
Hughes and Salvidge Limited

Fire Prevention Plan

July 2024

Version 2.0

**Prospect Road,
Portsmouth
PO1 4QS**

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| Hughes and Salvidge Limited |
| Document Reference: FPP/v2.0/July 2024 |
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| Approved by | | Matthew Foote | |

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1 Introduction

1.1 Roles and Responsibilities

The Site Manager Matthew Foote has responsibility for ensuring these procedures are adhered to. The Site Manager is specifically responsible for:

- Ensuring the adequate training of staff and contractors working on site regarding the content of these procedures;
- Ensuring the adequate provision of resources such as personal protective equipment (PPE);
- Ensuring the provision and maintenance of hand held fire extinguishers and other fire fighting equipment at the site is adequate.

1.2 Purpose

The primary purpose of this Fire Prevention Plan (FPP) is to guide staff and contractors in the prevention of fire for Hughes and Salvidge Limited. This FPP also confirms the actions to be taken in the event of fire in order to minimise any impact on the environment and to control the fire where appropriate.

This FPP will be issued to the Fire Brigade in the event of a fire to aid with fire fighting.

1.3 Scope

This FPP has been prepared in accordance with Environment Agency guidance.¹

In addition, all fire prevention measures will meet the stringent insurance requirements for the business.

Annex A shows a site layout plan.

1.4 Liaison with Fire Rescue Service (FRS)

The FRS will be provided a copy of this FPP in advance of commencing operations.

1.5 General considerations

The Hughes and Salvidge Limited site is located in Portsmouth PO1 4QS. It sits east of the A3 and just west of Portsmouth Harbour. The site is approximately 0.35 Hectares in size. At the time of writing this FPP, the site currently consists of concrete impermeable surface externally in the yard area in good repair. The site’s main activity is the storage and processing of metals..

The surrounding land use is a mix of commercial & residential.

Hughes and Salvidge Limited operate under an existing Environmental Management System [EMS] which identifies the potential sources of pollution from site activities and controls site operations to eradicate emissions or where that is not possible to minimise their effect on human and environmental health.

This Fire Prevention Plan [FPP] forms part of the EMS.

The individual fire emergency procedures for each part of the site form part of the FPP.

The site has sealed drainage and there is no run off to foul or surface water from the process. See Annex B Site Drainage.

¹ Fire Prevention Plans, Version 3 January 2021

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2 Causes of Fire

The following have been identified as potential causes of fire and their relevance to this site, when operational, is given in Table 1

| Table 1 Causes of Fire and Applicability to the Site | |
|---|--|
| Cause of Fire | Applicability to the Hughes and Salvidge Limited Site |
| • Arson or vandalism | Yes – see section 3.5 Security |
| • Self-combustion | No – see 3.7 Self Combustion |
| • Naked lights | No – none on site |
| • Plant or equipment failure | Yes – see 3.6 Planned Preventative Maintenance |
| • Electrical faults | No – none on site |
| • Discarded smoking materials | No – on site smoking is prohibited |
| • Hot works | Yes – see 3.8 Hot works |
| • Hot exhausts | Yes – see 3.10 Hot exhausts |
| • Industrial heater | No – none on site |
| • Open burning (adjacent to site) | No – no likely sources of burning adjacent to site |
| • Damaged or exposed electrical cables | No – no live cables on the site or to be introduced |
| • Reactions between incompatible materials | Not relevant given the waste types |
| • Neighbouring site activities | No – No potential sources of risk from neighbouring land use. |
| • Sparks from loading buckets | No – No loading buckets. |
| • Hot loads deposited at the site | No – not a risk given the types of materials and sources of materials. |

Mitigation measures in relation to these activities, where under control of Hughes and Salvidge Limited, are set out in this FPP.

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3 Fire Prevention Plan

Hughes and Salvidge Limited recognises that the risk of fire cannot be eliminated. However, the site will be operated in accordance with a robust management system. Operational Procedures are listed in the site's EMS Manual Section 1.6 'Operational Control'.

In addition to Operational Procedures, the following reasonable actions will be taken to minimise the risk of fire, in accordance with Environment Agency guidelines.

3.1 Site Plan and Receptors

A Site Plan is given in Annex A showing the key features of the site relevant to the Fire Prevention Plan including site access, security, vehicle parking, materials storage, drainage and buildings. Annex C is a Fire Fighting Equipment plan including the location of hose reels and hydrants.

A map showing key receptors within 1 km of the site is in Annex D.

3.2 Material Receipt and Storage

Waste will be collected using the company's vehicles which will be removed from the customer's site and returned to Hughes and Salvidge Limited site. Raw material are stored in the yard prior to processing in the building and are processed as they come into the site. Waste acceptance procedures will be followed as set out in Annex E.

Only the waste types and EWC codes named on the environmental permit will be accepted at the site. Wastes entering the site will be inspected and registered at the site. Non-compliant waste materials not allowed on the permit will be turned away from the site. A record will be made in the site diary.

Wet & damaged batteries are stored in a separate sealed container in the covered bay before being removed from site within 24 hours in most cases, however the longest time they will reside on site is 3 weeks before being removed.

3.2.1 Quarantine area

The site plan shows the Fire Quarantine Area. The Fire Quarantine Area will always be kept clear in case of emergency. The area is located close to a water supply for quenching burning or smouldering material.

The Fire Quarantine Area is a dedicated emergency or quarantine area with a clear area of 6m around it. The rationale for this area is:

- The area is in the middle of the site, so is required to be kept clear, at all times, for access.
- Only small quantities of material would ever be put in this site i.e. those that can be dealt with safely by the staff on the site. Larger fire would be dealt with by the FRS.
- The quarantine area is 40M3 and can accommodate at least 50% of the largest waste pile (80 CUMEC). See appendix A. a 6m clearance all round is observed.
- In the event of a fire or observed self-combustion, burning waste, if safe to do so, will be moved to the Fire Quarantine Area.
- The Fire Quarantine Area is signposted.
- Hot loads can be quarantined in this area until such times that they can be stored safely.
- The quarantine area, when made safe, will be emptied immediately. Should it be necessary to moves wastes to an alternative site then a local permitted site will be used.

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3.2.2 Waste storage times

Consideration is given to the likely dry nature of the material and the implications this has for self-combustion. See 3.2.3 (stock rotation and management).

Hughes and Salvidge Limited has key customers for each material. In addition, contingency customers are in place in case of a need to move material off site when the regular customer is not able to receive it. In this way, the stock will not build up to levels over the permitted limits.

3.2.3 Stock rotation and management

Given the limited storage time on site – max 3 months – stock rotation is deemed necessary, however;

The company will, if necessary, undertake monthly stock checks which will involve moving the waste within each pile. The purpose of the stock check is:

- To turn wastes in order to ensure the waste is not at risk of self-combustion and any potential hotspots are dissipated;
- To ensure the waste volumes do not exceed those specified in the permit.
- To ensure waste is not kept on site for longer than allowed by the permit

Records will be maintained in the site office of the physical monthly stock checks.

The site manager in charge of stock checking will be vigilant for signs of combustion or hotspots. If any are found, these will immediately be quenched with water and reported to the management team. Stock rotation will be by mechanical means as necessary.

Waste will follow the first in/first out principle as detailed in Annex F points 10/11/12 and waste will be rotated in date order to ensure that waste is removed in date order.

3.2.4 Waste storage

Firebay 1 = Iron

Firebay 2 = Heavy Iron

Firebay 3 = Short Steel

Firebay 4 = Aluminium

Firebay 5 = Cable Hazardous WEEE cable EWC 16.02.15*. (potential POP's waste)

Firebay 6 = Cable Non Hazardous cable 17.04.10

Firebay 7 = Electric Motors

Firebay 8 = Stainless steel.

