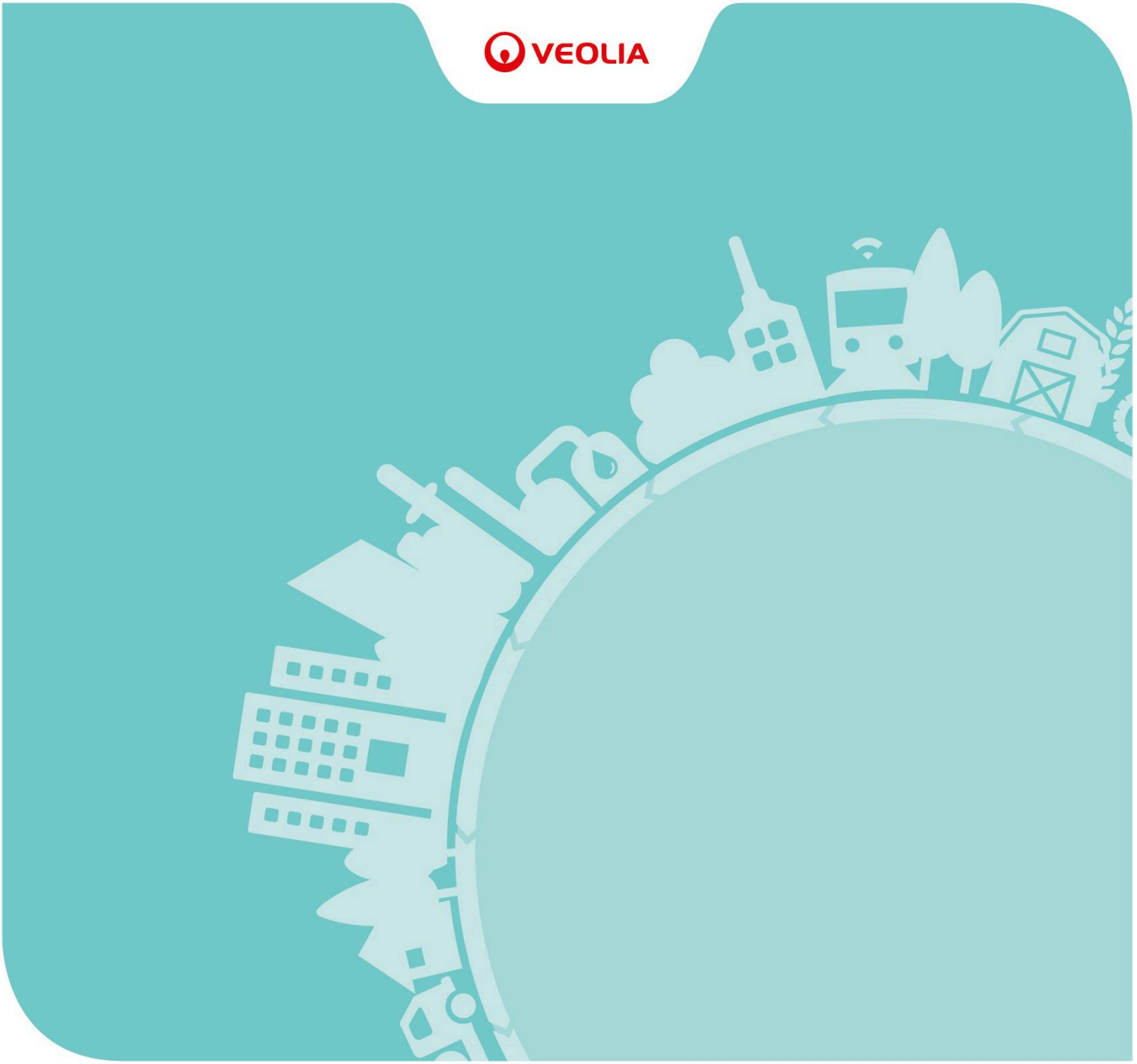

Fire Prevention Plan

Runcorn Wood Recycling Site

Percival Lane, Runcorn, Cheshire, WA7 4DS (NGR: SJ 49849 82117)
Permit Reference: HB3902HZ

Date: November 2024
Version: 6

Document control

Version	Revision date	Reason for revision
V4	February 2022	Ref:Fire Prevention Plan, Runcorn Wood Recycling Site, February 2022, Version 4, using old template
V5	November 2024	Update to new template
V6	November 2024	Permit Variation
V6	June 2025	Update corrections during duly making

The following drawings form part of this document:

- General arrangement drawing - VES_TD_RUNC_200_004
- 1km receptor (Runcorn) - 1km receptor (Runcorn)
- FPP drawing - VES_TD_RUNC_200_002
- Phase 1 drainage - 30417/RWP/DP/01
- Phase 2 drainage - AT23-163-1 B
- Phase 2 drainage (detail) - AT23-163-1 B

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1. Overview

1.1. Site Summary

Runcorn Wood Recycling Site 'the Facility' receives up to 75,000 tonnes per annum of non hazardous wood waste arising from local households transferred via a network of waste recycling centres (HWRC) and other similar commercial inputs e.g. pallets. Once received at the site input wood waste is stored before being processed through a series of shredding, milling and screening equipment to produce a wood chip suitable for either the manufacturing or energy recovery sectors.

The facility is regulated by the Environment Agency and operates under a bespoke waste permit (ref HB3902HZ) which authorises the physical treatment of non-hazardous waste as a 'Waste Operation'.

The facility comprises a weighbridge, wood input storage bays, processing equipment size reduction, intermediate material collection bays, a series of output storage bays, a covered output loading bay, residual fines and metals storage and a surface water collection lagoon. Associated infrastructure at the site includes offices and welfare facilities.

Including both inputs and outputs the facility stores up to 6970m^3 of wood and residuals in a range of different size fractions (0-150mm) in an array of 16 storage bays which are all constructed of interlaced concrete blocks having a certified fire resistance of 120 minutes. Most storage bays are of a similar size being around 400-600m^3, with smaller bays for fines and metals of around 150m^3. One of the input piles is larger at approximately 900m^3.

Fire fighting water supply is provided by the onsite lagoon which stores a minimum of 533m^3 feeding an on site hydrant network with associated booster pump. There is a penstock valve located to the north of the lagoon which isolates the site from the external foul drainage network. The surfacing of the operational area is concrete and drains from east to west and then south to north back into the on-site lagoon via an interceptor and solid filtration system. The containment capacity of the lagoon is 1684m^3 meaning once the penstock is closed the site is not at risk of overtopping.

Full details of the fire prevention, mitigation and control options are contained within this document and the associated drawings.

1.2. Objectives

This plan describes the fire prevention measures in place at the facility to meet these 3 objectives as proscribed by the Environment Agency:

- Minimise the likelihood of a fire happening.
- Aim for a fire to be extinguished within 4 hours.
- Minimise the spread of fire within the site and to neighbouring sites.

The Fire Prevention Plan 'FPP' forms part of the facility's Environmental Management System 'EMS' as a standalone document. The plan describes the prevention measures and controls, procedures, and support available to the Fire Rescue Service 'FRS' in the event of an incident involving a fire.

1.3. Site setting and location (1km screening distance)

The following is a summary of the site setting highlighting key receptors within a 1km radius, further information is provided in the amenity section and the associated drawings.

The facility is located off Percival Lane centred on National Grid Reference SJ 49849 82117 set in the non residential Weston Point estate which comprises a mixture of industrial and commercial activities.

The nearest residential receptors are 220m to the east on Westfield Road and 429m to the south on Clarkes Terrace. There are two schools within 1km of the site, 560m to the northeast and 650m to the southeast. Runcorn Town Football club is 202m to the east.

Directly to the east of the facility is the Runcorn Dock branch railway / sidings which are used for transport of waste into the Viridor energy recovery facility situated to the south. Across the Dock branch railway are commercial and leisure activities including a vehicle hire establishment, engineering facility and playing field. To the west of the facility are a mixture of commercial and waste facilities including an end of life vehicle 'ELV' dismantling site and skip hire company. To the north is another ELV site, a fuel terminal, and aggregate related facilities including asphalt production and a cement slag terminal.

There is an electrical substation 13m to the east of the facility. The associated pylons and transmission cables run above ground west to east across the southern half of the site running above the input pile. There is an 'A' Road (Weston Point Expressway) 155m to the east.

The Mersey Estuary which is designated as a SSSI, SPA and RAMSAR is located 390m to the west. The facility is situated above a principal aquifer, therefore groundwater is sensitive but the site has a sealed drainage system and penstock valve.

1.4. Operational profile

The site operations are typically 06:00 to 17:00 Mondays to Friday, but are subject to opening Saturdays or Sundays for operational demands.

1.5. Maintenance and review of the FPP

Training, document access and key review intervals

Training / review aspect	Details
Post holder responsible for FPP related training	Site manager
Review interval criteria	Annually unless there have been no changes.
	Following an incident which resulted in actual or potential fire.
	A change to activities on site.
	Following instruction by the Environment Agency under the relevant condition of the environmental permit.
Training overview	The Veolia Management System 'VMS' includes a procedure that defines the process and responsibilities of personnel involved in the identification and evaluation of learning and development needs as well as the subsequent implementation of essential training to enable all employees to perform effectively and proficiently in their individual jobs. Site personnel are aware of the parts of the permit relevant to their role and a copy of the permit is available. A training matrix for all site personnel is in place and updated with all personnel trained according to the requirements of their role, including refreshers

	Monitoring is in place to demonstrate competency. Staff will be trained in the use of portable fire fighting equipment.
Training interval	Management will maintain a statement of training requirements for each operational post and keep a record of the training received by each person whose actions may have an impact on the environment.

2. Types of combustible waste

Types of combustible waste stored at the site

See '[Waste types, storage locations, capacity and residence time]' for more information relating to the type of storage, the maximum volumes stored and the length of time waste is stored.

Waste type	Description	Combustible
Wood inputs [Non hazardous]	Wood originating from local authority recycling centres which is grade B or C, or similar material of commercial origin. The wood contains a mixture of solid softwood and hardwood including packaging waste, scrap pallets, packing cases and cable drums process off-cuts from the manufacture of virgin / sawn timber and untreated board products building and demolition materials flat pack furniture made from board products and DIY materials. Typical contamination may include nails and metal fixings, small quantities of plastics, glass and glues and minor amounts of surface coatings.	Yes
Processed wood [Non hazardous]	Wood inputs which have been processed by shredding and removal of contamination such as plastics and nails. This material is within a size grading of 5 - 150mm.	Yes
Fines [Non hazardous]	Fines removed during the wood processing operation in the size range 0 - 10mm.	Yes
Metals [Non hazardous]	Ferrous metals such as nails removed during the processing of the input material	Yes

2.1. Persistent organic pollutants

None of the wastes on site are likely to contain Persistent Organic Pollutants 'POPs' specified by the Environment Agency.

