealed drainage system. Any run-off
	from the stockpiles will be collected by a cut-off drain and directed to a sump. A speed bump/sleeping policeman will be installed
	at the open aperture, to provide containment. No fuel will be stored in the building, nor mains water, gas or electricity supply. The
	hazardous waste storage building design is provided in Appendix 1.
	The facility will also store wastes containing asbestos, for secure storage and transfer only. Asbestos materials will arrive on Site
	double bagged or wrapped, and will be directed from the weighbridge to the asbestos storage compound. The compound comprises



Table 2.1 Compliance with the 2018 BAT Conclusions	
BAT Requirement	Compliance
	a fenced off area surrounded by 2m high palisade fencing, with two 12.2m³ fabricated steel enclosed containers. The asbestos
	compound has impermeable surfacing with a designed sealed drainage system. The design of the asbestos compound is provided
	in Appendix 2.
	There will be two attenuation basins, one for process waters which may contain contamination and one for the clean surface water.
	The capacity of the basins have been designed to accommodate 1 in 100 storm event and climate change event. The Surace Water
	Management System is described in more detail in the Operating Techniques, and details are shown on drawings NT16773-001,
	NT16773-003 and NT16773-005.
BAT 5 safe handling including management	Staff training will be delivered to members of staff which will be suitable for their roles and responsibilities, including safe storage
of spills and staff training	procedures, waste acceptance procedures and appropriate wastes for treatment, proper control of sorting machinery, quality of
	output and environmental risks. The Site will have a designated Technically Competent Manager, who will attend Site for a
	minimum of the required TCM attendance requirements.
	The Site will operate in accordance with an Accident Management Plan. Spill kits are provided on Site, including within the
	hazardous waste storage area.
BAT 6 and BAT 7 Monitoring emissions to	All storage of inert waste will take place on areas of hardstanding, served by an attenuation basin at the south of the Site .
water	This basin is sized at 1,350m³ to accommodate the critical 1 in 100 year and climate change storm events.
	The basin has a standoff distance of 10m from the wash plant pad, and the hazardous waste storage compound has separate
	infrastructure, to ensure there will not be cross contamination of contaminants to the clean surface water.
	Clean water will discharge to an open ditch from the basin via a hydrobrake to restrict the flow to 4.5l/s.
	The attenuation basin to collect surface water which may have been in contact with hazardous waste is located in the northeast
	corner of the Site, adjacent to the wash plant pad. The attenuation basin will be lined with an engineered clay liner or a similar
	suitable impermeable material. The basin has been sized as approximately 500m³. A nominal depth of 1m of water will be



Table 2.1 Compliance with the 2018 BAT Conclusions		
BAT Requirement	Compliance	
	maintained as a maximum to allow for pumping back into the wash plant process. Additional storage, above the nominal 1m depth	
	has been allowed for in the design of the basin to accommodate the critical 1 in 100 year and climate change storm event.	
	A penstock/gate valve will be installed at the outfall of the reciculation tank to allow draw down/emptying of the lagoon. During	
	washing of inert wastes the gate will be open, and during washing of hazardous wastes the gate will be closed. A gate can then be	
	opened to allow hazardous water to be released and directed to the hazardous attenuation lagoon via a 300mm diameter pipe.	
	During low stocking periods, the opportunity will be taken to inspect surfaces normally inaccessible due to stockpiles of waste. Should any damage to surfacing be observed, a timescale for repair will be agreed following discussions with senior RIG Scorrier	
	Ltd Management and the Environment Agency will be notified.	
	Bunds will be checked weekly and after heavy sustained rainfall to ensure their continued integrity and that there is sufficient	
	capacity. All inspections, defects, damage and repairs will be recorded.	
BAT 8 Monitoring of point source emissions to air	There will be no point source emissions to air	
BAT 9 monitor emissions from regeneration	There is no intention to process waste containing Persistent Organic Pollutants (POPs).	
of solvents, treatment of solvents and use of		
solvents to decontaminate equipment		
containing POPs.		
BAT 10 Odour monitoring where a nuisance	Odour nuisance is not expected at nearby sensitive receptors, due to the nature of the wastes RIG will be accepting onto Site (e.g.	
at sensitive receptors is expected or has	construction wastes and soils). The Site will operate in accordance with strict waste acceptance procedures to ensure only	
been substantiated.	permitted wastes will be accepted (or rejected, if appropriate).	



Table 2.1 Compliance with the 2018 BAT Conclusions		
BAT Requirement	Compliance	
	The Site will operate in accordance with the daily Site inspection procedures, and should any odour be detectable at the Site	
	boundary or beyond, an investigation will be carried out to identify the source, and remedial action will be taken. Records of any	
	observations and subsequent actions taken will be made and kept.	
BAT 11 monitor energy, raw material and	Use of diesel, electricity, water and raw materials (e.g. fuel and lubricants for Site plant) will be monitored and recorded.	
water use	Section 3 of this report estimated the expected water usage, section 4 the raw materials required for operation of the Site and	
	section 5 the estimated energy consumption of running the wash plant.	
	Diesel will be stored in a purpose designed 12,800 litre storage tank. The tank has level sensor.	
BAT 12 Odour Management Plan in place	Not applicable - wastes to be accepted to the Site are not expected to carry strong odours, and strict waste acceptance procedures	
	in place.	
BAT 13 Reduce odour by limiting residence	Not applicable - there will be no aerobic treatment on Site .	
times, using chemical treatment and		
optimising aerobic treatment		
BAT 14 Minimise sources of diffuse	Due to the type of waste treated Leak Detection and Repair (LDAR) is not applicable.	
emissions e.g. dust by minimising sources of	Site roads and storage areas will be swept as necessary to prevent a build-up of dust. Plant will be maintained in accordance with	
emissions, using good quality well	the manufacturer's recommendations. A water supply is available to allow damping down where necessary. Drop heights will be	
maintained plant, damping down where	minimised as far as possible. Vehicles will be restricted to 10mph when moving around Site .	
needed, cleaning waste storage areas having	The Site will operate in accordance with a Dust Management Plan.	
a leak detection and repair (LDAR)		
programme		
BAT 15 and BAT 16 Flaring only for safety	Not applicable the waste treatment does not generate flammable gas.	
reasons, correct design of flare		