All bays 5x4x4m with 1m freeboard.

- All waste in containers will be accessible and moveable. If this is required all mobilisation will be directed by Mr Matthew Foote and/or the FRS. H&S metals has vehicles to move such containers.

Concrete firebays x8 – 1m freeboard will be observed in all.

RORO's

1= Batteries

2=uPVC

3= Refines

4= AdBlue for plant

There is temporary storage bins in the bay but no waste is stored overnight.

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Firebay 5 contains hazardous waste cable which potentially contains POP's waste. It will be stored and treated separately to other wastes. H&S Metals will test potential POP's waste to see if it meets the threshold criteria and deal with it in accordance to EA Guidance.

Identify and classify waste containing persistent organic pollutants (POPs) and Classify some waste electrical devices and components, and wastes from their treatment

3.3 Signage

Signage will be positioned throughout the facility showing Fire Exits and the position of extinguishers and other relevant fire fighting equipment.

All waste storage areas will be clearly marked to ensure waste throughput timescales are adhered to.

Hughes and Salvidge Limited will reinforce fire prevention messages using signs with key messages for staff.

3.4 Training, Awareness and Visitors

All staff and contractors working on-site will be aware and understand the contents of this FPP and the site Fire Response Plan. Through site inductions and Monthly tool box talks, staff awareness and training, Hughes and Salvidge Limited will ensure that all relevant staff and contractors will:

- Understand what they must do during a fire.
- Know where the fire prevention plan is kept
- Participate in regular exercises to test how well this FPP plan works and to confirm staff understand what to do.

For visitors to the site:

- They will be escorted at all times and signed in.
- They will understand the No Smoking policy for the site.
- When signing in, information on the fire exits and muster point will be provided.

Training records are maintained as required by the site EMS.

Staff will be required to undergo regular fire training as part of the WAMITAB competency requirements. In addition, regular drills (annually) will be undertaken where desktop scenarios are played out and staff will be required to become familiar with this FPP as part of their ongoing competence. Mr Matthew Foote will be responsible for implementing this plan and detailing annual tests and drills.

3.5 Security

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The following security features will reduce fire risks from vandalism and deliberate arson through preventing access to the site by unauthorised people:

- Doors are closed and locked outside of office hours to block access further.
- Regular checks of the Perimeter fencing and gates to the premises. The site is secured by a bunds & fence on all 4 boundaries.
- Only one entrance/ exit point to the site to/ from the public highway is in place, which is secured by means of lockable doors to be locked shut at any time the site is left unattended.
- CCTV/motion detectors which can be viewed remotely by the management team covering the whole of the permitted area and yard areas.
- A CCTV system with 24 motion detection and thermal capability to detect hot spots is employed for night time security. This sends alerts to all staff of Hughes and Salvidge Limited and would notify the owner if a fire were to break out during out of hours. Cameras are shown in annex A.
- There are no security staff on-site overnight but the security camera system in the yard and entrance provides 24hr coverage and sends alerts to the operator once motion is detected. The operator and members of staff also live close to the premises.

3.6 **Planned Preventative Maintenance**

The site has a Planned Preventative Maintenance Programme to ensure all machinery and components continue to remain effective. There are 4 x FLT on site and 2 x 360 and no other grabs or lifting equipment. The site also has a bailer and shear.

There is a programme of routine planned maintenance is for each item of plant and machinery to manufacturers specifications, as well as the processing equipment in order to prevent breakdown and faults which may pose a fire risk.

Limited Electrical equipment including CCTV, lights & depollution rig will be used at the site.

A PAT certificate will be provided to demonstrate that this equipment has been checked by a qualified electrician. A PPM schedule and maintenance contract will be in place to ensure that electrical equipment & plant is fit for purpose and to minimise the risk of ignition sources.

All faults needing corrective action will be reported to the Site Manager to be implemented.

For contingency, Hughes and Salvidge Limited recognises that if needed to ensure a continued material throughput, machinery will be hired from specialists if a significant plant breakdown occurs. This is to ensure continued effective operations and prevent excessive storage of materials which are likely to give rise to the exceeding of permitted waste quantities.

3.7 **Self Combustion**

Given the stock rotation throughput times and material type, there is a limited potential for self-combustion. EA Guidance states that the risk increases when wastes are stored over 3 months and that combustible materials must not be stored for more than 6 months. All wastes on site are not to be stored for longer than 3 months. Batteries will be stored for a maximum of 3 weeks.

Daily checks are made on the site as part of the Fire Risk Daily Checks Form (Annex F) and this includes checking for signs of self-combustion and housekeeping issues which may impact on fire risk.

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The risk of combustion is low, as the materials which will be managed on site are not anticipated to be contaminated with oil, however they will be dry. As a result, a regime of turning the waste materials monthly during a stock take will be in place only if required. For details see 3.2.3 Stock Rotation and Management.

Heat will be released from waste before storing in piles.

The company has considered the risk of self-combustion and consider that given the storage times, management procedures in place and materials stored, the waste is unlikely to generate hot spots. However, during operation, if the site records show that hotspots do occur on site regularly, the Site Management will consider further measures such as temperature probes.

In warmer weather (Greater than 18 degrees C) waste piles will be considered for sheeted or dampening as required to minimise the effects of external heating. Regular (daily) checks on waste piles will be made and the results recorded in the site diary along with weather conditions.

3.8 Hot Works

Hot works will be undertaken at the site in an isolated area shown in appendix A.

Hot works will be undertaken in accordance with the following procedure, specific to fire prevention:

- Only trained personnel carry out hot works activities under a hot work permit this will be Prince Recycling staff only.
- This activity is carried out in a separate area from stored wastes i.e. well ventilated and isolated from other potentially combustible materials stored at site; see Site Plan which has a designated hot works area
- Care of cylinders and fittings
 1. Flash back arrestors should be fitted to all oxygen and fuel gas cylinders.
 2. Cylinders should not be placed near a source of heat.
 3. Never coil surplus hose around a cylinder. A fire in a coiled hose is very difficult to extinguish.
 4. Gas cylinders must not be stored or used in the horizontal position, always upright and secured in place.
- Flame cutting of metal
 1. Before lighting the cutting torch check for any flammable materials or substances.
 2. During any cutting operation ensure that the scrap is stable and the person carrying out the cutting / burning positions himself away from any danger point.
 3. When an item of metal requires breaking apart, contact the crane operator to discuss the requirements and procedure to carry out the work.

Following all hot works, the site manager will complete a fire watch for 1 hour to check of the area on completion to ensure that all sources of fire ignition are extinguished and all materials are cool.

The location of the hot works area is shown on the site plan and is located as far as possible from waste piles in a separate brick walled area. At least 6m separation is provided for.

Gas cylinders are secured on site when not in use as indicated on the plan.

A fire watch is also completed at regular intervals during the day (shift start/lunchtime and end of shift) and for 1 hour at the end of the working day.

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Gas bottles are stored on site in a cage.

No other combustible gases, chemicals, aerosols or fuels are kept on site

3.9 Mechanical Treatment

Mechanical treatment means the use of mobile plant. The plant used on site will be as follows:

- 4 x diesel FLT & 2 x 360
- Shear
- Cable stripper
- Baler
- All equipment inspected & maintained under PUWER² requirements
- Mobile plant parked remotely, secured and key out when site closed (See Fire Risk Daily Checks Form Annex F)
- Trained staff operate equipment
- Mobile plant is stored at least 6m away from combustible waste when not in use.
- Fire extinguishers fitted, equipment switched off when not in use, parked in remote area of site when not in use, keys safely stored

3.10 Hot Exhausts

During operations, site operatives will be vigilant for signs of ignition from operational hot exhausts.