3. Activities at the site

The Facility carries a waste wood recycling process which is principally two activities: wood processing and wood storage, these are outlined below.

3.1. Wood processing

The stages of the treatment activity include:

- Delivery of waste wood to site in enclosed vehicles which are weighed over the weighbridge and directed to the tipping area.
- Incoming wood waste is deposited into a dedicated tipping area in the south west of the site.
- Wood waste is inspected for signs of contamination and any contraries are removed manually.

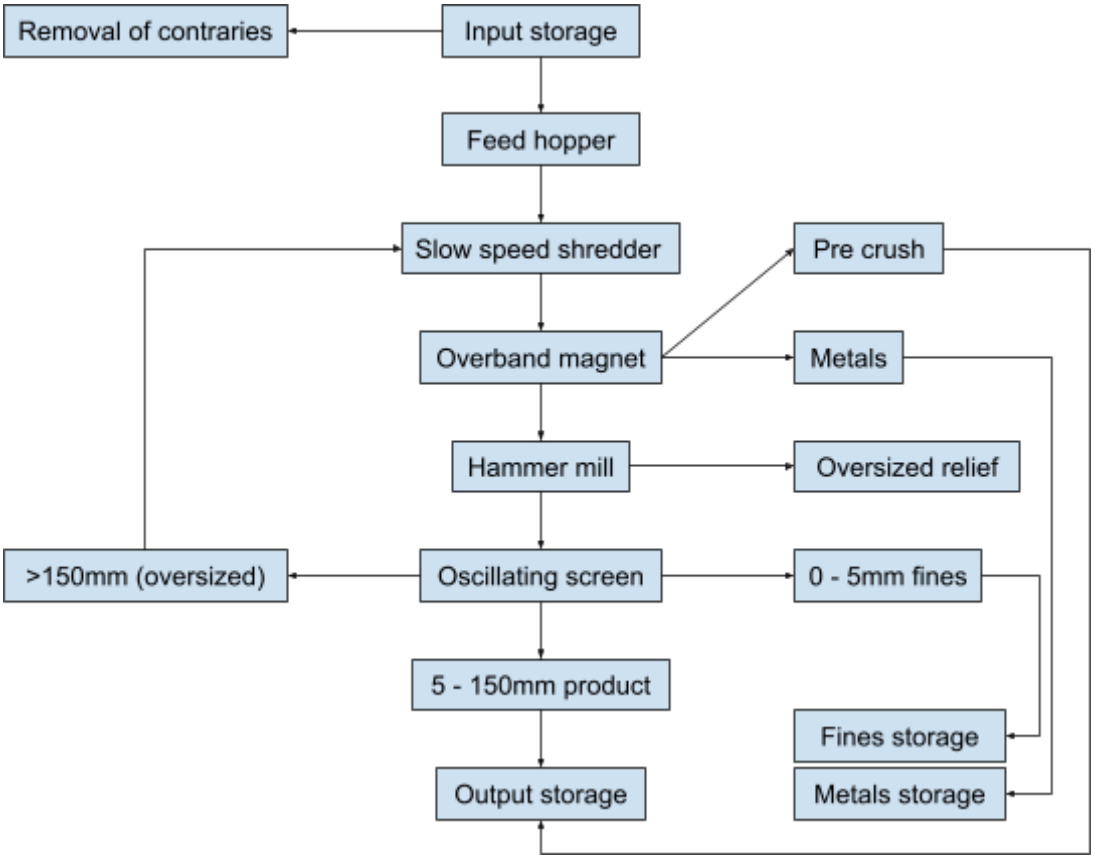
- Wood waste is then shredded via a slow speed shredder producing a coarse material which is designated ‘pre-crush’.
- Depending on the grading requirement or the outlet, pre-crush material may either be stored ready for onward transport or further processed. When stored directly, pre-crush material does not undergo further milling and screening.
- Pre-crush material designated for further processing then passes via enclosed conveyor via an overband magnet which removes ferrous material, then into a hammer mill which reduces the material to within a 0-150mm fraction size. Any material that cannot be handled by the shredder such as oversized material is ejected.
- Wood waste moves via enclosed shredder from the hammer mill to an oscillating deck screen which separates fines and oversized material leaving a 5-150mm product material.
- Fines are removed by the screen and transferred via an enclosed chute into an enclosed intermediate storage shed.
- Any oversize material resulting from the screening process is stored separately and can be passed back to the shredder for re-processing.

3.2. Wood storage

The storage activity includes:

- Metals and fines are stored in dedicated bays for either recycling or recovery.
- Graded wood chip is stored ready for loading within a bespoke covered bay onto articulated vehicles for onward transport to suitable manufacturing plants or for transport to energy recovery biomass plants.

Flow diagram (wood processing and storage)



4. Managing Common Causes of Fires

4.1. Arson

The operational area is surrounded by either an earth bund or security fencing and the site entrance is protected by a heavy duty double gate with heavy duty padlock. The facility is protected by 24 hour CCTV which is monitored by an external contractor outside operational hours including a call escalation system for managers in the event of break in or fire.

Any unauthorised access would be detected and trigger an intervention either by VES staff, security staff, Police, Fire Rescue Service or other responder as appropriate.

4.2. Plant & Equipment

Mobile and fixed plant stored at the facility

Description	Make	Model
Mobile plant		
Loading Shovel	Caterpillar	926
Loading shovel	Caterpillar	926
Loading shovel	Caterpillar	938
Material Handler	Sennebogen	818E
Material Handler	Kobelco	SK75SR-7
Fixed plant		
Slow speed shredder (diesel powered) [only moved when changing between generating pre-crush and crushed material]	Terex	TDS820
Enclosed hammer mill (electrically powered)	HAAS	HAAS ARTHOS 1600
Oscillating deck screen (electrically powered)	HAAS	HPS125

Fire prevention measures for mobile equipment include:

- Equipping mobile plant with individual fire extinguishers;
- Mobile plant operators are trained to suitable plant standards;
- See also ('hot exhausts')

4.3. Planned Preventative Maintenance

A planned preventative maintenance and inspection programme for static and mobile plant and equipment is in place to ensure high performance and availability of plant and prevent malfunctions which could lead to a fire or make a fire worse (i.e. equipment breakdowns leading to excess waste).

The PPM system includes:

- Plant items and equipment are serviced and maintained according to manufacturer's schedules and recommendations in order to minimise the risk of breakdown. A repair and maintenance agreement is in place with Finnings to ensure vehicles are serviced and all preventative maintenance is carried out.
- The maintenance scheduling will make reference to any statutory requirements and manufacturer's recommendations.
- Major maintenance work will be documented and records kept for inspection.
- A daily check sheet is completed for all static and mobile plant, if an issue is identified then a defect sheet is completed, passed onto the maintenance team, and recorded electronically. Once appropriate repairs are completed the defect sheet is signed off and filed in the relevant mobile plant folder.
- Plant is checked at the end of each shift for any leaking fuels/oils.
- Alternative mobile plant will be hired at short notice should it be required. The Service Level Agreement in place is such that if a vehicle cannot be repaired they will provide a 'like for like' replacement within 48 hours of breakdown.
- All static heating systems are subject to routine inspection and maintenance.
- All fire extinguishers will be checked as part of the site inspection programme and will be subject to an annual maintenance inspection by Chub or similar competent contract company.
- Oils, greases and other lubricants are stored in designated areas with appropriate bund containment.
- Monthly testing of the booster pump supplying the hydrant network.
- Penstock valves are tested monthly to ensure they are operational and minimise the chances of a failure to operate during an incident.
- The level of the lagoon is maintained by sight gauge and will be checked on a daily basis.

4.4. Electrical faults

- All site electrical supplies and installations are completed by certified electricians.
- All electrical installations repairs and maintenance will be carried out by suitably qualified electricians certified to NICEIC.
- The main switchboard and distribution board is fitted with surge protection and circuit breakers.
- All portable electrical appliances at site including hand tools and office equipment is subject to:
    - Pre-use checks and defecting reporting as applicable.
    - Fixed electrical testing every 5 years.
    - Portable appliance testing is carried out annually.

4.5. Smoking Policy & Procedures

The Veolia smoke free policy is applicable to the facility. There is a designated smoking area located within the facilities car park. Smoking is strictly prohibited within operational areas.

4.6. Hot Works (Control or Welding & Brazing; Permit to Work; Impairment Handling)

Hot work such as welding, grinding, cutting and similar activities may be undertaken at the site in relation to maintenance and repair activities. All such works will be planned and undertaken in accordance with a Hot Works Procedure which includes:

- When hot works are planned, the most appropriate method of cutting is assessed, with consideration given to cold cutting, potential impact on other on-going works and associated fire safety arrangements.
- When possible, objects to be welded, cut or heated are moved to a safe and well ventilated hot work designated area (e.g. workshop).
- Fire extinguisher equipment is readily available as identified through the fire risk assessment.
- When hot works are performed outside a designated area, a hot work permit for the activity is issued and closed / suspended on a daily basis.
- Where a Permit to work is required, hot work permit issuing authorities are appointed for each location where hot works is undertaken who is trained in hot work hazards (including potential for flammable atmosphere, Impairment of fire systems), preventive measures and emergency procedures.
- Before hot work operations commence, the area is cordoned off. The area is cleaned to remove all residual combustible / flammable material. Fire resistant shields are used to protect combustible surfaces and items that cannot be removed from the area. Fire-resistant screens or curtains/shields are used around welding areas.
- Where hot works are being carried out under the control of a Permit to Work, the Permit dictates the length of fire watch required (see ‘Fire Watch’).
- Hot work permits are signed by Issuing authority to indicate work completed and area safe following completion of fire watch period.
- Additional protective equipment and clothing will be required as per the activity risk assessment. Where RPE is specified, face fit testing has been completed in the last 2 years.
- Gas bottles are secured at all times. When not in use and/or stored, gas bottles are segregated.