Table 2.1 Compliance with the 2018 BAT Conclusions		
BAT Requirement	Compliance	
BAT 17 Noise Management Plan where	A noise impact assessment has been prepared in accordance with the methodology set out in ISO 9613-2:1996, as part of the	
nuisance at sensitive receptors is expected	planning permission application process. The potential noise levels associated with the entire facility, including the proposed wash	
or has been substantiated.	plant and associated mobile plant, have been assessed at five of the nearest occupied dwellings. The noise limit set by the planning	
	permission is 45dB L _{Aeg(1hr) (freefield)} at five of the closest occupied dwellings (the nearest being approximately 250m away from the	
	Site). The modelling found that the planning conditions (planning consent 09/00501/WAS, Condition 12) will be complied with.	
BAT 18 reduce noise by one, or a	All plant and equipment will be maintained in accordance with the manufacturer's recommendations. Drop heights will be	
combination of appropriate location, proper	minimised as far as possible and double handling of materials will also be avoided as far as possible. Noise levels will be taken into	
operation and maintenance of plant, low	consideration during the selection of Site equipment, with quieter models being utilised where this is practical and economically	
noise equipment, noise attenuation.	viable. Engines of delivery vehicles will be switched off where possible to prevent excessive noise. Plant may be fitted with engine	
	silencers and smart reversing alarms. Operations will be restricted to daytime hours to minimise disturbance at night.	
	Should complaints of noise emissions detectable at nearby sensitive receptors be received, RIG will investigate the source of the	
	noise and take remedial action as appropriate.	
	Where required by planning, noise attenuation bunds will be erected on Site .	
BAT 19 Manage water effectively by	The intention is to recirculate wash waters within the wash plant as far as possible, through the implementation of the Surface	
managing water use, recirculating water	Water Management System as described above. The drainage system has been designed to avoid overflows, while maintaining	
where appropriate, reducing the chance of	adequate levels in the attenuation basin to allow water to be pumped back to the wash plant to be recirculated.	
overflows, roofing waste storage areas,		
impermeable surfacing and adequate	The hazardous waste storage area will be roofed, as detailed in Appendix 1. Consideration to the collection and use of rainwater	
drainage.	from this roof will be made where practicable.	



Table 2.1 Compliance with the 2018 BAT Conclusions		
BAT Requirement	Compliance	
BAT 20 treatment of wastewater	During the treatment process within the wash plant, flocculant will be added to the treatment water to aid in the removal of	
	suspended solids. Treatment water will be recirculated within the wash plant as far as possible.	
	Leachate captured in the attenuation basin for the contaminated wash waters will flow through an interceptor and will be retained	
	on site for reuse or removed by tanker.	
	There will be discharge of clean water only from the site, as shown on drawings NT16773-001 and NT16773-003.	
BAT 21 Limit emissions from incidents by	An Accident Management Plan forms part of RIG's EMS.	
protecting plant from malevolent acts,	Safe means to isolate plant in the event of an incident is in place. Site security in place including fencing around the Site and CCTV	
effective controls, prevention of fire,	with 24-hour access to coverage, with emergency response in place should the need arise. The Site has secure, lockable gates to	
incident management plan, logging incidents	prevent unsolicited vehicular or pedestrian access.	
and reviewing for future learning.	Incidents and near misses logged and reviewed by RIG's senior management team on a regular basis to identify lessons learned	
	and implement any changes required.	
BAT 22 reduce raw material use by	Not applicable - Raw materials limited to those necessary for proper operation of Site plant and flocculant to aid in the washing	
substituting waste	process. The use of waste to substitute these materials is not appropriate.	
BAT 23 Energy balance and energy efficiency	Specific energy use will be recorded. Energy used will be measured and reviewed on a regular basis. Plant properly maintained to	
plan	prevent excessive use of diesel. Section 3 of this report estimated the expected water usage, section 4 the raw materials required	
	for operation of the Site and section 5 the estimated energy consumption of running the wash plant.	
	Energy usage will be reviewed every four years to identify if any energy savings can be made.	
BAT 24 Reuse of packaging	Not applicable - waste is accepted loose.	
	Wastes containing asbestos will arrive to Site double bagged. If the packaging is shown to be damaged, bagging/wrapping for which	
	there will always be a supply of on Site will be used to secure the packaging. The materials will be securely stored pending off Site	
	transfer to a suitably licenced facility. The reuse of this packaging is not appropriate.	



Table 2.1 Compliance with the 2018 BAT Conclusions	
BAT Requirement	Compliance
BAT 25 Reduce emissions of dust to air by	Not applicable – the wash plant operates a wet process where water is fed into the plant to clean and treat waste streams.
use of cyclone, fabric filter or wet scrubber	
or damping by injecting water into shredder.	
The amount of water injected is regulated in	
relation to the amount of waste being	
shredded (which may be monitored via the	
energy consumed by the shredder motor).	
BAT 26 Prevention of emissions due to	The Site operates in accordance with existing daily cleaning and maintenance schedules, in accordance with the Dust Management
accidents and incidents by cleaning of waste	Plan.
treatment and storage areas,	The process has been designed to allow the safe removal of non-conforming items from the waste streams, and the appropriate
implementation of a detailed inspection	storage of these items pending suitable off-Site disposal.
procedure for baled waste before shredding,	
removal of dangerous items from waste	
stream and their safe disposal, treatment of	
containers only when accompanied by a	
declaration of cleanliness.	
BAT 27 In order to reduce deflagrations and	Not applicable – waste streams and treatment processes will not carry a risk of deflagration
reduce emissions where deflagration occur,	
either through a deflagration management	
plan, or pressure relief dampers or pre-	
shredding.	
BAT 28 In order to use energy efficiently BAT	Not applicable – no shredding as part of the Site activities
is to keep the shredder feed stable.	