At the end of the working day, vehicles will be parked away from combustible materials as indicated on the site plan. A Daily Site fire watch & Check at the end of the shift will be undertaken by the site manager or his nominee to check that there is no risk of ignition from exhausts. The fire watch will be conducted at the beginning of the shift (9am) – lunchtime (1pm) and end of the shift (5pm). See Fire Risk Daily Checks Form Annex F.

² Provision and Use of Work Equipment Regulations 1998 (PUWER)

3.11 Additional Actions

Further actions to mitigate fire risk on site include:

- Overnight parking of vehicles away from processing and storage areas.
- The access route into the site is always kept clear and will therefore provide access for emergency vehicles.
- Site walkovers taken each day will identify any accumulations of combustible dust, litter or material which may pose a fire risk in the areas used by vehicles.
- Debris off site will be checked and removed at shift start and finish.
- Good housekeeping will be maintained at all times to ensure dust and wastes are prevented from accumulating on site.
- Operational vehicles will be fitted with fire extinguishers
- Any fuel/oil spills from plant or vehicles will be cleaned up immediately with absorbent material and disposed of correctly
- Sources of ignition including non-energy efficient (heat emitting) light bulbs, lit cigarettes, naked flames and storage heaters will not be allowed on site.
- All other sources of ignition will be kept at least 6m from flammable & combustible waste
- Cleaning – The site will be cleaned daily at the end of the operational shift in order to prevent build-up of dust, fluff and combustible waste. This will be focused on areas where dust may build up e.g. computer screens flat surfaces, mobile plant etc. Surfaces will be dusted, wiped and/or jet washed if appropriate.
- Regular inspections of vehicles and the main roads are made to ensure that no annoyance to other road users and neighbours is apparent.
- Activity location benefits from good sound attenuation provided by the internal industrial location & rural setting. All plant benefits from noise and dust suppression.

Ensure operations are only conducted within working hours and where practical noise is minimised by using the minimal movements of vehicles and materials onto and from site

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4 Fire Detection and Management

4.1 Fire Detection & Suppression

Hughes and Salvidge Limited will

- Provide portable extinguishers both CO2 and Foam types x 3 of each stored in the undercover area. Fire blankets are also stored next to the bay 3mx3m to cover batteries if required. All staff will be trained in their use. Mr Matthew Foote will be responsible for directing their deployment.
- carry out regular inspections, including at the start and end of every working day

All staff are aware of this FPP and the risk of fire on site and are trained to remain vigilant.

Security staff are trained in actions in case of fire detection.

The camera systems (including thermal for heat detection) are already installed on site. One overlooking the covered area and one looking down the yard and several others as shown on Appendix A. These cameras will detect heat and send alerts to staff out of hours. Staff can respond to alerts within 1 hour.

Hughes and Salvidge Limited do not deem it necessary to fit automatic fire suppression system in the covered buildings as no waste is stored internally overnight.

Fire Suppression:

The Site Fire Fighting Equipment Plan (Annex C & J) shows the following items for fire suppression:

- 1 x Fire hydrants with at least 2000l/min flow in Prospect Rd. Within the office, hand held fire extinguishers are also provided along with fire blankets for battery stores.
- **No waste is stored under cover overnight (apart from batteries) and fire suppression in the bay area is considered unnecessary.**

4.1.1 Water Supplies

Table 2 shows the available water on site which can be delivered from hydrants. See Annex C for water supply site plan.

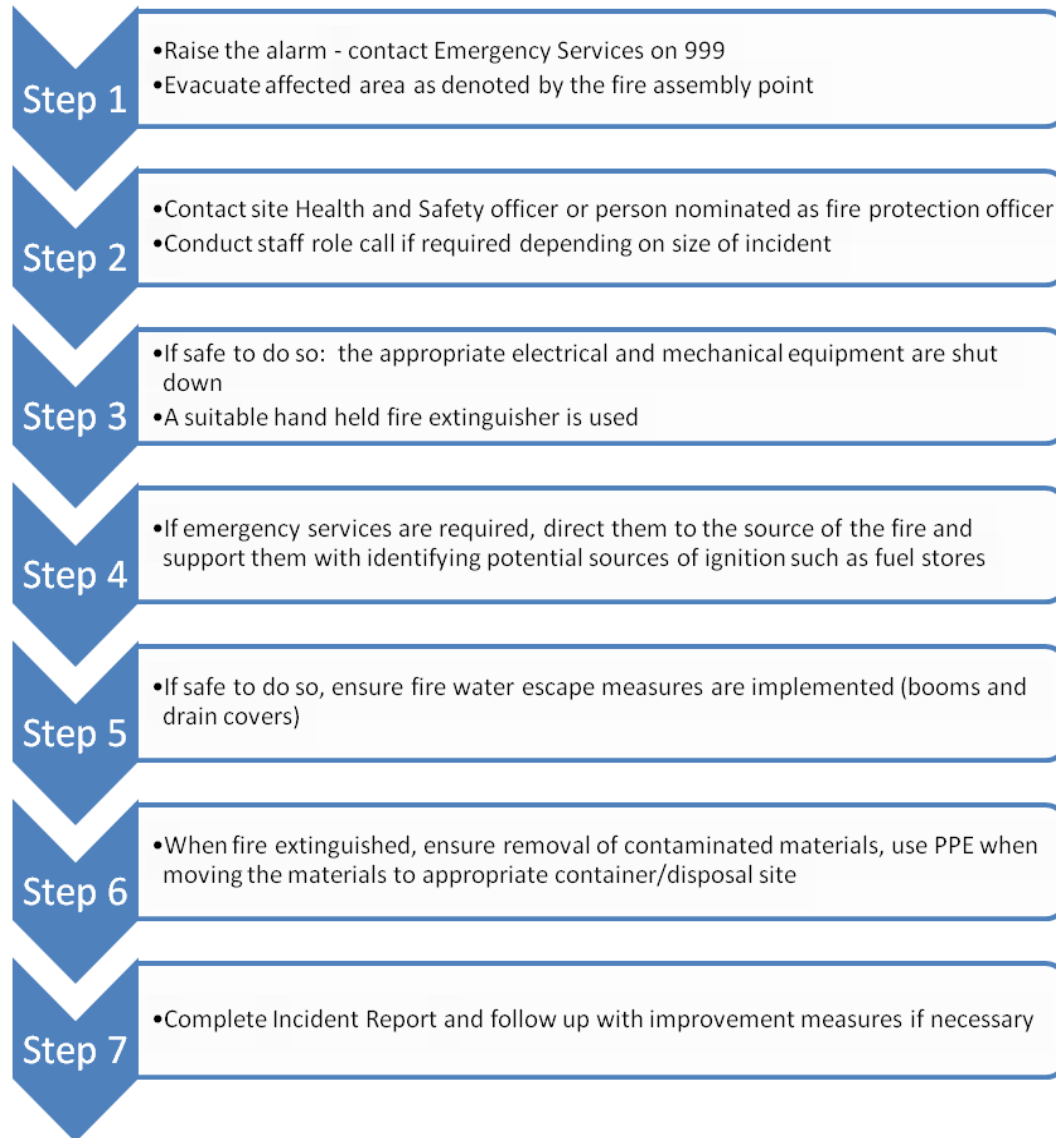
| Table 2: Volume of Water Available | |
|---|------|
| Hydrant Delivery (l/min) | 2000 |
| Number of Hydrants | 1 |
| Total Hydrant Delivery (l/m) | 2000 |

Water supplies for fire fighting can come from the fire hydrant close to the site, in addition to one or more FRS water supply trucks if the FRS deems it necessary.