4.7. Fire Watch

This section consolidated information relating to what fire watch is conducted including the frequency and timing:

- **During hot works:** the Permit to Work dictates the length of fire watch required (minimum continually for 1 hour, and then periodically for a further 3 hours). Hot Work Designated areas are checked at the end of each day or shift.
- **During normal working periods:** Site operatives carrying out activities within the yard area throughout the entire working day are trained to recognise the signs of an emerging fire. In the event an emerging incident is identified action will be taken immediately including spreading material out to release heat.
- **Before site closure:** Following clean down a fire watch check to be undertaken for a minimum of 1 hour prior to the closure of the site. The end of day fire watch should include waste piles and plant and machinery (e.g. exhausts).

4.8. Ignition sources

Integrally bunded fuel and Adblue storage tanks are located within the carpark. The tanks are approximately 18m from the nearest waste material. No gas bottle or other flammable non-waste materials are kept on site.

4.9. Space heating

Industrial heaters will not be used on site, the only heating present is within the office areas of the site. There will be no naked flames, space heaters, furnaces, incinerators, or other sources of ignition within 6m of any combustible waste. All heating systems are subject to routine inspection and maintenance.

4.10. Hot Exhausts

Unused plant and plant maintenance will be kept away from combustible waste, during operational hours this will be within the yard area away from waste material. During non-operational hours the mobile plant will be stored adjacent to the eastern and southern perimeters of the car park. Cleaning of plant will be undertaken at the end of each shift to ensure that no wastes have been trapped under / near hot exhausts

Plant and equipment are included in the fire watch schedule (see ‘Fire Watch’), and there is a cleaning regime in place.

4.11. Cleaning Regime

Cleaning practices at the facility include:

- Ongoing checks by trained staff supervising carrying out individual waste handling operations. Regular cleaning of the site surface using the blade of front loaders is undertaken during the day to ensure no build-up of combustible materials.
- A daily housekeeping check is carried out which includes inspection for build-up of loose combustible material such as dust, fibres and fluff.
- The processing plant is ‘over-run’ at the end of each shift to ensure it is as clear as practicable of waste.
- Operations cease at least 1 hour before the end of the shift to enable the equipment to be cleaned down, removing any dust fluff and small fibres.
- Daily cleandown comprising blow down of mechanical equipment using a compressed air line to remove loose combustible material.
- Weekly more thorough clean including under conveyors etc.
- Managers carry out a monthly walkaround as a minimum which includes a check of the effectiveness of the housekeeping.
- Ad hoc cleaning as dictated by daily inspections and instigated by the site supervisor or manager.

4.12. Leaks and spills

An Emergency spill response kit is located on site next to the diesel tank and is equipped to deal with hydrocarbon spills, solvent spills and any other organic liquids (this includes hydrophobic oil absorbents).

Fuel is stored in a sealed internally bunded tank capable of holding 110% of its capacity and is done so in line with the oil storage regulations. The fuel is stored away from waste operations and vehicle movements.

A procedure is in place which describes what to do in the event of a spillage. Relevant staff are trained in spillage response via toolbox talks.

4.13. Hot loads

The nature of the incoming wood waste is such that hot loads are not expected. None of the input material is pre processed and arrives in a fraction size of >150mm making it unlikely to be subject to self heating. The facility does not accept waste that is likely to have been stored at intermediate sites for long periods of time.

4.14. Hot and dry weather

During periods of hot weather the temperature profile of waste piles will be closely monitored out of hours using the smarTprobe monitoring system. If prolonged hot weather is expected the waste piles will be turned to dissipate any heat spots building up.

5. Waste types and storage conditions

5.1. Residence times

As the production of the chip is a circular process all bays are emptied in turn ensuring first in first out 'FIFO' rotation is carried out. i.e. waste moves from input bays to the processing equipment before the final product is stored in the output bays awaiting onward transport. Residence times of input material are described in the table below ('Waste types, storage locations, capacity and residence time').

Incoming wood is typically on site for approximately 7 days. Off site transfer of processed material is dependent on outlet availability and market conditions but is typically in the 2 - 30 day range. No waste material will be retained on site longer than 90 days. During periods when the site is not staffed there is a continuous temperature monitoring system in place with an alert system ensuring early detection of a fire (see 'Fire Detection').

5.2. Battery contamination

Battery contamination within municipal wood waste is very unlikely either by accidental contamination or a conscious decision at the HWRC site by members of the public. Other waste streams at HRWC sites are more likely to contain battery contamination. Commercial wood waste is also unlikely to contain battery contamination.

5.3. Storage location and dimensions

Waste inputs are a mixture of fraction sizes but predominantly greater than 150mm. Inputs are stored in two bays of approximately 900m^3 and 600m^3. Once processed, stored waste is reduced to a fraction size between 5-150mm which is then stored in one of 11 output bays. Two additional storage bays are designated for segregated residual material from the processing activity including metals and fines. One further bay is designated for loading of processed material prior to dispatch off site (see 'Waste types, storage locations, capacity and residence time').

One of the input piles exceeds the recommended maximum pile size prescribed in the Environment Agency guidance for fire prevention plans. However, the depth of the pile is short (<10m) compared to the maximum length (53m) which means creation of a firebreak during an incident would be possible. The large fraction size, low residence time and unlikely contamination by initiators makes a fire unlikely. Additionally, the input material is maintained slightly damp by the mist cannon and rain guns. Some of the product storage bays also exceed the recommended storage volumes in the Environment Agency guidance however this is by a smaller margin. Since operating the site from 2020 there has been continuous monitoring of the piles by probe during periods out of hours. From the start of operation to date there have been no instances of temperatures approaching action levels which indicates the storage arrangements are suitable for the type of material being held and the way it is being managed.

5.4. Management of pile height and freeboard

To prevent the spread of fire, waste height is managed to 4m and vertical freeboard is maintained at 1m where the pile intersects with the push wall and dividers. During operational hours as waste is regularly being loaded and unloaded into storage bays by heavy equipment, pile height and freeboard will vary naturally as the waste interacts with the push walls, particularly as the bays reach capacity. During the day waste is regularly reformatted by vehicle operatives to maximise available freeboard. At the end of the shift waste is reformatted again to ensure it is left when the Facility is unoccupied with a minimum of 1m freeboard at the intersection with push walls. The bay divider between bays 15 and 16 is of lower height however the combined content of the two bays is 300m^3, so reduction in freeboard is tolerable if it occurs.

5.5. Waste types, storage locations, capacity and residence time

Bay designation	Waste type	Waste Description	Fraction size	Location type	Bay size	Maximum storage capacity (m^3)	Residence time (days) Typical / maximum during normal operation
1	Input (B/ C grade)	Input wood waste arriving by road	Loose >150mm	Legio block bay	20 x 11 x 5	480	7 (90)
2	Input (B/ C grade)		Loose >150mm	Legio block bay	52 x 7 x 5	900	7 (90)
3	Finished product (B grade)	Processed wood outputs in storage	5 to 150mm	Legio block bay	20 x 11 x 5	480	<30 (90)
4	Finished product (B grade)		5 to 150mm	Legio block bay	20 x 11 x 5	480	<30 (90)
5	Finished product (B grade)		5 to 150mm	Legio block bay	20 x 11 x 5	480	<30 (90)
6	Finished product (A / B grade)		5 to 150mm	Legio block bay	9 x 11 x 5	300	<30 (90)
7	Loading bay		5 to 150mm	Covered Legio block bay	37 x 14.5 x 12	One vehicle during loading process	N/A
8	Finished product (B grade)		5 to 150mm	Legio block bay	22.5 x 10 x 5	600	<30 (90)
9	Finished product (B grade)		5 to 150mm	Legio block bay	22.5 x 10 x 5	600	<30 (90)
10	Finished product (B grade)		5 to 150mm	Legio block bay	22.5 x 10 x 5	600	<30 (90)
11	Finished product (B grade)		5 to 150mm	Legio block bay	18.5 x 10 x 5	400	<30 (90)
12	Finished product (B grade)		5 to 150mm	Legio block bay	18.5 x 10 x 5	400	<30 (90)
13	Finished product (B grade)		5 to 150mm	Legio block bay	15 x 10 x 5	350	<30 (90)
14	Finished product (B grade)		5 to 150mm	Legio block bay	20.5 x 13.5(10) x 5	600	<30 (90)
15	Fines	Fines from the size reduction activity	<5mm	Legio block bay	6.5 x 10.5 x 5 (2.5 middle)	150	14 (30)
16	Metal	Metal removed from inputs	5 to 100mm	Legio block bay	6.5 x 10.5 x 5 (2.5 middle)	150	14 (30)