Table 2.1 Compliance with the 2018 BAT Conclusions		
BAT Requirement	Compliance	
BAT 29 prevent or reduce emissions of	Not applicable – there will not be releases of organic compounds to air	
organic compounds to air		
BAT 30 prevent emission due to explosions	Not applicable – no WEEE to be accepted or treated on Site for the wash plant	
when treating WEEE		
BAT 31 limit emissions of VOCs to air from	Not applicable – Wastes to be treated have low organic content and no emissions of VOCs to air will be emitted	
mechanical treatment of waste with calorific		
value by use of adsorption, biofilter, thermal		
oxidation or wet scrubbing.		
BAT32 reduce mercury emissions to air, BAT	Not applicable – no mercury emissions	
is to collect mercury emissions at the source,		
to send them to abatement and to carry out		
adequate monitoring		
BAT 33,34,35,36,37,38 and 39 applicable to	Not applicable - No biological treatment on Site	
biological treatment		
BAT 40 Monitor waste inputs for metals,	Wastes will be subject to strict waste pre-acceptance and acceptance procedures as part of RIG's EMS and is provided in the	
salts, odorous compounds, oxidisers and	Operating Techniques Report submitted as part of the variation application.	
organics.		
BAT 41 Limit emissions of dust, organic	No point source emissions to air	
compounds and ammonia by use of		
adsorption, wet scrubber, biofilter or fabric		
filter.		
BAT 42,43 and 44 applicable to re-refining of	Not applicable - No waste oil to be accepted.	
oil		



Table 2.1 Compliance with the 2018 BAT Conclusions	
BAT Requirement	Compliance
BAT 45 reduce emissions of VOC to air by	Not applicable
cryogenic condensation, thermal oxidation,	
adsorption or wet scrubbing.	
BAT 46 and 47 applicable to regeneration of	Not applicable
spent solvent	
BAT 48 and 49 applicable to thermal	Not applicable
treatment of spent activated carbon,	
contaminated soil and waste catalysts	
BAT 50 Reduce emissions of dust and organic	Point source emissions to air from the wash plant are not expected.
compounds to air from the storage,	Fugitive emissions of dust from the handling, movement and storage of waste will be managed in accordance with the Dust
handling, and washing steps via the use of	Management Plan.
adsorption, fabric filter or wet scrubbing	
BAT 51 applicable to treatment of	Not applicable
equipment containing PCBs	
BAT 52 and 53 applicable to treatment of	Not applicable only solid wastes will be treated.
liquid waste	



3 USE OF WATER

- 3.1.1 The wash plant requires between 280m³ to 420m³ per day. The plant has been designed to recirculate water within the wash plant, reducing the requirements as far as possible and limiting water wastage.
- 3.1.2 Beyond use in the wash plant, water will be used to dampen down stockpiles if required, for dust suppression usage and for cleaning.
- 3.1.3 Water will be supplied via mains water supply in the short-medium term, until an abstraction licence has been issued to allow groundwater abstraction for use in the waste treatment process.
- 3.1.4 Water usage from mains supply will be monitored via a water meter. Records will be kept of water usage and these will be reviewed annually with targets set for reduction where appropriate.
- 3.1.5 Consideration will be given to the collection of roof water for use on Site for damping down dust or cleaning. This will be implemented subject to being practicable.
- 3.1.6 Water use will be reviewed at least once every four years to assess whether any improvements can be made.



4 USE OF RAW MATERIALS

- 4.1.1 The new wash plant is for the treatment of predominantly inert wastes, with capacity for some hazardous or potentially hazardous waste (contaminated soils/excavation wastes only).
- 4.1.2 In order to aid the settling rate within the thickener tanks, flocculant will be added and fed by flocculant dosing units to control the amount of flocculant added.
- 4.1.3 An indicative list of raw materia
- 4.1.4 Is is provided in Table 4.1 below.

Table 6.1: Raw Materials						
Raw Material	Typical Usage per Annum	Storage volume and storage method	Use of Material	Hazardous Properties		
Diesel	12,800 litres	12,800 litre diesel storage tank	To operate plant and Site vehicles	Irritates the skin and eyes. Possible carcinogen. Toxic to the aquatic environment.		
Greases and lubricating oils	200 litres	Drums with drip tray	Plant maintenance	Irritates the skin and eyes. Possible carcinogen. Toxic to the aquatic environment.		
Flocculant	500 litres	Containers stored on impermeable surfacing	Aid the settlement of solids in the wash plant process	Irritates the skin and eyes.		

4.1.5 Raw materials will be reviewed at least once every 4 years and where more environmentally friendly options are available these will be adopted, provided that they provide the correct performance and are cost effective.



5 USE OF ENERGY

- 5.1 Compliance with the BREF Note on Energy Efficiency
- 5.1.1 In order to comply with the BAT Conclusions on Energy Efficiency, RIG will have an energy efficiency management system incorporated into their EMS. This will include a commitment from senior managers to use energy efficiently and to seek to reduce carbon emissions. RIG is committed to complying with all energy efficiency legislation.
- 5.1.2 Communications will be made to staff to raise awareness of the energy policy and encourage employee engagement.
- 5.1.3 Energy use will be reviewed at least once every four years and targets for efficiencies will be set, seeking continuous improvement and reduction in emissions.
- 5.1.4 As new plant has been purchased, energy efficiency was an important consideration, and all processing plant, lighting and systems will be designed with expert input to ensure the most efficient schemes are adopted. This will include optimising layouts, assessing correct sizing of motors and using variable speed drives where appropriate and effective.
- 5.1.5 All plant will be part of the planned preventative maintenance programme and will be properly maintained so as to operate without excessive use of energy. Staff will receive training so that procedures are followed correctly and idling of plant or inefficient loads are avoided.
- 5.1.6 All energy use will be recorded so that quantitative comparisons can be made and energy savings can be properly assessed.
- 5.2 Specific Energy Consumption
- 5.2.1 To allow benchmarking and assessment of progress against any energy efficiency targets that are set, the specific energy consumption will be calculated each year. An initial assessment of the electrical usage for the new wash plant is given below.
- 5.2.2 An overall breakdown of the power required by the wash plant has been provided.
- 5.2.3 On the basis of the currently available information, it is anticipated that the wash plant will have a rated electrical usage of 166kW. The wash plant is expected to operate approximately 2,190 hours per year (or 25% of the time).
- 5.2.4 This allows the potential carbon emissions to be calculated as shown in the following tables.