The largest stockpile likely to require water for fire fighting is considered to be the firebay the largest pile - a maximum of 80m³.

4.2 Fire Fighting Strategy

In the event of a fire being suspected or detected, the following steps will be taken:



The Site Manager, will liaise with the Emergency Services on their arrival. The Site Manager will clearly identify him/herself to the Emergency Services on their arrival on site and update the FRS on the situation ensuring they are made aware of the location any compressed gases or flammable liquids on site.

Prior to arrival of the FRS on-site there are several measures that Hughes and Salvidge Limited can take to help fight fire, assuming there is no risk to life.

- Hand held fire extinguishers & fire blankets can be deployed in order to contain fires where possible see 4.1
- Access to the hydrant located in Prospect Rd may be used by Hughes and Salvidge Limited staff if required – see annex C . This is approximately 50m distant.

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- Fire blankets/sheets can be used to smother smaller isolated sources of fire. See 4.1
- The quarantine area is 40 cubic metres and can accommodate at least 50% of the largest waste pile (80 cubic metres in the yard). See appendix A.
- In the event of a fire or observed self-combustion, burning waste, if safe to do so, will be moved to the Fire Quarantine Area or alternative designated site.
- The Fire Quarantine Area is signposted.
- The quarantine area, when made safe, will be emptied immediately. Should it be necessary to move or divert wastes to an alternative site then an alternative permitted location will be used. Vehicles will be directed to this site. (Note the only vehicles coming to site will be Hughes and Salvidge Limited owned operated vehicles or suppliers and not the general public so all drivers will be notified to divert to this location).
- Neighbours and local businesses downwind will be notified of any potential fire incident by the site operator by telephone as soon as possible from the local contact list. This will be completed by telephone and will be completed as soon as it is safe to do so. Local receptors will be notified in order of proximity to the site and prevailing wind direction. Local receptors will be kept updated as to the progress of fire-fighting as new information comes to light and fully debriefed at the end of the event.
- Once the fire has been dealt with, post fire de-contamination arrangements will be agreed with the local EA officer
- The site is an impermeable surface and will be scraped clean
- Drains and runs will be gulped out and cleaned by tankers with whom H&S have a contract.
- Waste will be removed from site if necessary
- If necessary, soil and groundwater monitoring will be undertaken as agreed with the EA
- Once the local EA officer has agreed that the site is ready to become operational again then operations will recommence.

4.3 Managing Fire Water

Table 3 shows the potential volume of fire water which may need to be managed on site should the largest waste pile require quenching.

| Table 3: Volume of Water Required | |
|--|--------|
| l/min/1m ³ of waste * | 6.6 |
| Largest Combustible Pile (m ³) | 80 |
| Water Required (l/min) | 528 |
| Total Requirement for 3 hours (l) | 95,040 |
| *Based on EA FPP guidance: | |

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Table 4 shows the volume of fire water which can be contained within the site. The yard operation benefits from being inside a sealed drainage system around the perimeter which will contain firewater. Sumps are blind in the yard and are emptied as required under a planned maintenance schedule by the operator. There is no discharge to surface water. A kerb will be deployed across the entrance to retain water to a height of 10cm as per Annex C if required. Kerbing to 0.1m will be installed within 2 weeks of permit issue.

| Table 4: Volume of Firewater Contained within Site | |
|---|---------|
| Average Site Length (m) | 60 |
| Average Site Width (m) | 47 |
| Water Depth (m)* | 0.1 |
| Site Volume (m ³) | 282 |
| Site Volume (l) | 282,000 |
| <i>*minimum height of curb or boom</i> | |

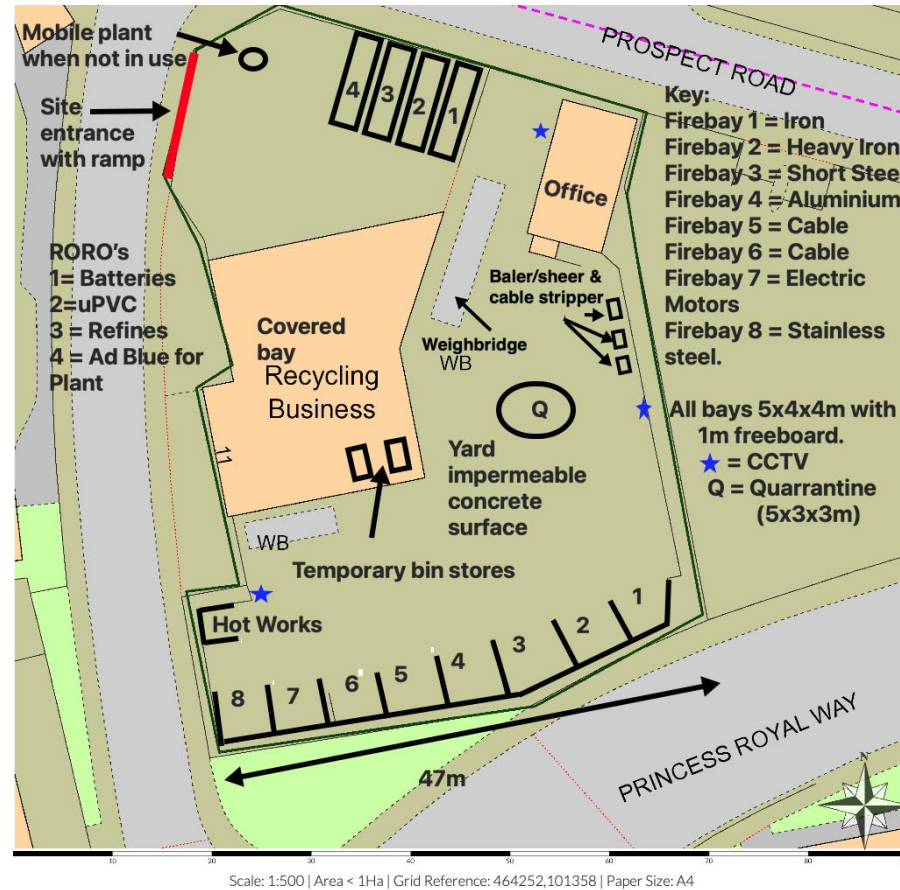
These tables show that the site would be able to contain the volume of water needed in a worst-case scenario. Therefore, the key receptors in Annex D which could be affected by firewater will be protected. The site entrance will be protected by kerbing of 10cm to prevent egress of firewater out of the entrance. This is unlikely as the site slopes towards the blind sump. As can be seen from the drainage plan.