Other waste

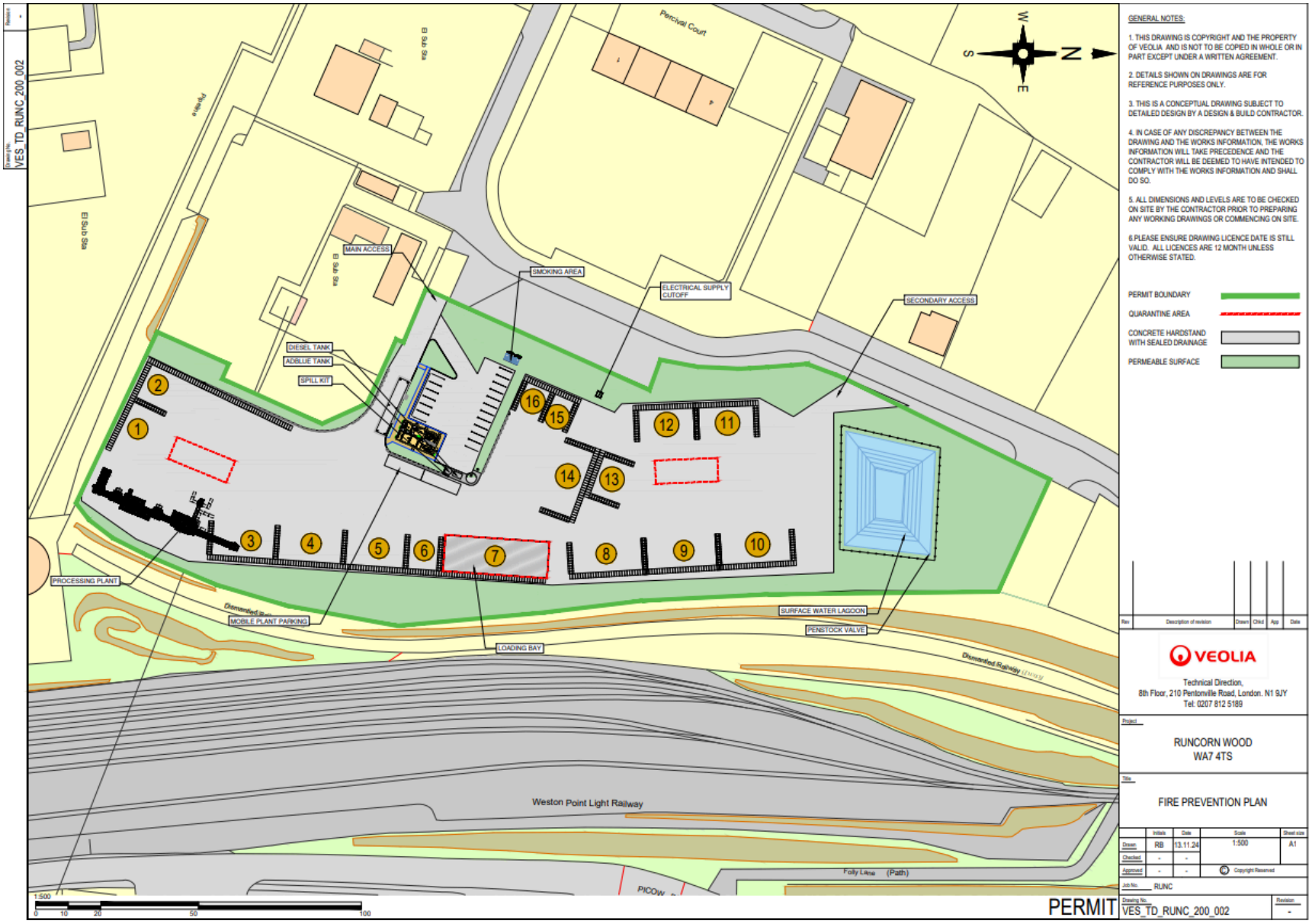
Waste type	Waste Description	Location type	Current bay designation	Storage capacity (m^3)	Residence time (days) Typical / maximum

N/A	N/A	N/A	N/A	N/A	N/A

Non waste material

Waste type	Description	Location type	Current storage location	Storage capacity (m^3)
Diesel	Product for vehicle refuelling	Bunded tank	Car park (eastern perimeter)	5.4
Ad blue	Product for vehicle refuelling	Bunded tank	Car park (eastern perimeter)	1

Site Layout Plan



5.6. Temperature Control & Monitoring

Waste piles are visually monitored throughout the working day as bays are loaded, unloaded and reformatted for signs of heat build-up or combustion. Signs of heat build up include steaming, smouldering or smoking heat haze or flames. Olfactory evidence of heat build up includes a burning smell.

Any waste material showing signs of self heating will be taken to a quarantine area for further inspection and monitoring. The waste will be spread out within the quarantine area so that a detailed inspection can be carried out. If no evidence of heating or elevated temperature is found the waste will be returned to an available bay. In the event that there is any evidence of self heating identified during inspection in the quarantine area the waste will be allowed to cool or dowsed using fire extinguishers, fire hose or the fire service called based on the judgement of the duty manager. Once the duty manager is satisfied that there is no longer a risk of further self heating / combustion the waste will be returned to an available bay.

6. Preventing Fire Spreading

6.1. Separation Distances

Wastes are stored in bays constructed from Legio blocks and therefore fire control does not rely on separation distances. Waste is of a similar type and there is no opportunity to increase separation by using non combustibles.

6.2. Fire Walls & Bays

The rear pushwalls and bay dividing walls have all been designed and installed to provide a minimum of 120 mins fire resistance. The bays are designed to resist both radiative heat and flaming.

6.3. Quarantine Area

There are multiple options for quarantine of material in the event of a fire. The quarantine areas are in excess of 6m of permanently clear area all around for ease of access for fire control and are located on impermeable paving with a sealed drainage. Emissions of contaminated fire water off site can be prevented using a penstock value which would be closed in the event that the quarantine area is in use.

- **Quarantine area A** - Located within the southern half of the site (phase 1) between the input bay and the processing equipment. This is a 10 x 20m area separated from other waste material by 6m.
- **Quarantine area B** - Located within the northern half of the site (Phase 2) between the east and west banks of storage bays. This is a 10 x 20m area separated from other waste material by 6m.
- **Loading bay** - The loading bay is not used for waste storage and could be used for quarantine as a secondary option. It would also be possible to use yellow plant available at the site to relocate material which is not involved in a fire into the loading bay which would free an existing exterior bay to be used for quarantine.

6.4. Non- conforming waste

Contractual arrangements with waste material suppliers means that wholly non conforming waste is not received at the site and provision of a separate quarantine facility is not required. The wood material is received source segregated rather than co-mingled or as a residual. Off specification material may be received however while this presents logistical problems for processing it does not preclude acceptance of the material. Any wholly non conforming waste can be dealt with as follows:

- Immediately reloaded on delivery vehicle for immediate dispatch off site and return to supplier.
- Availability of multiple fire quarantine areas could also allows them to be used for non conforming waste for a short period (i.e. until a suitable vehicle can be arranged for delivery back to the supplier or suitably authorised disposal / recovery outlet).

7. Fire detection

There are several approaches to fire detection including during the day when the site is staffed and for periods when the site is unoccupied.

7.1. During site occupation

The site is occupied throughout the working day and machine operators and other operatives are routinely present within the yard area. All loads arriving at the site will be visually inspected as they arrive. Regular visual inspections of waste streams for signs of smoke and / or temperature checks will be carried out by operatives handling waste material. Fire watch is carried out periodically throughout the day (see ‘Fire Watch’)

If an emerging fire is identified then staff will initiate controls as appropriate to the scale of the incident.

7.2. When the site is unoccupied

CCTV system

The site is fitted with CCTV coverage with out of hours monitoring by a third party security contractor with a call escalation for managers in the event of break in or fire. Veolia has a sufficient pool of trained yellow plant drivers that staff will be available out of hours in the event of the need for plant and machinery to be used to assist the Fire Service.

Temperature probe network

‘smarTprobe’ is a network of wireless temperature probes used to monitor waste temperatures during periods when the site is not occupied. This is a proprietary system supplied and serviced by Freeland Scientific specifically designed for monitoring piles of combustible material. The probes are 1.5m spikes with a wireless battery powered sensor array that records real time high resolution temperature data which is then accessed on site or remotely via a connected app or web portal. The probes have a 12 month battery life and each sensor is swapped annually by Freeland Scientific as part of a UKAS traceable calibration.

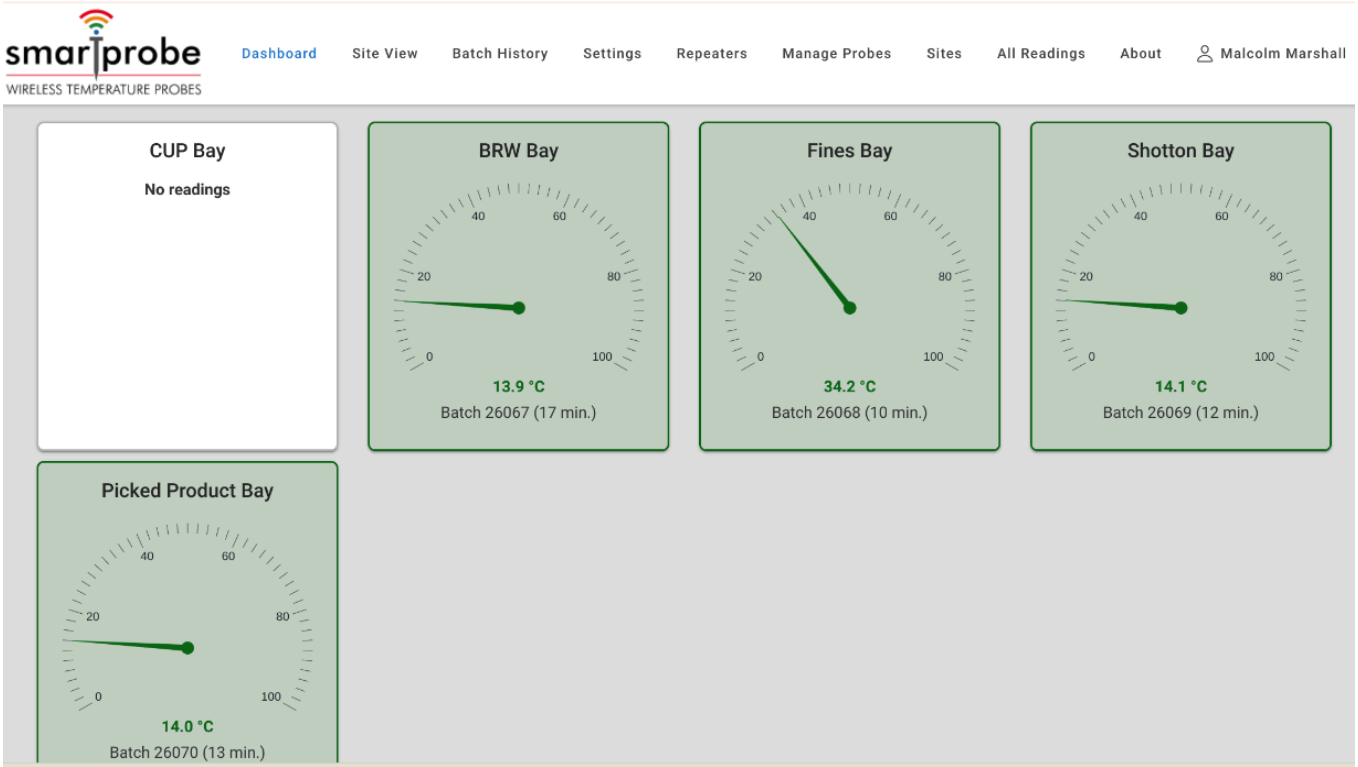
Probes are installed in bays 3 - 6, and 8 - 15 during the site closedown process at the end of the working day. This comprises all storage piles except inputs, metals and loading. Probes are not installed in the input piles because temperatures are not considered to be representative due to the large fraction size. The larger format also means that self heating is unlikely. Metals extracted by overband magnet are not considered to be at high risk of self heating or fire due to an external source.