Table 5:1 Energy Consumption							
Energy Source	Units/year as delivered MWh	At primary source Unit MWh /year*					
Electricity from mains supply	363.54	872.496					
Total MWh	363.54	872.496					

Notes

5.2.5 As the wash plant will process a maximum of 350,000 tonnes of waste a year, the specific energy use per tonne of waste treated will be as follows.

Table 5.2 Projected SEC for First Year of Operation							
Year	Total Energy Consumption (MWh)	Total Waste received (tonnes)	Projected SEC for year (MWh/ Tonne)				
1	872.496	350,000	0.0025				

- 5.2.6 Since there may be some variability year to year in the quantity of waste to be treated through the wash plant, the specific energy usage can be calculated to make like for like comparisons regarding energy efficiency.
- 5.2.7 Currently the expected energy usage would equate to the following carbon emissions.

^{*}When electricity from the national grid is utilised there are losses from the grid between the power station and the plant. Environment Agency guidance requires that a conversion factor of 2.4 is used to account for this. https://www.gov.uk/guidance/assess-the-impact-of-air-emissions-on-global-warming#greenhouse-gases-impact-of-your-emissions]



Table 5:3 Annual Carbon Dioxide Emissions from Energy Use							
Energy source	Primary Energy Usage (MWh)	Conversion factor & CO ₂ factor*	CO₂ (tonnes per annum)				
Electricity	872.496	0.166	144.83				
TOTAL	872.496	0.166	144.83				

Notes

- 5.2.8 Diesel used on Site will be limited to fuelling on Site plant and vehicles.
- 5.2.9 Energy use will be recorded and reviewed at least once every four years to assess where savings could be made. Where assets come up for replacement, consideration will be given to the following options:
 - use of more efficient models;
 - use of alternative fuels (e.g. biofuel);
 - use of renewable electricity where possible.

^{*} Conversion factor taken from https://www.gov.uk/guidance/assess-the-impact-of-air-emissions-on-global-warming#greenhouse-gases-impact-of-your-emissions



6 WASTE MINIMISATION

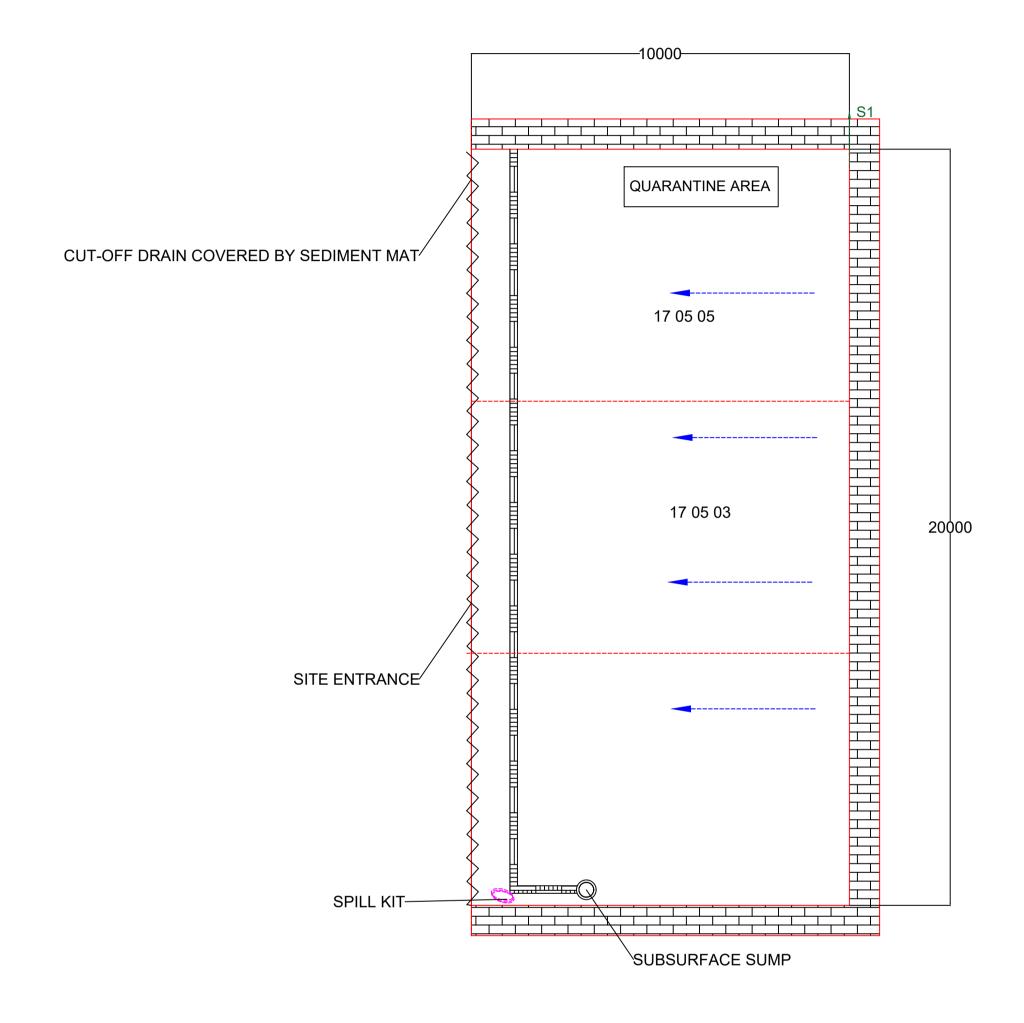
- 6.1.1 A main purpose of the variation is to add an additional specialist wash plant to allow wastes to be treated efficiently, to move waste further up the waste hierarchy. The plant has been specifically selected for the ability to wash and treat a range of different input wastes, including potentially contaminated materials, thus allowing a greater range of waste aggregates and soils to be recovered and aggregate products produced.
- 6.1.2 Overall, the new plant will therefore maximise the recycling or recovery of the wastes accepted to Site.
- 6.1.3 Since waste is subject to physico-chemical treatment, the waste arising from the plant itself will be minimal and will comprise of filter press cake which will be tested to identify and confirm the suitable recovery or disposal routes. Process waters will be recirculated within the wash plant, with waste wash waters minimised as far as possible.
- 6.1.4 Oils and oily rags arising from plant maintenance will be sent off-Site for recycling where appropriate.
- 6.1.5 At least once every four years the waste treatment will be reviewed to determine whether there are cost effective options for improving recovery of materials for recycling.