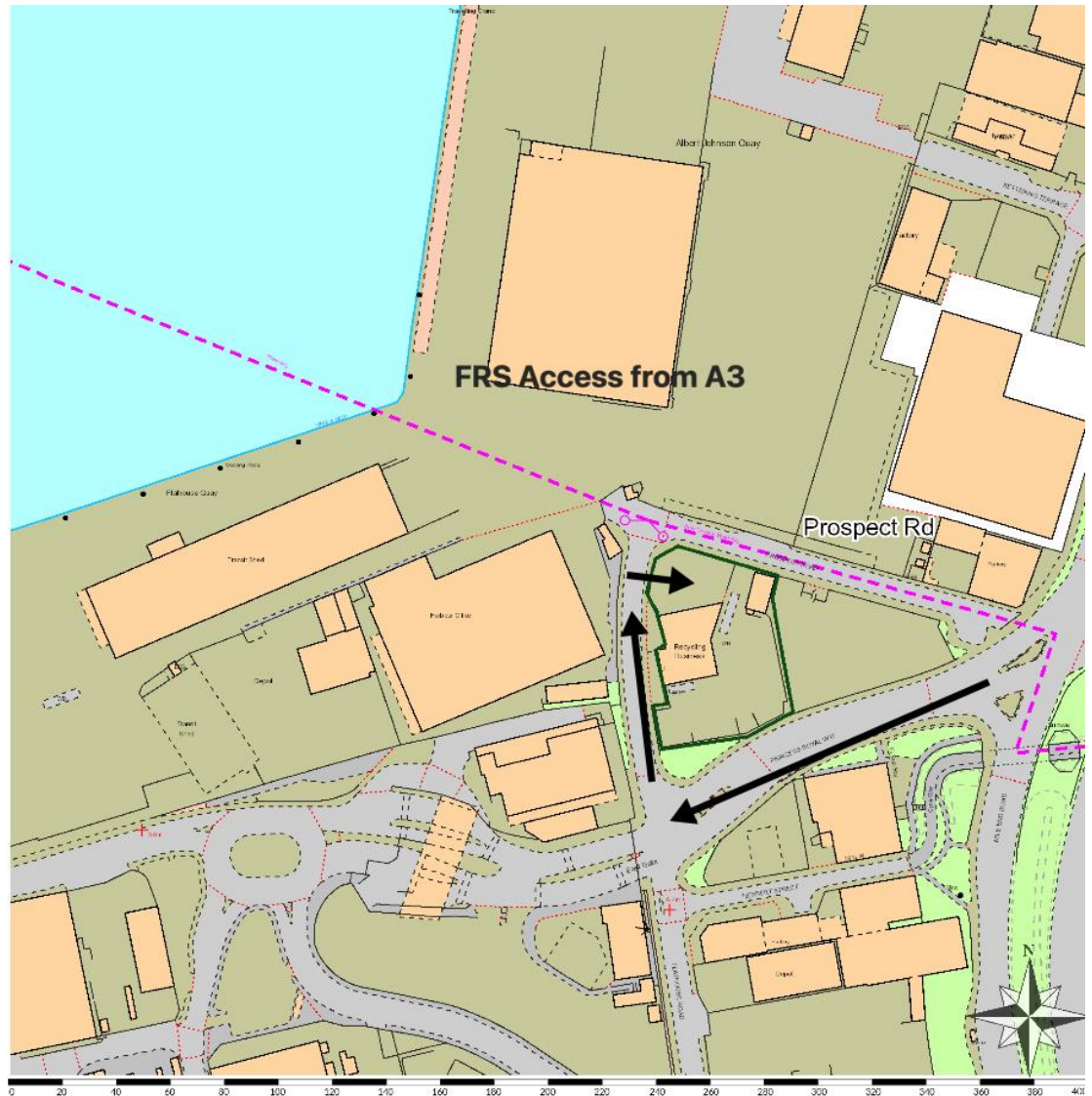
Hughes and Salvidge Limited has a contact for emergency spillage response with a company which provides tankers to remove firewater. The company would come to site to remove water from the site contained by the walls. Surface Water from the yard is retained in a sealed drainage system.

4.4 Future Actions

This plan is based on current planned operations. Hughes and Salvidge Limited understand that it is important that this Fire Prevention Plan is maintained up to date and relevant to the business. Therefore, it will be updated accordingly, in collaboration with the Environment Agency as required, should business operations change in the future.

