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Fire Prevention and Mitigation Plan

Pengarnddu Industrial Estate Transfer Station

Hampshire Demolition and Recycling Limited

Report No. CRM.0127.001.PE.R.008

'Experience and expertise working in union'

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Fire Prevention and Mitigation Plan – V5

Project:	Pengarnddu Industrial Estate Transfer Station
For:	Hampshire Demolition and Recycling Limited
Status:	FINAL
Date:	December 2020
Author:	Robert Chamberlain, Senior Consultant
Reviewer:	Steph Charnuad, Director of Permitting

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1.0 Introduction

1.1 Overview

1.1.1 This Fire Prevention and Mitigation Plan (FPMP) has been prepared to support an Environmental Permit application referenced PAN 010159 for the proposed waste transfer and treatment facility at Unit 2, Pengarnddu Industrial Estate, Pengarnddu, Merthyr Tydfil (the "Facility") for the removal of existing wastes off site. The operator of the Facility will be Hampshire Demolition and Recycling Limited, hereby referred to as "the Operator."

1.1.2 Natural Resources Wales (NRW) Guidance Note 16: Fire Prevention and Mitigation Plan Guidance – Waste Management (Version 2, published August 2017) describes the waste activities for which fire risk is a key issue and for which an FPMP is required. The guidance applies to all facilities which store combustible materials and as such the proposed facility is subject to these requirements, even though the identified risk materials are already on site.

1.1.3 The contents of this FPMP describe the main potential sources of fire at the facility, the mitigation measures to be used to reduce the risk of fire, the actions to be undertaken in the event of a fire and monitoring and reporting methods. Once approved by NRW, the FPMP will be transposed into the Operator's Environmental Management System (EMS) and will be updated and reviewed in accordance with the EMS. In addition, the EMS and FPMP will be reviewed and updated following a fire incident, with the aim of transposing any lessons learnt from the fire into process improvements at the site.

1.1.4 This FPMP is intended to be used as a stand-alone working document for operational staff on a day to day basis. Copies will be held on-site and will be readily accessible by all site operatives including in the event of a fire. All on-site personnel and contractors will be briefed on its contents.

1.2 Aim and Objectives of this Fire Prevention and Mitigation Plan

1.2.1 This FPMP has been developed based on the requirements of NRW Guidance Note 16 which outlines the standards and procedures which should be followed when storing combustible materials at permitted sites. Pre-application discussions were held with Catriona Harvey at NRW to determine the scope of this document.

1.2.2 The aim of this FPMP is to provide details on the sources of combustible materials on the site and their storage, identify possible causes of fires, minimise the risk of a fire occurring and in the event of a fire occurring, ensure that it is identified and extinguished as early and as quickly as possible.

1.3 Relevant Guidance and Documentation

1.3.1 This Fire Prevention and Mitigation Plan has been prepared with reference to the following key guidance:

- Natural Resources Wales Guidance Note 16: Fire Prevention and Mitigation Plan Guidance – Waste Management (Version 2, published August 2017);
- Natural Resources Wales Guidance – How to comply with your environmental permit, Version 8, October 2014;F
- Natural Resources Wales Guidance – General Version for waste handling industry: Environmental Management Toolkit, Version 2, October 2014;

- WISH Guidance: Waste 28 - Reducing fire risk at waste management sites, issue 2, April 2017; and
- CIRIA 736 Guidance: Containment Systems for the Prevention of Pollution, 2014.

2.0 Site Description

2.1 Site Location

2.1.1 The full site address of the facility is:

Pengarnddu Industrial Estate Transfer Station
Unit 2 Pengarnddu Industrial Estate
Pengarnddu
Merthyr Tydfil
Wales
CF48 2TA