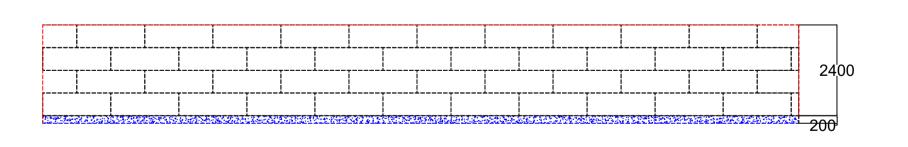


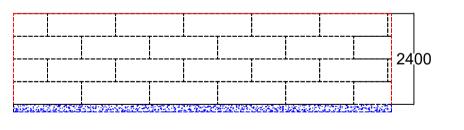
APPENDICES



Appendix 1 Hazardous Storage – Proposed Plant Layout







HAZARDOUS STORAGE INFORMATION

- PERMIT AREA HAS IMPERMEABLE SURFACE WITH FALL
- TOWARDS A SEALED DRAINAGE SYSTEM
- ANY RUNOFF FROM STOCKPILES WILL BE COLLECTED BY A CUT-OFF DRAIN AND DIRECTED TO SUMP
- A SPEED BUMP PROVIDES SECONDARY CONTAMINENT THE SITE IS COVERED BY A BUILDING
- NO MAINS WATER/GAS/ELECTRICITY, NO FUEL STORED ON SITE

LEGEND:

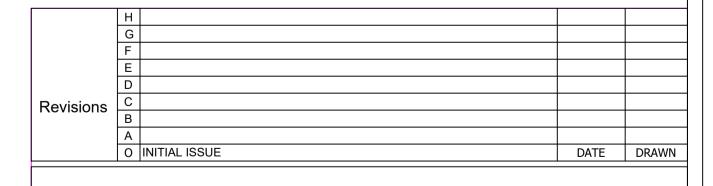
—— PERMIT BOUNDARY

----- RUNOFF DIRECTION

✓ SPEED BUMP

SPILL KIT

S1 ROOF WATER DISCHARGE



Recycle it global HEAD OFFICE: Chenoweths BUsiness Park Ruan Highlanes Truro TR2 5JT

Telephone 0208 058 2335 E-mail: info@rig-uk.com



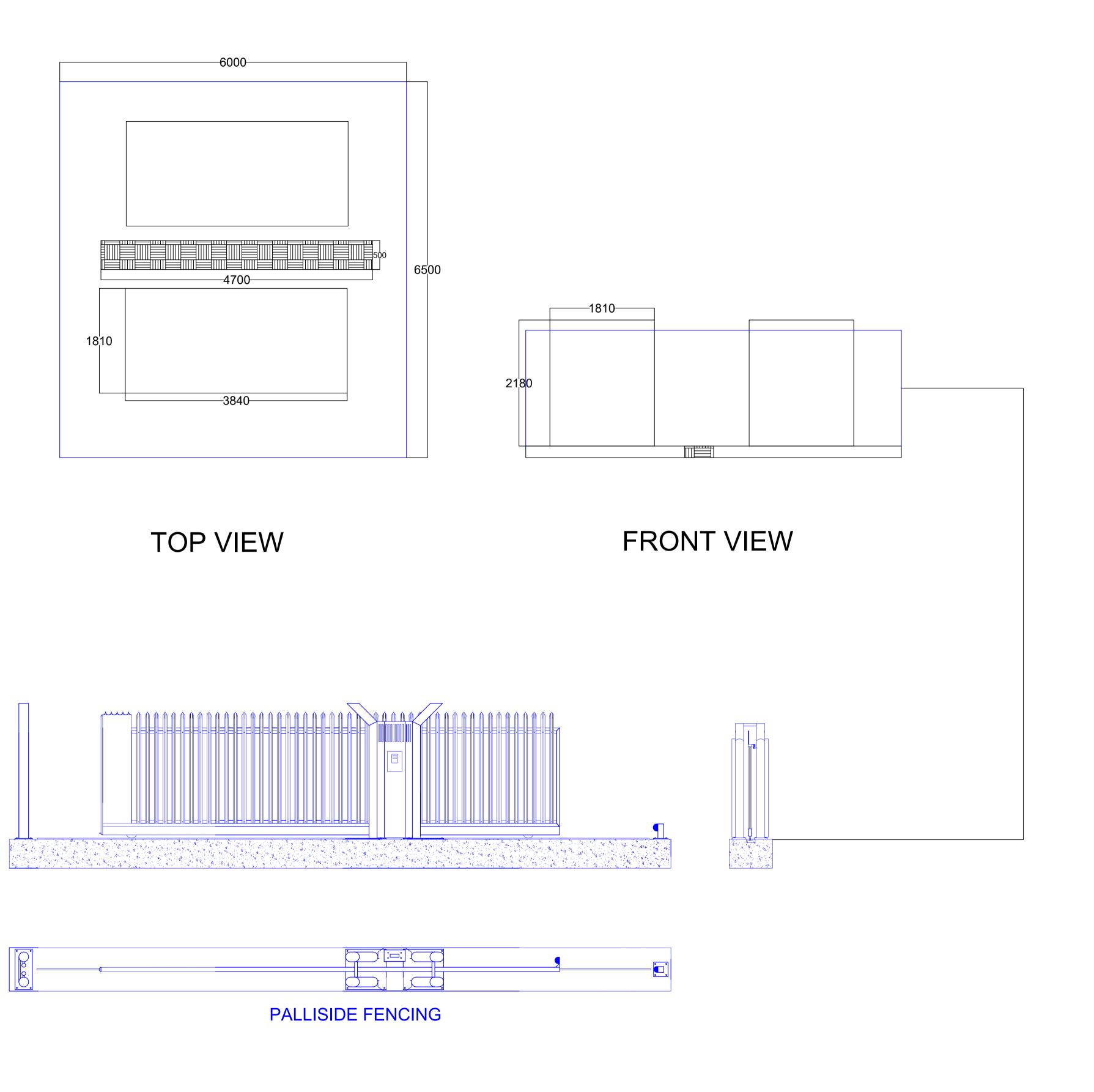
Checked by Approved by - date Oscar Milverton Gatta 21-12-23 Scale 1:100 Designed by Sanad Anwer Hazardous Storage A1 Edition Sheet 1/4

ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED : DO NOT SCALE DRAWING



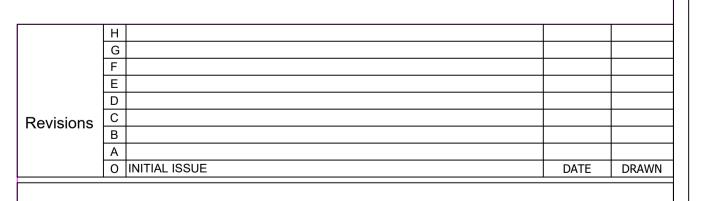
Appendix 2

Asbestos Storage – Proposed Plant Layout



ASBESTOS STORAGE INFORMATION

- A 6.5M X 6.0M FULLY BUNDED COMPOUND WITH INTEGRAL SUMP TO CONTAIN 2 X 12.2 CU METRE ENCLOSED SEALED CONTAINERS RING FENCED BY 2M HIGH PALISADE FENCING AND GATES FOR THE PURPOSE OF RECEIVING AND STORING ASBESTOS WASTE MATERIALS.
- THE DIMENSIONS OF EACH 12.2 CU METRE CONTAINER IS 3.84M IN LENGTH, 2.18 METRES HIGH AND 1.81M IN WIDTH BOTH FABRICATED IN STEEL AND BLUE IN COLOUR.
- A SUBMERSIBLE PUMP WILL BE SITUATED
 WITHIN THE SUMP COUPLED TO AN INDUSTRY
 STANDARD FILTER SYSTEM IDENTICAL TO A
 DECONTAMINATION UNIT SET UP



Recycle it global
HEAD OFFICE:
Chenoweths BUsiness Park
Ruan Highlanes
Truro
TR2 5JT



Telephone 0208 058 2335
E-mail: info@rig-uk.com

Designed by Checked by Approv Oscar

Designed by Sanad Anwer

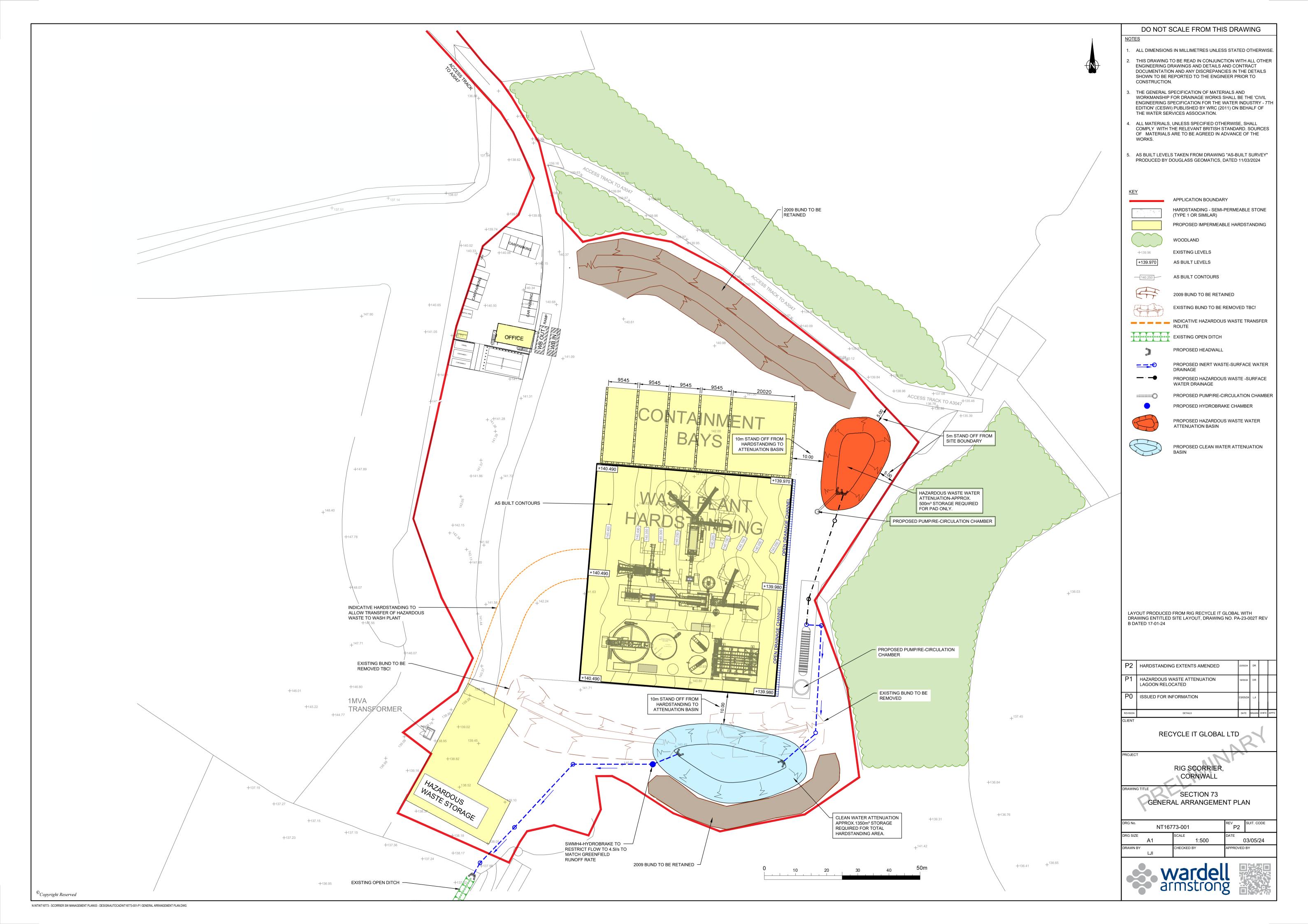
Checked by Approved by - date Oscar Milverton Gatta