5 Annex A: Site Layout

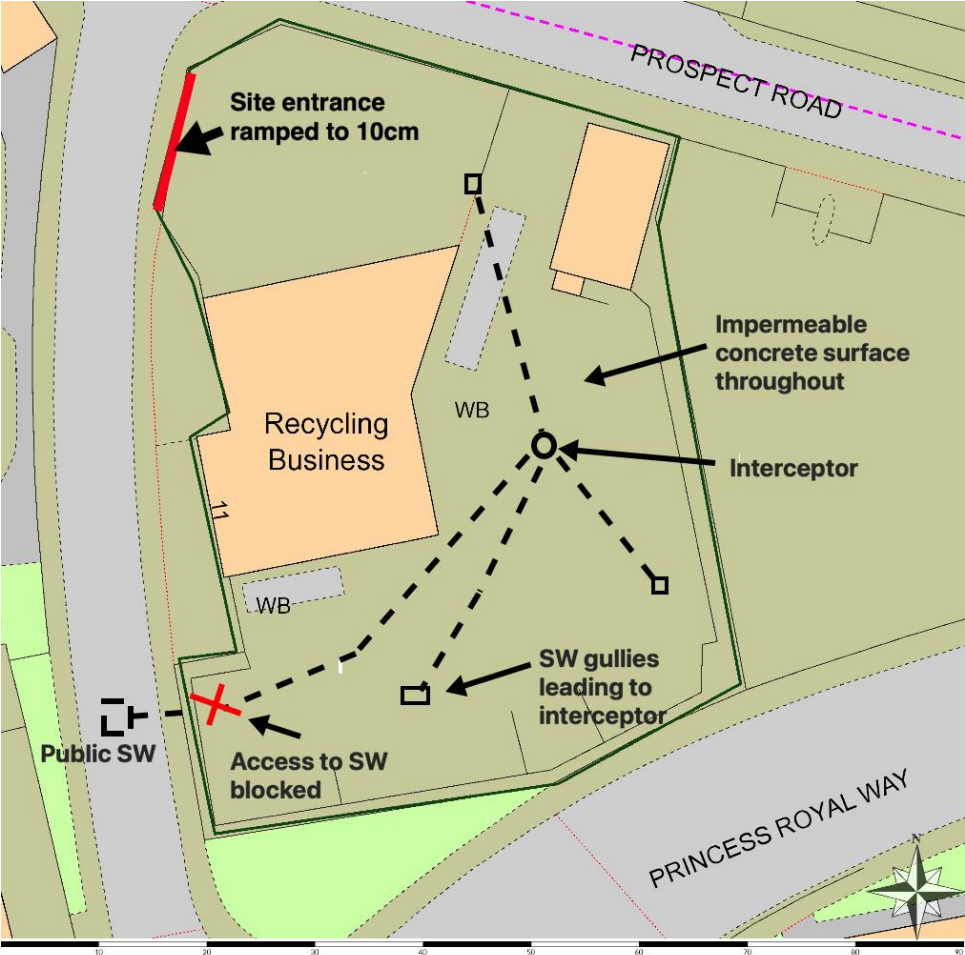




Scale: 1:2500 | Area 16Ha | Grid Reference: 464187,101402 | Paper Size: A4

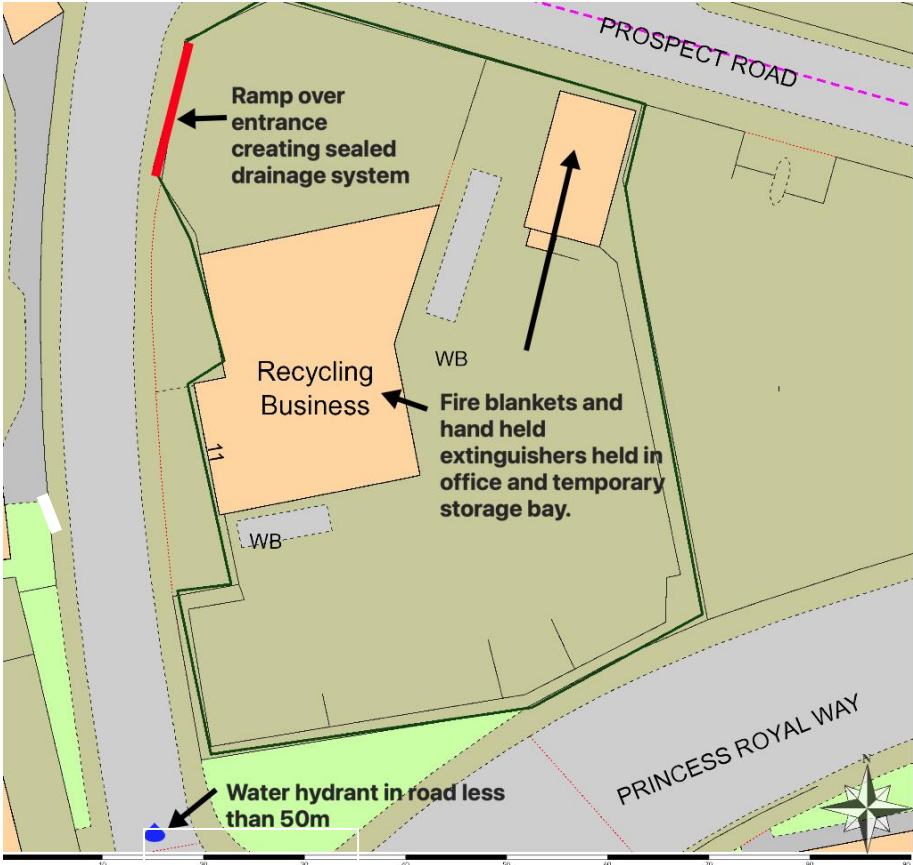
A2- Site Access

6 Annex B: Site Drainage



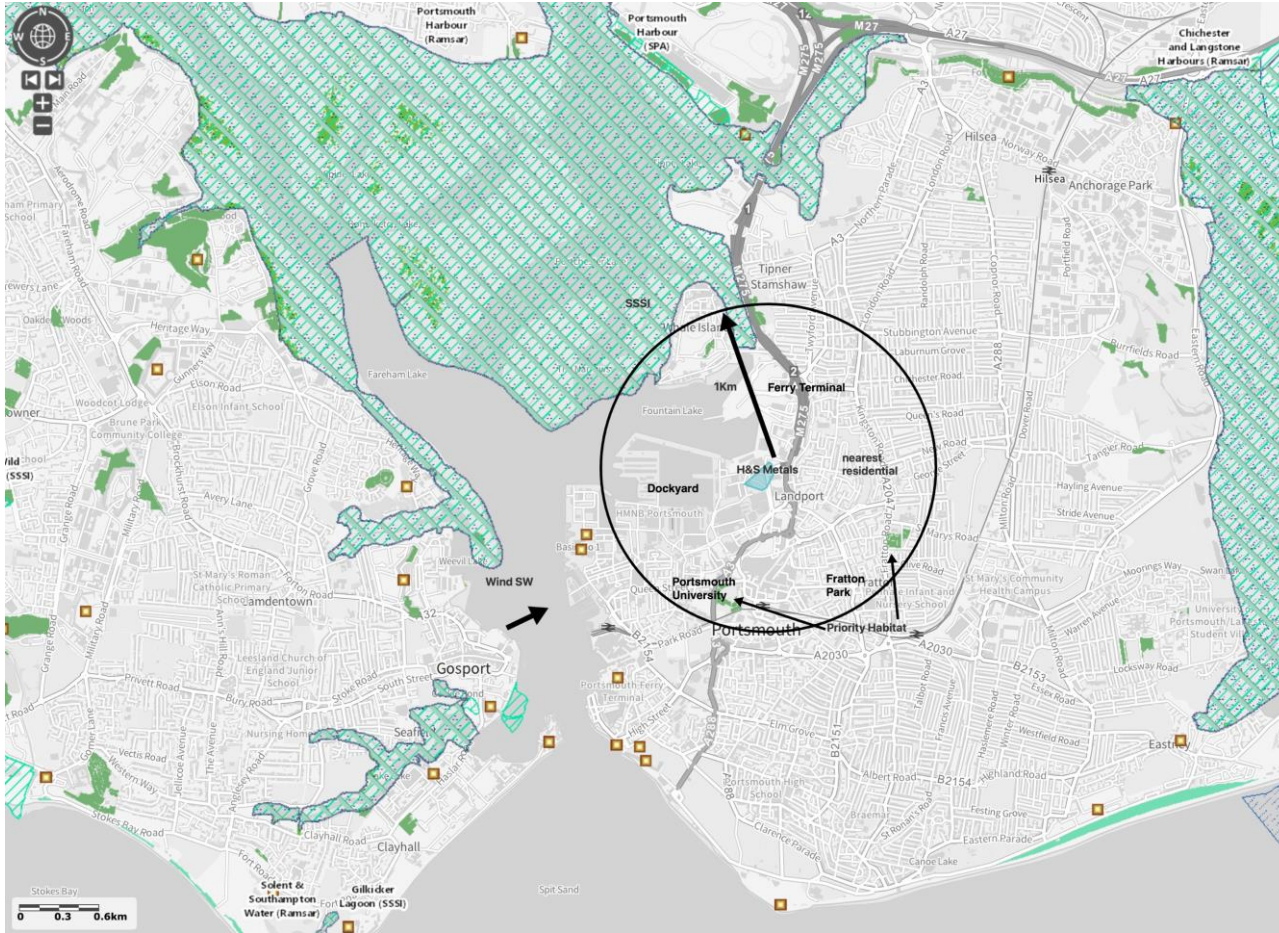
Scale: 1:500 | Area < 1Ha | Grid Reference: 464252,101358 | Paper Size: A4

7 Annex C: Fire Fighting Access, Equipment & Water Supply Plan



C1

8 Annex D: Key Receptors



Key Receptors

The receptors shown are within 1km of the site (black circle). Sensitive human receptors include areas containing residential properties & agriculture to the east.

The site is in on a commercial harbour industrial estate which has residential areas. To the E & SE it is surrounded by residential. There are designated local wildlife sites & SSSI within 1Km as shown.

Key infrastructure includes the M275 and A3 as well as Fratton railway station. Portsmouth harbour is some 300m W. The nearest Fire Response Service operation is Southsea Fire Station at 170 Somers Rd, Southsea, Portsmouth, Southsea PO5 4LU. Some 1Km SE.

Wind Direction

According to the UK Met Office, the prevailing wind direction in the area is South-Westerly³. This means the prevailing winds blow over the site to the north east, which is away from the bulk of the residential areas.

³ <http://www.metoffice.gov.uk/climate/uk/regional-climates/>

9 Annex E: Waste Acceptance Procedures

In order to identify non-compliant wastes including any hot loads, the following Waste Acceptance Procedure is implemented by Hughes and Salvidge Limited.

The site accepts potential POP's waste and as such tests and segregates this waste. All potential POP's waste (hazardous cables) are identified early on in the waste acceptance process and segregated from other waste streams.

Waste Acceptance

The procedure that shall be adopted at site is detailed below

1. Waste arrives on site.
2. Documentation is checked at the office at the entrance to the site. See annex A2.
3. All vehicles will have their contents examined during unloading and this shall be crosschecked with the documentation presented.
4. Staff will check that the type of waste is acceptable in terms of the waste permit. (POP's waste)
5. If the waste is unacceptable the waste shall be isolated and arrangements put in place for the contractor to remove the waste from site or for the waste to be segregated in the quarantine area until such times that it can be removed.
6. If the person who is checking in the load is suspicious of its contents the driver shall be directed to the waste inspection area near the reception office, where the load shall be sampled and inspected to ensure that it corresponds to the accompanying documentation. In any event compliance testing will be carried out at regular intervals.
7. Assuming the on-site verification at the office is satisfactory, the load is checked in and directed to the yard as appropriate. Here, the waste will be checked again to verify that the description is correct before tipping is allowed.