The system has been set up to send text alerts where temperatures cross a series of setpoints as described below. Temperature profiles are also available on the smarTprobe dashboard (see ‘smarTprobe alert settings’).

smarTprobe alert settings

Alert level	Temperature	Actions
No alert	< 70°C	No action required
Medium alert	> 70°C	Monitor temperature over the following hour, if the temperature continues to increase notify the Fire Service, arrange site attendance, implement excess temperature measures.
High alert	> 80°C	Notify the Fire Service. Arrange site attendance. Implement excess temperature measures.

Example probe dashboard display



7.3. Excesses temperature measures

- **Increase monitoring of temperature:** temperature trending from the probe network telemetry can be monitored more frequently to assess the speed of temperature change within a waste pile.
- **Dismantle waste pile:** a front loader or material handler / 360 grab can be used to spread waste material thinly within a quarantine area in order to release build up of heat.
- **Proactive implementation of fire breaks:** fire breaks can be implemented proactively if it is suspected that a stockpile may be at risk of becoming involved in a fire. Staff at the site are well practised at the creation of fire breaks and can reduce pile size by use of loading shovels. Each loading shovel can move 20 tonnes (approximately 30m^3) of material per 10 minutes. This means a pile of 600m^3 can be reduced by more than 50% in under an hour using two loading shovels.

7.4. Fire break procedure

In the event of a hot spot being reported in the windrow follow the steps as below:

1. Assess the location of the hot spot and surrounding material.
2. Report to Area Site Manager the details being carried out
3. Area site Manager or deputy will report the fire to the emergency service in the first instance and then follow the Veolia emergency plan.
4. One loading shovel is to start moving material from the storage piles or bays to the fire break material storage area
5. The second loading shovel to assist as required
6. All material will be formed into a pile as shown in the diagram.
7. This process has been assessed and allocated a period of 10 minutes. All loading shovel drivers are experienced drivers who can drive at a swift safe speed. Each loading shovel can move 20 tonnes per 10 minutes.
8. Care must be taken when approaching the hot spot. The Operator should not approach the hot spot if the flames are assessed as being too dangerous to work in close proximity.
9. If a fire is detected at the front of a bay area the shovel will be used to drag the burning material away from any unburnt material behind it. Once isolated the burning material can moved under direction of the fire service the quarantine area for further dousing.
10. This procedure will be reviewed annually or as required following any incident.

8. Fire Suppression

There are no automatic suppression systems at the facility as no waste is stored within a building. All waste is stored externally.

9. Fire Fighting techniques

9.1. Site access

The site has two access points for fire rescue appliances and associated vehicles. Use of access point would depend on the location of the fire and other logistical considerations. A description of the available access points and a map is provided below.

- **Main site entrance (SJ 49835 81987):** Main access to the site and associated car park. Allows access to the southern part of the site (Phase 1). Access is not restricted for emergency purposes during the day when the site is occupied. When the site is unoccupied access is via a locked gate which may need to be cut by first responders.
- **Emergency site entrance (SJ 49825 82139):** Disused access track from the main road of compacted natural ground created during formation of the lagoon which has been retained for emergency response. The track is wide enough for a large vehicle and if access is required either when the site is occupied or unoccupied sections of fencework will need to be removed.

Map of site access points

9.2. Fire fighting strategy

In the event of a fire taking place within the permitted area, the most effective fire strategy would be to extinguish any fire as soon as possible and therefore a 'controlled burn' would not be a favourable option.

The firefighting strategy allows the fire service to connect to one or multiple of the hydrants fed from the lagoon. The fire water will drain back to the lagoon via a solids filter / settlement system and 3 stage interceptor allowing for reuse as required. This method of firefighting uses no offsite supplies and ensures all run off is captured within the site and recirculated as required.

The on-site resources available for firefighting include but are not limited to fire extinguishers, hoses, suppression system, wheeled loading shovel and trained fire marshals. However, it should be noted that, with the exception of the fire suppression system, the use of these resources prior to the arrival of the Fire Service will be very limited by Health and Safety procedures.

List of equipment infrastructure available

Vehicle type	Function
3 no. loading shovels	Moving waste either burning or non burning, dragging out, creating fire breaks
2 no. 360 excavator	Moving waste either burning or non burning, dragging out, creating fire breaks
Pressurised hydrant network and lagoon	Water supply from the 533m^3 (minimum) lagoon pressurised by a dedicated pump. The lagoon has an absolute capacity (without freeboard) of 1684m^3 (see 'Available water supply').
Silt trap and interceptor	Water used during a fire will be contained within the site and drain by gravity back into the lagoon. This will be via a silt trap which should make the water suitable for recirculation.
Portable pump	Portable pump which can be used to supply additional pressure to the hydrant main (see 'Available water supply').
Lay flat hoses	There is a stock of lay flat hose which is available for use during a fire. This is sufficient to reach from the hydrant network to any of the waste piles on site.
Portable fire extinguisher	The site has a number of portable fire extinguishers within the cabins which can be used within the offices or for small emerging fires. The primary use of fire extinguishers is to facilitate the escape of personnel in the event of a fire, however they may also be used to quickly extinguish very small / localised fires. All VES controlled vehicles using the site will be fitted with appropriate fire extinguishers.
Penstock valve	A penstock valve is present on site which can be used to isolate the site from the local sewer network (see 'Penstock valve activation' and Penstock valve locations').
Emission point to sewer	The lagoon discharges to a combined sewer at a maximum rate of 6l/s and can therefore discharge 86m^3 over 4 hours. If necessary water could be released via this pathway by agreement of the network operator (United Utilities). However, the absolute capacity of the lagoon (1684m^3) means overtopping is

	unlikely.

9.3. Fire breaks

A call list is in place with external monitoring providers and automated alert systems. The list will include the site manager, site supervisor, general manager, and also the business crisis line. The business crisis line is staffed on a rota basis and contact will always be available by this route.

Once the alert is raised either the site staff on the call list or the crisis team will source trained mobile plant operatives to attend the site. Veolia has a substantial presence in the region and has a large pool of trained plant drivers to call on in the event of an emergency.

See also ('Excess temperature measures').

9.4. Fire Rescue Service locations

Station name	Address	Crew type	Drive time to site (min)
Runcorn Fire Station	Runcorn Fire Station Heath Road Runcorn WA7 4XL	Wholetime	6
Widnes Fire Station	Widnes Fire Station Lacey Street Widnes WA8 7SH	Wholetime	12
Frodsham Fire Station	Frodsham Fire Station Ship Street Frodsham WA6 7NW	Retained	12
Penketh Fire Station	Penketh Fire Station Widnes Road Penketh Warrington Cheshire WA5 2UW	Wholetime / retained	16

10. Water Supplies

10.1. Water supply calculation

ACTUAL	GUIDANCE CALCULATION		ACTUAL
Maximum pile volume in cubic metres	**Water supply needed in litres per minute**	**Overall water supply needed over 3 hours in litres**	**Total water available on site in litres**
Enter volume, for example, 300	Pile volume x 6.67	Water supply per minute x 180	Actual on site water availability
900 (without fire break) 600 (bays)	6003 4002	1,080,540 720,360	533,000 [on site lagoon - minimum] 7,668 [mains supply]

10.2. Available water supply

The Fire Service have indicated the likely amount of fire water needed to tackle a fire at this type of site and size of site would be around 500m^3. There is no fire hydrant within the external vicinity of the site so fire fighting water is supplied by an on site water supply and hydrant network.

The principal fire fighting water supply is from a lagoon situated at the northern end of the site. The lagoon is managed to maintain a minimum available water volume of 533m^3 which will be available for fire fighting purposes. The level of the lagoon is maintained by sight gauge and will be checked on a daily basis. There is also a mains supply which can achieve 0.71l/s used for smaller volumes of water feeding the offices and the mist system and rain guns.

The lagoon system is equipped with a pump and hydrant network to allow access to fire fighting water from six locations from within the yard areas running on a north - south axis through the site. The hydrants network is BS standard and designed to fit a fire service standard coupling and are fully compliant with BS750 Type II.

There are two pumps available with can pressurise the hydrant network:

- **Static pump:** Installed within a sump just to the south of the lagoon. Once a standpipe is attached to one of the hydrants the pressure drop automatically activates the booster pump. This pump should be sufficient to provide the necessary pressure for fire fighting purposes. A standpipe which is located in a lockup at the eastern most edge of the carpark directly next to the blue Adblue tank (see ‘Penstock valve locations’).
- **Mobile pump:** If additional pressure is required a mobile pump is located within the lockup described above (see ‘Penstock valve locations’).

11. Fire Water Management

11.1. Drainage networks

All of the site drainage is connected to a combined sewer. The sewer runs under the site from south to north but the only connection from the yard into the external network is to the north after the penstock valve.

Foul network (discharges to combined sewer)

The foul drainage consists of domestic foul water from the welfare facilities which is discharged to the sewer.

Surface water network (discharges to combined sewer)

The site surface is of concrete construction which falls from east to west and from south to north. There is a minimum 100mm kerb running along the western side of the site which channels surface water to one of two low points on the site. In phase 1 (south) this is located near to the site offices and in phase 2 (north) to it is to the south side of the lagoon. Surface water drains are located at the low points and any water collecting in these location will drain by gravity towards the surface water lagoon.