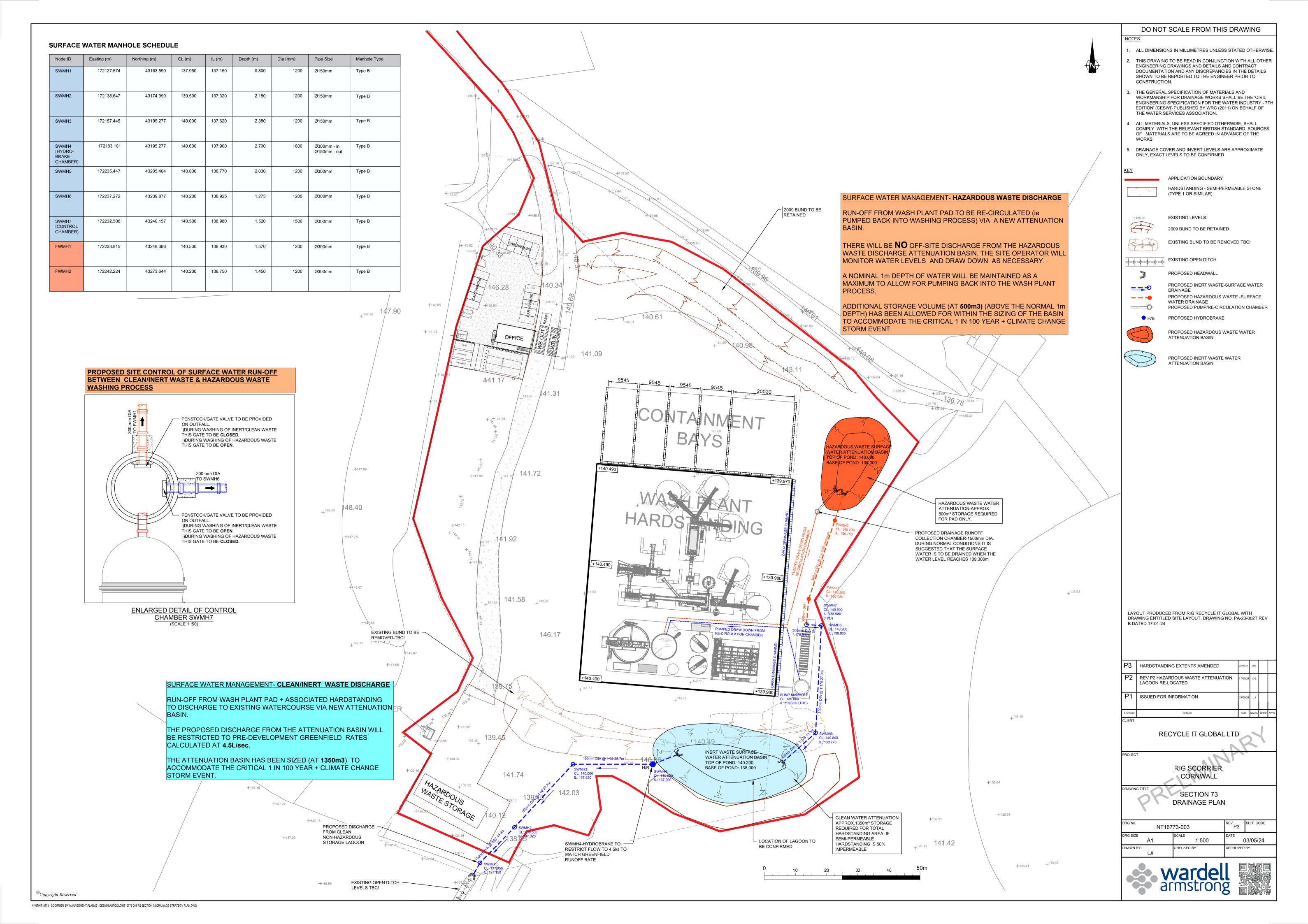
Asbestos Storage

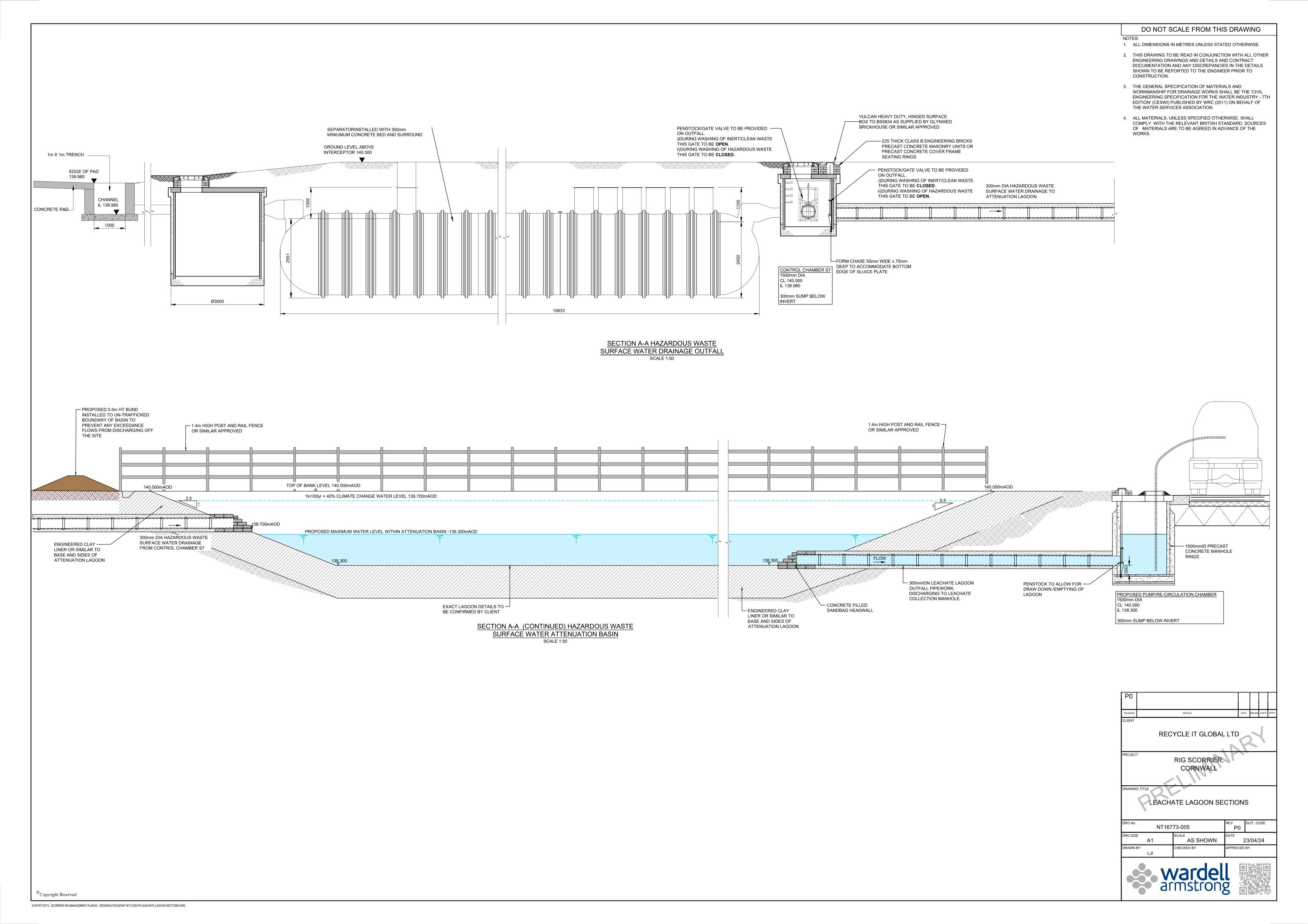
All DIMENSIONS IN MM UNLESS OTHERWISE STATED : DO NOT SCALE DRAWING



DRAWINGS







wardell-armstrong.com

STOKE-ON-TRENT

Sir Henry Doulton House Forge Lane Etruria Stoke-on-Trent ST1 5BD Tel: +44 (0)1782 276 700

BIRMINGHAM

Two Devon Way Longbridge Technology Park Longbridge Birmingham B31 2TS Tel: +44 (0)121 580 0909

BOLTON

41-50 Futura Park Aspinall Way Middlebrook Bolton BL6 6SU Tel: +44 (0)1204 227 227

BRISTOL

Temple Studios Temple Gate Redcliffe Bristol BS1 6QA Tel: +44 (0)117 203 4477

BURY ST EDMUNDS

Armstrong House Lamdin Road Bury St Edmunds Suffolk **IP32 6NU** Tel: +44 (0)1284 765 210

CARDIFF

Tudor House 16 Cathedral Road Cardiff CF11 9LJ Tel: +44 (0)292 072 9191

CARLISLE

Marconi Road Burgh Road Industrial Estate Carlisle Cumbria CA2 7NA Tel: +44 (0)1228 550 575

EDINBURGH

Great Michael House 14 Links Place Edinburgh EH6 7EZ Tel: +44 (0)131 555 3311

GLASGOW

24 St Vincent Place Glasgow G1 2EU Tel: +44 (0)141 428 4499

LFFDS

36 Park Row Leeds LS1 5JL Tel: +44 (0)113 831 5533

LONDON

Third Floor 46 Chancery Lane London WC2A 1JE Tel: +44 (0)207 242 3243

NEWCASTLE UPON TYNE

City Quadrant 11 Waterloo Square Newcastle upon Tyne NE1 4DP Tel: +44 (0)191 232 0943

TRURO

Baldhu House Wheal Jane Earth Science Park Baldhu Truro TR3 6EH Tel: +44 (0)187 256 0738

International office:

ALMATY 29/6 Satpaev Avenue Hyatt Regency Hotel Office Tower **Almaty** Kazakhstan 050040 Tel: +7(727) 334 1310