10 Annex F: Fire Risk Checks Form for Fire Prevention

The following regular check has been completed:

| Checks to be made |
|---|
| 1. Security – all security fencing and security equipment is intact (daily) |
| 2. Signs of Self Combustion – no smoke visible /potential hot spots identified (daily) |
| 3. Storage areas – housekeeping is suitable (daily) |
| 4. Storage areas – pile sizes within permitted limits (daily) |
| 5. Exhausts – exhausts are cool and located away from combustible materials(daily) |
| 6. Fire fighting water – all hose reels and hydrants are accessible(daily) |
| 7. Fire extinguishers – all fire extinguishers are in the correct place and intact(daily) |
| 8. Fire Quarantine area – clear from waste and signage intact(daily) |
| 9. Mobile plant parked remotely, secured and key out when site closed(daily) |
| 10. Waste turned when? – recorded on waste inventory in site office(monthly) |
| 11. Waste in (t) – recorded on waste inventory weekly in site office. Waste removed in date order |
| 12. Waste out (t) – recorded on waste inventory weekly in site office. Waste removed in date order. |

| Date | Morning check (initials) | Evening Check (Initials) | Issues to Report to Site Manager |
|------|--------------------------|--------------------------|----------------------------------|
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11 Annex G: Emergency Contacts

| Name & Address | | Telephone Number |
|--|---|--------------------------------|
| Environment Agency | General Enquiries: Incident Hotline Reporting: | 03708 506 506 0800 80 70 60 |
| Electricity Supplier & mains switch location | | |
| Gas supplier & shut off valve location | | |
| Water supplier & shut off valve location | | |
| Local Authority Emergency Services | | |
| Insurance Company and policy number | | |
| Nearest Hospital | | |
| Emergency Spillage Response company | | |

12 Annex H: EMS Documents

Drainage & Bund Checks

- A current site drainage plan will be drawn up and displayed in the office areas for information. The standard colour coding of blue for surface water drainage that discharge to the environment and red for sealed or foul drainage systems will be employed.
- The integrity of impermeable surfaces, gulleys and storage areas will be visually inspected by the operator on a monthly basis. To achieve this, it will be necessary to sweep/ wash clean the impermeable surface that form licensed area and clear any debris that has collected in drain gulleys to the front of the building. Where any defects are found, remedial steps will be taken promptly to maintain the integrity of the structure. If, however the integrity of the structure is breached a temporary repair will be made by the end of the working day and a full repair will be made within 10 days.

| Area | When Checked | Date | Comments |
|------------------|--------------|---------|----------|
| Storage bay | weekly | 20/6/23 | Clean |
| Hardstanding | 6 monthly | | |
| Yard | | | |
| Sump/interceptor | | | |
| | | | |

Site Vehicle and Machinery Maintenance.

- All site vehicles and machinery will be fitted with working exhaust silencing equipment.
- Staff will not continue to operate any piece of machinery or equipment that appears to be visibly or audibly failing.
- All vehicles and machinery operated within the site will undergo regular planned preventive maintenance/ servicing and inspections, at the frequency deemed appropriate by manufacturer or required by legislation. As a minimum, this will be a statutory annual inspection of lifting (LOLER) and work (PUWER) equipment. Maintenance/ Servicing and inspection records will be kept on site for reference.
- Where the necessary maintenance and repair skill do not exist within the company, a contract for these services will be in place, so that the repair of site vehicles and machinery will be undertaken promptly.
- If mobile plant maintenance/ repair will involve the removal/ loss of potentially polluting fluids from the vehicle, if possible, the vehicle should be moved to impermeable concrete area and worked on there, where any spills will land on an impermeable surface. All fluid leaks or drained oils will be collected in a container and removed.
- Where mobile plant must be repaired in the location that it breaks down, if this is on hard standing, drip trays and absorbent mats will be put in place under the vehicle before work begins, to capture any spills of potentially polluting substances and prevent contamination to the earth below.

Plant and Vehicles will be inspected and recorded below;

| Equipment | When checked | Date | Comments | signed |
|-------------------|------------------------------|------|----------|--------|
| Delivery vehicles | weekly | | | |
| FLT's | Manufacturer's Specification | | | |

Dealing with Spills

Scope: To detail how spills during normal and abnormal operations are dealt with to minimize impact on the environment

Responsibility: Site owner

Background: Spillage of oils and chemicals can have an impact on the soil and groundwater beneath the site.

The site carries quantities of absorbent granules and absorbent booms to mop up small quantities of hydrocarbon and other liquids if spilt. If used these are stored in a hazardous waste container until removed from the site by specialist contractor within a reasonable period of time.

- During normal operations, all staff have been made aware of the requirement to minimise fuel and liquid spills on site
- All staff have had appropriate training on how to deal with a fuel spill in the event of an incident occurring
- Absorbent is used to clean up the spill at source. If it is a larger spill and it is safe to do so then the source of the spill is curtailed if possible.
- The location of spill kits and absorbent material is identified on the site plan
- Where possible all spills are directed to the sealed drainage system for containment
- A store of general absorbent material will be kept on site in an easily accessible central location known to all site staff. The absorbent material will be hydrocarbon (fuel, oil etc.) absorbent, as this is the most likely material to be spilt on site.
- A boom will be kept on site. Management will know where the boom is stored on site and how it should be deployed so as to be effective. Booms length will be enough to cover the expanse of the entrance to the site.
- Where leakage from any storage container (only diesel storage on-site) on site is found, actions to remedy the leak will be taken. Any such leakage and remedial action will be recorded in the site diary.

In addition:

- The source of the leak or spill will be investigated, located and stopped.
- If any significant leaks or spills of substances occur, which have the potential to harm the environment or pose a risk to human health; the materials detailed under the section 'site provisions' will be utilized and disposed of appropriately.
- Any pooling leak or spill of a potentially polluting liquid will be soaked up with appropriate absorbent material, such as saw dust, sand or granules. The absorbent material will be cleared from the ground when it has soaked up all free polluting liquid.
- In the event of a significant and/ or on-going leak or spill of a potentially polluting liquid, clay damit mats or suction covers will be applied to drain grills to seal them to prevent (further) liquid from entering the drainage system.
- If any leaks or spills of substances occur, which have the potential to harm the environment or pose a risk to human health escape the site boundary, the management will inform the Environment Agency immediately. Any remedial action specified by the Environment Agency will be undertaken, a record of which will be made in the site diary.

Waste Acceptance, Storage and Inspection

To deal with the acceptance, storage & inspection of waste on-site.

Introduction

The company will introduce a system of storage on-site to minimise the potential for cross contamination and potential run off from wastes whilst stored on site.

Waste Types

Only the waste types and EWC codes named on the environmental permit will be accepted at the site. Wastes entering the site will be inspected and registered at the site. Non-compliant waste materials not allowed on the permit will be turned away from the site. A record will be made in the site diary. ELV waste is not accepted at this site.

Working Hours

Normal working hours will be 0800-1800 Monday - Saturday

Sunday – closed

Responsibility

The Manager (Matthew Foote) is responsible for identifying and highlighting non-conforming waste. The Environmental Manager is responsible for inspecting, documenting and safe removal of any non-conforming waste.