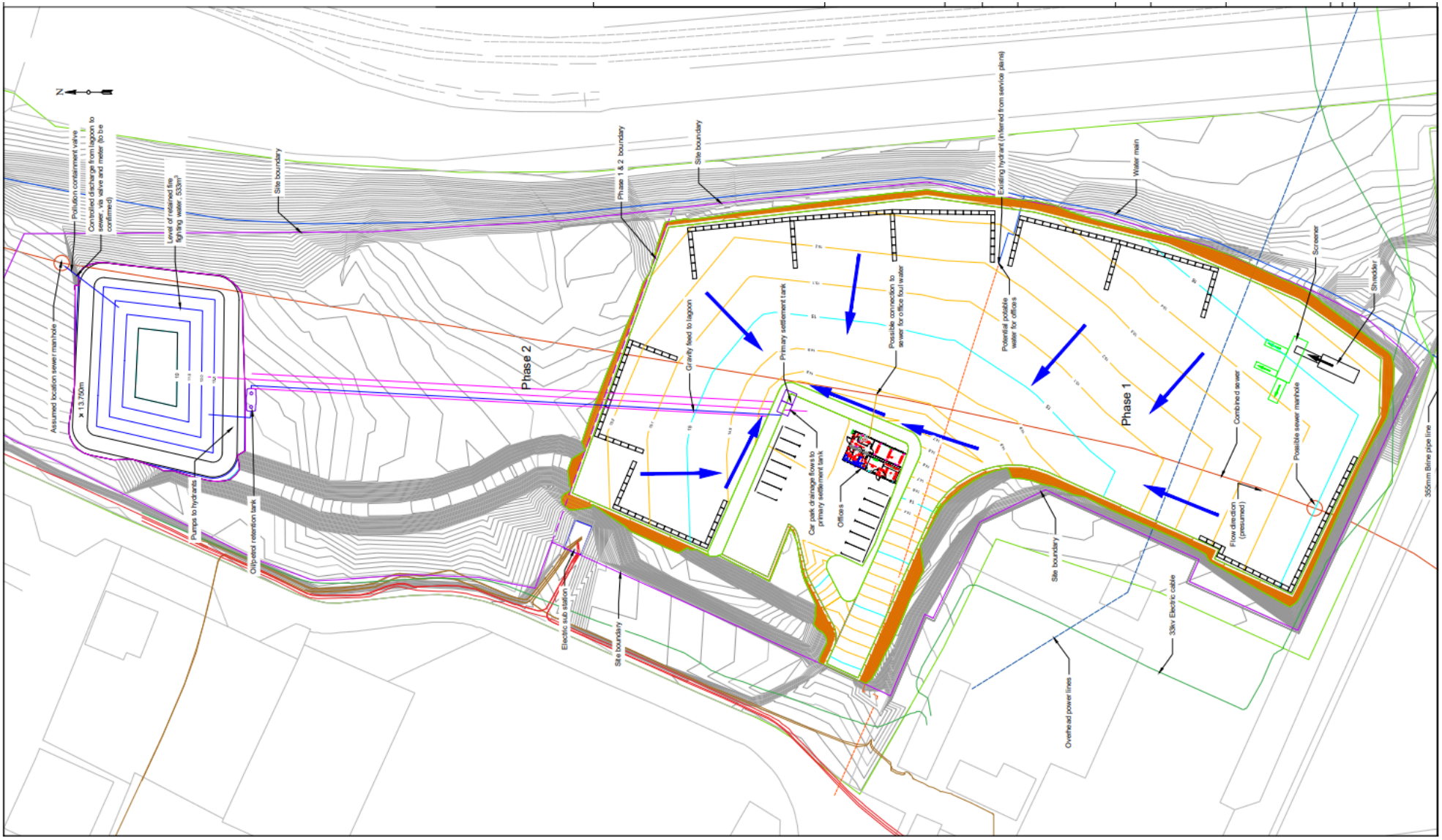
Prior to the lagoon is a single silt trap followed by two interceptors which operate in parallel, one serving phase 1 and the other serving phase 2. Following solids removal and the interceptors, surface water then collects in the lagoon. The lagoon has an area of approximately 971m^2 and has a managed minimum storage capacity of 533m^3. The maximum storage capacity including a 0.75m freeboard is 1088m^3 and excluding the freeboard provides 1684m^3 of storage. Additionally, the stored processed material is very absorbent by nature and will retain some water before becoming saturated. Some fire fighting water will also be lost to steam.

Fire fighting water availability versus drainage storage capacity means that overtopping of the lagoon is highly unlikely and the site will remain fully contained when the penstock is closed.

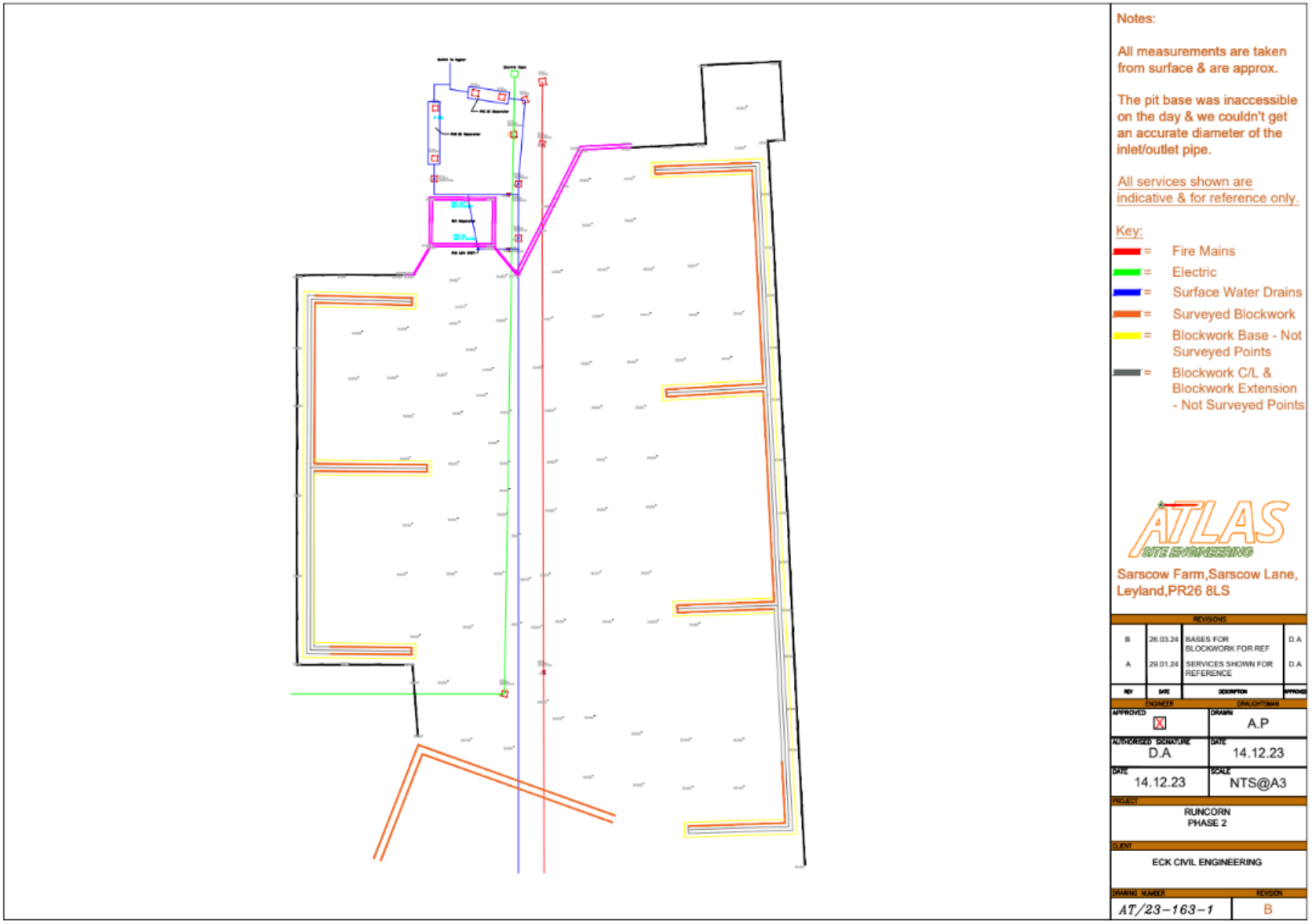
The lagoon is connected to the foul sewer and includes a pollution containment valve that prevents release of water to the sewer until it can be tested and agreed with the local Sewerage Undertaker. A trade effluent agreement is in place for the drainage from the lagoon to sewer for all site water.

In using the method proposed above the site can minimise the water used for a fire and reuse all available water via recirculation, thus negating the need for additional water to be brought onto site. By using the plant to isolate material the firefighting process will use as little water as is reasonably possible.

Phase 1 drainage layout



Phase 2 drainage layout



11.2. Penstock valve activation

There is a single Penstock valve which requires manual activation in the event of a fire.

Valve reference	Section of site covered
Penstock Valve 1	The valve is located to the north of the storage lagoon which receives all surface water from the entire facility. This valve is an automatic valve. Works electronically to open and shut the valve as required. (see 'Penstock valve locations')

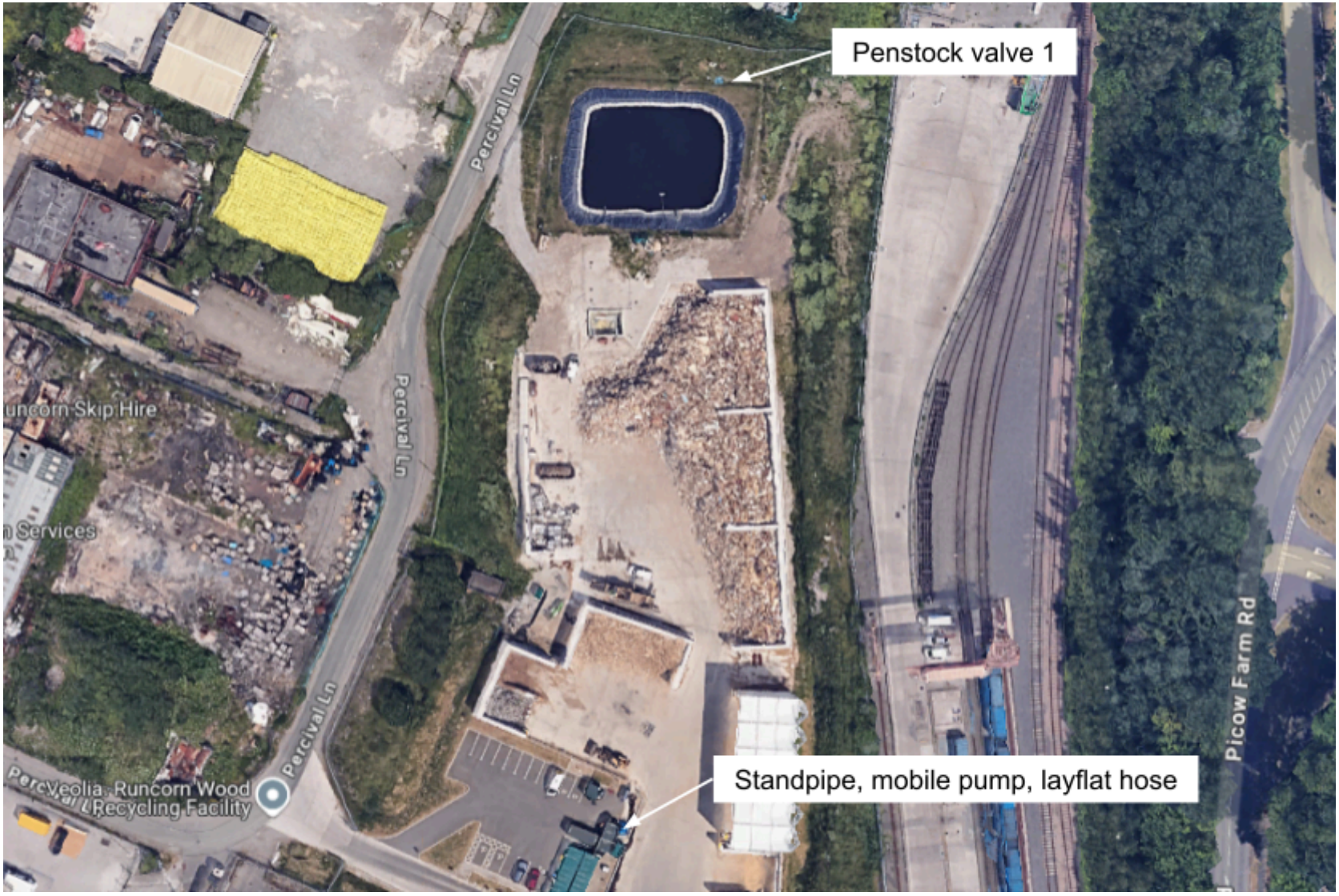
Once the penstock valve is closed there is no risk of fire water emission off site during an incident. Penstock valves are tested monthly to ensure they are operational and minimise the chances of a failure to operate during an incident.