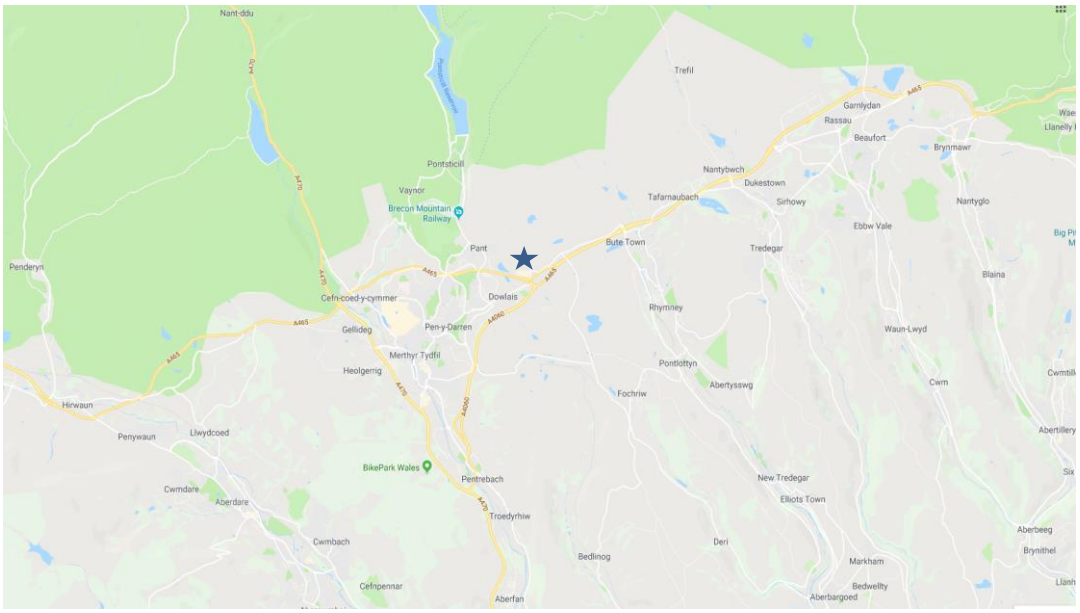


Image from Google Maps © 2019
The site location is shown as a blue star

Figure 2.1.1: Site Location

2.1.2 The National Grid reference for the site is **SO 07780 08940.** The location of the site is illustrated on the drawing referenced CRM.0127.001.PE.D.001 found in Appendix B of this document. The site covers an area of approximately 2 hectares.

2.2 Site Description

2.2.1 The site is located at the former Merthyr Industrial Services (MIS) site at Pengarnddu, Merthyr Tydfil. The site was abandoned by the previous operator, leaving a large quantity of waste in-situ across the site. The waste has been on site since at least 2014, and the primary purpose of the Permit is to ultimately remove this waste from site.

2.2.2 The site layout at present and the location of waste materials on the site can be seen on the drawing referenced CRM.0127.001.PE.D.002 in Appendix B.

2.2.3 The drawing referenced CRM.0127.001.PE.D.004 FPMP Site Layout Plan illustrates the proposed layout during operations and includes:

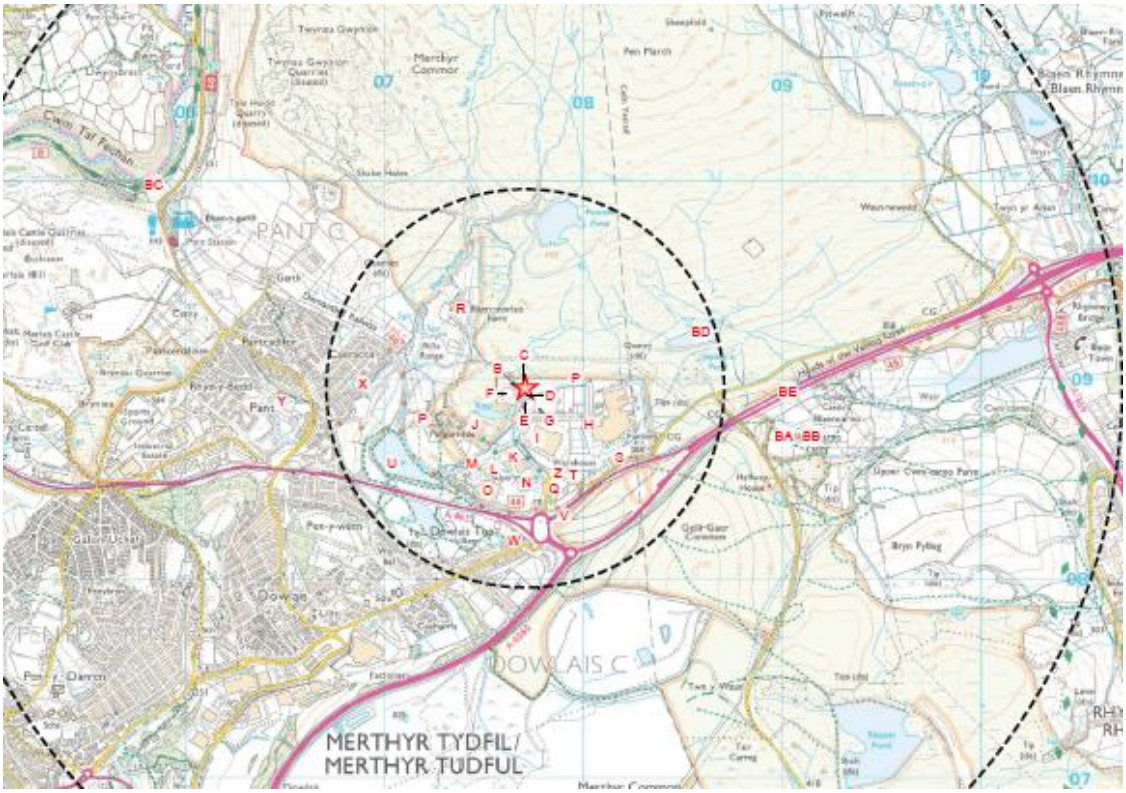
- Waste processing areas;