Waste Storage

Areas will be nominated on-site for depolluted vehicles. These will be labelled and identified on the site plan. The site plan will be updated on a regular basis provide a record of what type of waste and quantity is stored where.

Waste Acceptance

The procedure that shall be adopted at site is detailed below

1. Waste & arrives on site.
2. Documentation is checked at the office.
3. All vehicles will have their contents examined during unloading and this shall be crosschecked with the documentation presented.
4. Staff will check that the type of waste is acceptable in terms of the waste licence.
5. If the waste is unacceptable the waste shall be isolated and arrangements put in place for the contractor to remove the waste from site.
6. If the person who is checking in the load is suspicious of its contents the driver shall be directed to the waste inspection area close to the reception office, where the load shall be sampled and inspected to ensure that it corresponds to the accompanying documentation. In any event compliance testing will be carried out at regular intervals if required
7. Assuming the on-site verification at the office is satisfactory, the load is checked in and directed to the yard as appropriate. Here, the waste will be checked again to verify that the description is correct.

Waste Area Inspection

As part of the EMS waste areas are inspected routinely, deviations from normal operation conditions, result are logged and acted upon in the site log.

Records

Hughes and Salvidge Limited shall keep records of all waste loads rejected including;

- Date
- Name of Carrier
- Source of Waste
- Vehicle Registration
- Description of Waste
- EWC code
- Quantity of Waste
- Name of person carrying out inspection
- Destination of Load prior to rejection

13 ANNEX J Firebays



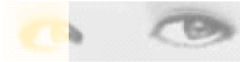
THE ENVIRONMENT, NOISE, BUILDING CONSULTANCY SERVICES, FIRE SAFETY, SPATIAL PLANNING,
POLICY CONSULTANCY SERVICES

20110645.R01b

Retaining walls with Legioblock concrete blocks

Fire resistance investigation (situations without a roof construction)

Date: 16 February 2012



1. INTRODUCTION

A. Jansen Beton BV supplies concrete blocks referred to as 'Legioblock'. The Legioblocks are stacked to produce fire-resisting retaining walls when storing combustible materials such as timber and tyres in the open air. Since legislation and regulations in the area of fire safety must be met, an investigation was performed. This report provides details of said investigation.



2. PRINCIPLES AND SCOPE

The investigation is based on the provided data and applicable standards, in particular:

- The standard: DIN EN 13501-1:2007 Klassifizierung von Bauprodukten und Bauarten zu ihrem Brandverhalten - Teil 1: Klassifizierung mit den Ergebnissen aus den Prüfungen zum Brandverhalten von Bauprodukten (Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests; + Blatt A1 2009; Sheet A1 2009);
- The standard: DIN EN 13501-2:2008 Klassifizierung von Bauprodukten und Bauarten zu ihrem Brandverhalten; Klassifizierung mit den Ergebnissen aus den Feuerwiderstandsprüfungen (Fire classification of construction products and building elements - Part 2: Classification using data from fire resistance tests, excluding ventilation services; + Blatt A1 Entwurf 2007; Sheet A1 Layout 2007);
- DIN EN 1363-1 Einheitstemperaturzeitkurve (Standard fire curve);
- Eurocode 2 Teil 1-2 (EN 1992-1-2) Bemessung und Konstruktion von Stahlbeton- und Spannbetontragwerken – Teil 1-2 Allgemeine Regeln – Tragwerksbemessung für den Brandfall (Design of concrete structures – Part 1-2: General rules – Structural fire design);
- Fire Recyclinghof Essen, 26 January 2011;
- Fire Kost Bochum, 16 July 2007.

The principles have been explained by the customer.

The most important objective with regard to the classification in storage sections separated by concrete retaining walls is to prevent fire propagation. This mainly applies to fire propagation towards the adjacent premises of third parties but also the adjacent storage sections and buildings on the organisation's own business site. In addition, health and environmental risks play a role as does the risk involved in fighting fire.

The concrete blocks are made of grade C25/30 concrete (no reinforcement) and their dimensions (length x width x height) are 1.6 m x 0.8 m x 0.8 m or 1.6 m x 0.8 m x 0.4 m with the related accessories. The concrete blocks are stacked on top of each other using studs and holes that fit together. The blocks have chamfered edges that measure 10 mm. The thickness of the retaining wall measures 0.8 m.

The concrete Legioblocks are incombustible and fall within the highest A1 class in accordance with the DIN EN 13501-1 standard.

The present investigation is related to the following application area:

- Combustible materials such as timber, rubber and PVC. No combustible materials with a specific energy higher than 35 MJ/kg. No liquid fuels or explosion hazardous materials.
- Retaining walls in the open air without a roof construction.
- Retaining walls up to a height of 6 metres.
- Retaining walls up to a height of 8.8 metres with combustible storage material up to 1.6 metres below the level of the retaining wall.
- Retaining walls higher than 6 metres where the vertical gap openings between the Legioblocks (insofar as they are wider than 5 mm) are sealed to be fire-resistant.
- No covering of the storage materials (this may contribute towards fire movement through the open seams of the retaining wall). No storage of large horizontal sheets (sheet width >1 metres).
- Vertical retaining walls on one, two, three or all sides of the storage material.



retaining wall has been further considered. The combustible flue gases can only penetrate to the other side of the retaining wall when the wind pressure on the retaining wall is higher than the thermal pressure. The thermal pressure will depend on the height of the seat of the fire + flames (chimney effect). The surrounding buildings and the storage material reduce the wind pressure on the retaining wall (when compared to the wind pressure in the open field with a wind pressure coefficient of 0.8). On balance, hot smoke can only reach the other side of the retaining wall under extreme theoretical conditions (a storm exactly perpendicular to the retaining wall or a narrow stack of material immediately against the retaining wall). Flames do not penetrate through the gap to the other side of the retaining wall.

3.3.3. Conclusion regarding seams/gaps

Flashover through the open gaps between the Legioblocks has been excluded sufficiently based on the above when considering the favourable factors specified below.

3.4. Other fire resistance aspects

The fire resistance of building structures is generally determined based on fire tests, for example, in accordance with the DIN EN 13501-2:2008 standard. The present storage situations are essentially more favourable than the standard situation:

- The lapse of time of the local thermal load of the retaining wall is less favourable than the 'standard' fire curve from these standards.
- The room exposed to fire has an overpressure during the fire test while the room exposed to fire has an underpressure in the open air as a result of thermally driven air movements.
- Cotton buds are used to assess the fire resistance (fire-tightness) during the fire test. These cotton buds combust shortly after being exposed to heat. The present materials combust less easily as a result of the higher heat capacity, specific mass and chemical composition.

The relevant literature mentions the release of oil when rubber burns. Should this be the case at all, it would involve a small quantity. Oil and fire-extinguishing water can seep through to the other side of the retaining wall. The oil will be cooled down and there is no source of ignition so that flashover cannot occur.

The structural stability of the retaining wall is important. The structure of the retaining walls is generally dimensioned based on the worst case scenario where storage material is present on one side with a large safety margin. The load combination during a fire (and possibly a strong wind) does not form a factor of any significance. The retaining wall will, therefore, not collapse should there be a fire.

The favourable behaviour during a fire has been confirmed based on fires that have occurred during the past years.



4. **CONCLUSION REGARDING FIRE RESISTANCE**

Insight has been obtained into the fire-resisting properties of Legioblock concrete retaining walls as partitions for the storage of combustible materials in the open air based on the investigation. It can be concluded based on the investigation that the retaining walls have fire-resisting properties at the level of the REI 120 classification. This applies under the application conditions described in Section 2.

Schoonderbeek en Partners **Advies** BV

Ing. C.A.E. Rijk