Access to tanker fleet

In addition to on-site resources, VES as a large waste management company has the resources, including financial, to deal with a fire related incident and the subsequent aftermath such as contingency arrangements and fire water management.

In addition, Veolia has access to a large tanker fleet and therefore extraction and disposal of contaminated surface water off site is a contingency option. There are multiple locations on the drainage network that could safely be used for extraction of firewater during an incident.

11.3. Penstock valve locations



12. Amenity Issues

12.1. Receptor type screening

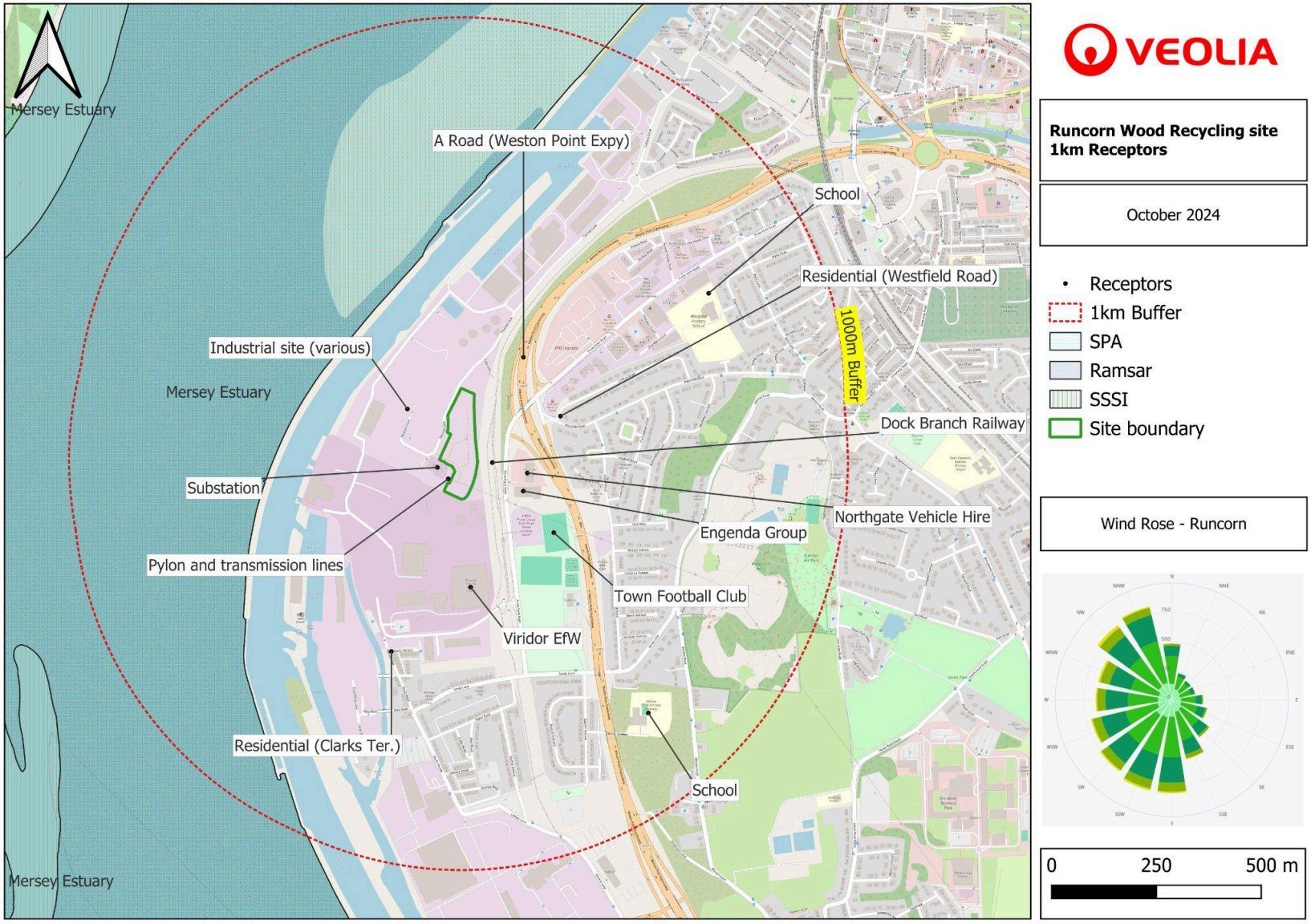
The table below describes the types of receptors that are present within 1km of the Facility.

Receptor type	Present within 1km
Schools	Yes
Hospitals / nursing homes	No
Residential	Yes
Roads (A Roads, Motorways)	Yes
Commercial / Industrial	Yes
Railways	Yes
Bus stations	No
Pylons (directly adjacent to site)	Yes
Utilities	No
Airports	No
Water for human consumption	No
SSSI, SAC, SPA, RAMSAR	Yes
Watercourses	Yes
Groundwater	Yes
Boreholes, wells and springs	No
Other specified receptor	No

Receptor detail (1km screen)

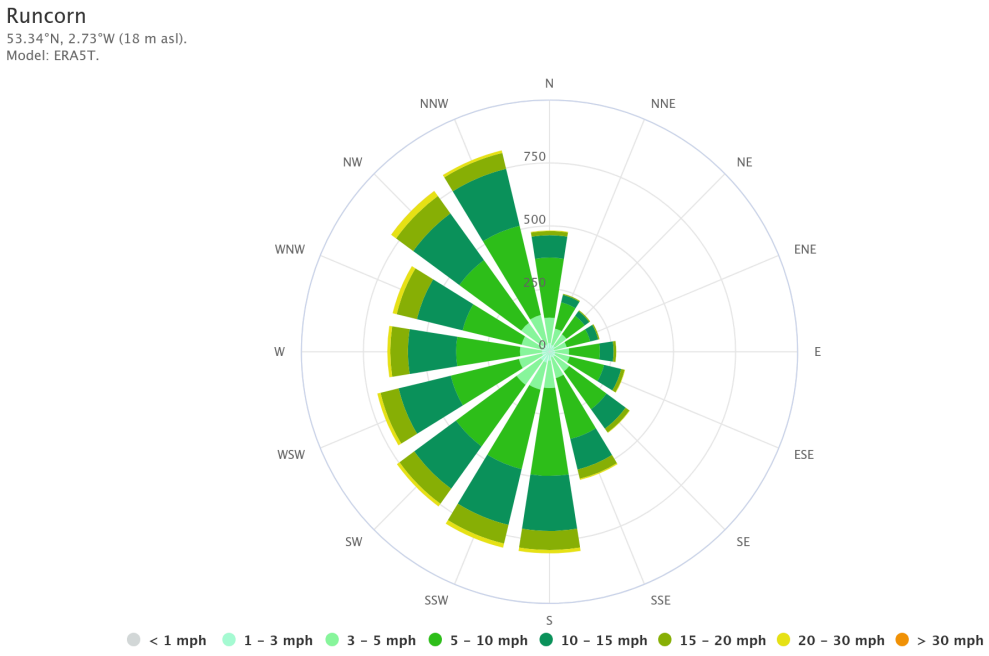
Receptor type	Land use e.g. house, school, hospital, commercial	Direction from site (North, South, East, West)	Approximate distance to site boundary (m)
Human	Railway (Dock branch railway)	East	22
	Commercial (Viridor EfW)	South	20
	Commercial (Northgate Vehicle Hire)	Northeast	105
	Commercial (Engenda Group / Halton Fabrications)	East	121
	Commercial (Runcorn Caravan Services)	West	175
	Commercial (Runcorn Skip Hire)	West	175
	Leasure (Runcorn Town Football Club)	East	202
	Commercial (Runcorn Vehicle Recycling)	West	214
	Residential (Westfield Road)	East	220
	School (Westfield Primary School)	Northeast	560
	School (Weston Point Community Primary School)	Southeast	650
Infrastructure	Pylons (Percival Lane Substation)	East	13
	A Road (Weston Point Expressway)	East	125
Ecological	Groundwater (Principal Aquifer)	Within boundary	0
	Controlled waters (Mersey Estuary)	Northwest to Southwest	390
	Ramsar site (Mersey Estuary)	Northwest to Southwest	390
	SSSI (Mersey Estuary)	Northwest to Southwest	390
	Special Protection Area (Mersey Estuary)	Northwest to Southwest	390

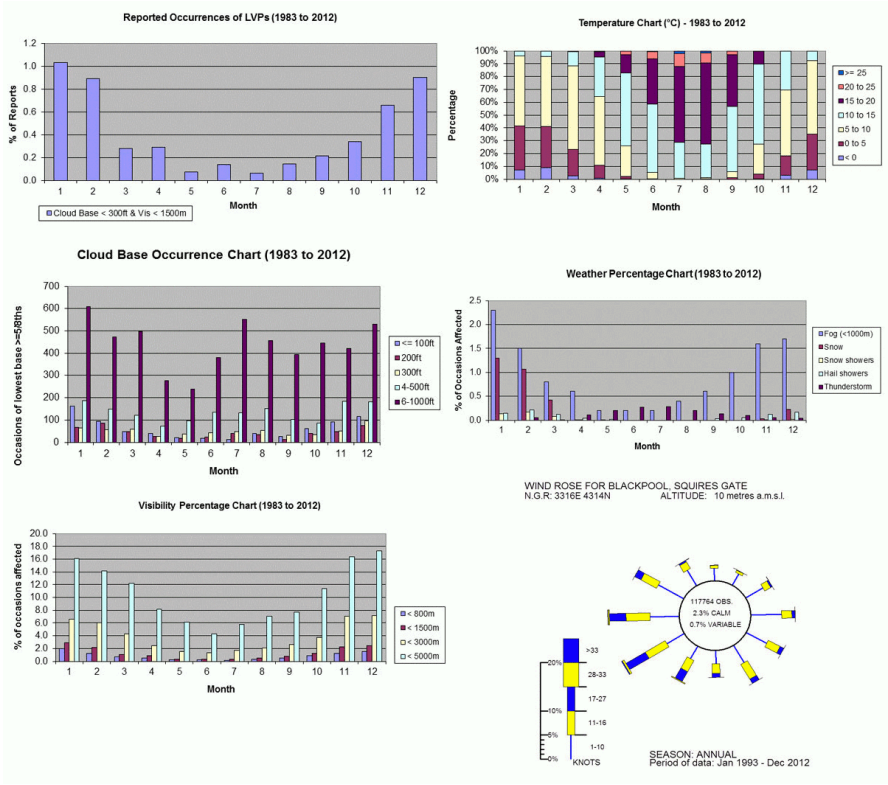
12.2. Receptor plan



12.3. Residential and industrial areas

12.4. Wind Direction





Source: Meteoblue (simulated historical climate and weather data for Runcorn) https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/runcorn_united-kingdom_2638960	Source: Met office (Blackpool Airport) https://www.metoffice.gov.uk/services/transport/aviation/regulated/national-aviation/uk-services/airfield-climate-data#Blackpool

13. Contingency Measures

To ensure effective waste removal and protection of the environment, in the event of a closure of the intended outlet for the material treated on the site, the following contingency delivery points will be utilised according to tonnage requirements and availability.

- Egger, Anick Grange Road, Anick, Hexham NE46 4JS

Following the extinguishing of a fire and only when the site is cleared of all fire damaged wastes, fire water and the infrastructure repaired, checked and drainage systems cleaned and reinstated will the site be in a position to re-open. Prior to re-opening the local Environment Agency officer will be contacted and evidence provided to demonstrate the site is fit for purpose.

In the event that the fire suppression system is activated fire water will be retained within the yard and lagoon prior to off site disposal via road tanker if required. Veolia operates an extensive fleet of waste water tankers with a 24 hour call out availability and based locally.

Fire damaged wastes can be directed to the ERF's at Battlefield, Shrewsbury and four Ashes, Staffordshire or alternatively the Ling Hall Landfill all of which are operated by Veolia.

14. Emergency Management

14.1. Emergency Notification

The Shift Supervisor (or nominated deputy in their absence) will be responsible for notifying an emergency and acting as the Incident Controller. The Operator will adopt the following outline emergency notification procedure:

a) Raise the alarm;

b) Use the Emergency Contact List to notify:

- Emergency services;
- Key Veolia ES staff;
- Community key contacts; and
- Environment Agency

c) Keep key contacts informed of the progress of the incident;

d) Maintain emergency status until advised by the emergency services that the incident is resolved; and

e) Once resolved a ‘closing report’ is issued to key contacts.

14.2. Emergency Plan

An emergency management plan has been developed which details the emergency response actions along with relevant contact numbers.

The emergency plan will be maintained within the site overall management plan and adequate stocks of suitable equipment retained at the Facility. Procedures will be present for managing all reasonably foreseeable incidents, including:

- Fire;
- Material spillage;
- Personal injury.

In the event of an accident or incident taking place, site personnel will implement the actions detailed in the site emergency procedures.

14.3. Community Key Contacts

The emergency coordinator will contact the key community receptors in the event of a fire as soon as possible after contacting the fire service, EA and key Veolia staff. The key receptors and contact method are listed in the table below

Following an incident a member of staff will again notify the key contacts the fire has been extinguished

Key receptor	Contact	Method of contact
Residents of Westfield Road Estate	Staff member to visit houses closest to the site on the Haughton road	Physical visit
Community Receptors	The Runcorn Town Football club is East of the site	07808 737773
Other Workplaces	Northgate Vehicle Hire is located 130m East South-east of the site	01928 590000
	Engenda Group is located 135m South East	01928 594900
	Runcorn Vehicle Recycling is located 160m West North-west of the site	01928 591588
	Hansons Aggregate is located 240m North West of the site	0330 123 4515

14.4. Ongoing Validity of Plan

The integrated Veolia ES Business Management System (BMS) includes procedures for checking the continued validity of site emergency plans and associated contingency arrangements.

The effectiveness of the site controls are reviewed at least annually, during the audit process, but are also verified during the accident/incident investigation to ensure that the site system remains effective.

14.5. Staff Training

The Emergency Plan will be implemented so that all staff is aware of, trained in and conversant with, the following:-

- Identifying a potential emergency;
- Knowing what to do in the case of an incident;
- Planning for evacuation and safe re-entry;
- Knowing who to contact in the event of an emergency;
- Locating plans for emergency equipment;
- Identifying and initiating operational contingency arrangements;
- The procedure to close or isolate part or all of the facility;
- Obtaining emergency help for casualties including first aid arrangements;
- Procedures for the notification, documentation, and assessment of response to emergencies and mishaps; a

- A programme of inspection, maintenance and upgrading of emergency equipment, and personnel training.

14.6. Reporting and Review

Incident Reporting

Details of all accidents, incidents and emergencies will be recorded in the site diary in line with BMS non-compliance reporting procedures.

All emergency incidents involving fire, explosion or material release (fume/spillage) will be reported to the Environment Agency as soon as practicably possible. A written report detailing the nature of the incident, causes and remedial action will be sent the Environment Agency in line with the Environmental Permit reporting requirements.

Emergency Plan Review

The effectiveness of the site controls will be reviewed at least annually during the audit process. However these will be also verified during any accident/incident investigation in order to ensure that the site system remains effective.

15. Fire Drills

A fire drill will be carried out every 12 months, following each drill an assessment is undertaken and any lessons learned will be implemented. The fire alarm system will be functionally tested every week. A number of the site staff will be specifically trained and appointed as Fire Marshalls.

The fire drill will vary on each occasion and cannot be prescribed in advance. The precise nature of the drill will be decided by the fire marshal and operational management based on factors such as perceived risk, incidents at other facilities, experience of staff, consultation with H&S advisers etc. The drills will generally be focused around the FPP and Emergency Plan.

16. Emergency Management Plan

Site Name:	Runcorn Wood Recycling Site	**Environmental Permit Reference: HB3902HZ**
Address and Grid Reference:	Percival Lane, Runcorn, Cheshire, WA7 4DS (NGR: SJ 49849 82117)	
Operating Hours:	0600 - 1700	

Facility Type:	Wood recycling (waste operation)	**No of Staff** **Drivers/Loaders:** **Transfer Station:** **Office:**	1 x supervisor 3 x Site Operatives
Site Manager:	Operations Manager x 1	**Telephone:**	07880 370761
Route from nearest main junction: From the south -Take M56 and Weston Point Expy/A557 to Picow Farm Rd in Runcorn. Take the exit towards Westfield/Runcorn from Weston Point Expy/A557. From the north Take Queensway/A533/A557 to Runcorn Station Link Rd in Runcorn Take Picow Farm Rd, Runcorn Docks Rd and Percival Ln to your destination.			
RESPONSIBILITIES/CONTACTS In the event of an emergency/incident contact:			
Emergency Coordinator 1:	Jason Hughes	**Telephone:**	07796 455379
Emergency Coordinator 2:		**Telephone:**	
Area Manager:	Vacancy	**Telephone:**	
Business Line Director:	Malcolm Marshall	**Telephone:**	07917 896900
QHSE Manager:	Mike Hendry	**Telephone:**	07880 476078

Crisis Hotline:	**08450 710755**
Emergency Spill Response:	**08007838020**
Emergency Services Direct Dial:	**999**

17. Evacuation Procedure

The aim of this procedure is to ensure the staff at the Runcorn Wood Recycling Site understand what their duties are when an evacuation is required. The procedure explains what is expected from them when there is an evacuation whether the management team is present or not. This evacuation procedure shall only apply to the Runcorn site

INSTANCES FOR EVACUATION

- Staff Related Incidents
- Fires
- Explosive Devices
- Environmental Incidents
- Accidents
- Escape of Gases or Waste Substances Hazardous to Health in the Waste Stream

ROLES

EMERGENCY CO-ORDINATOR

- Senior member of staff on site is to act as an emergency coordinator and is responsible for liaising with the relevant emergency services
- Ensure that a roll call is being conducted
- Liaise with the roll call officer to ensure that all staff and visitors are accounted for via radio
- Telephone the emergency services if required
- Return to muster point if the emergency services have been called and provide all necessary information that is requested
- Phone the line manager to report the incident
- Only re-enter the site when instructed to do so by the emergency services staff

Roll Call Officer

- Supervisor/Fire Marshall to act as roll call officer and to ensure that all staff are out of the site and accounted for at the muster point by conducting a roll call
- The staff attendance sheet and contact weighbridge for visitors book.
- Liaise with weighbridge to stop any further vehicles down to site and to keep one lane of traffic clear for emergency services.
- Liaise with weighbridge to evacuate themselves and third party drivers if it safe to do so (Depending on where fire or other emergency is located)
- Liaise with the plant operators to make sure all third party drivers have evacuated to the muster point
- Ensure that all contractors (if on site) have evacuated to the muster point

Plant operators

- Do not return specifically to remove the vehicles and do not drive them around to the muster point, please leave the keys in the ignition, turn off the engine and apply the handbrake
- All tipping drivers are to evacuate the site as soon as possible and report to the muster point by the safest route

Site Operatives/ Staff

- To evacuate the site by the nearest emergency exit in a safe and orderly manner.
- Inform other staff members in the vicinity if required due to their possible hearing impairment
- Go straight to the muster point, do not collect any belongings from the canteen/locker room

DO NOT RETURN INTO THE SITE UNTIL YOU HAVE BEEN INFORMED THAT IT IS SAFE TO, BY THE EMERGENCY SERVICES