- Drainage and pollution prevention features;
- Location of plant and equipment;
- Proposed storage areas for processed combustible materials;
- Access and emergency exit;
- Location of water supplies and fire extinguishers; and
- Electricity and gas supply points and shut-off valves.

2.3 Sensitive Receptors

2.3.1 Sensitive receptors in the vicinity of the site are illustrated on the Sensitive Receptor Plan referenced CRM.0127.001.PE.D.003 in Appendix B. Identified receptors are presented in Table 2.3.1 and Figure 2.3.1 below. The nearest residential receptor is located approximately 192m to the west of the site on an unnamed road.

Figure 2.3.1: Extract from Sensitive Receptor Plan



The site is shown as a red star
The circles denote 1km and 3km buffer zones around the site

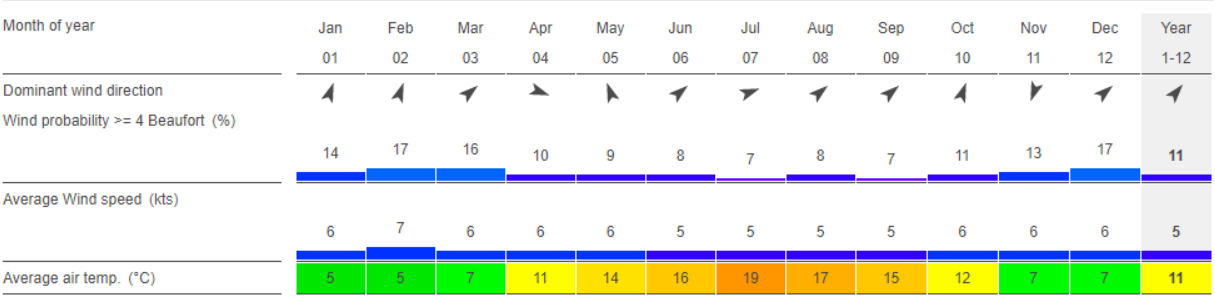
Table 2.3.1: Sensitive Receptors

Receptor	Type	Distance and Direction (m)
Unnamed drainage ditch	Ecological	0m north, south and west
Merthyr Reclamation	Business	0m south
Merthyr Salvage and Recycling	Business	15m east
Reservoir (covered)	Ecological	16m west
Abba	Business	18m south
Reservoir (open)	Ecological	80m west

Receptor	Type	Distance and Direction (m)
St Merryn	Business	105m east south east
New Tredegar Skip Hire	Business	150m south west
Residential houses	Residential	192m west
B&M Home Store	Business	243m south
Carpet Right	Business	277m south
Poundstretcher	Business	285m south
Houses on an unnamed road	Residential	300m south west
Trade Price Sofas	Business	339m south west
ASDA	Business	400m south
Comfort Zone Merthyr	Business	420m south
Electricity sub station	Utility	428m west
Lidl	Business	430m south east
Reclaimed Stone	Business	434m north west
Heads of the Valleys Salvage	Business	434m south east
CEMEX Merthyr Tydfil Concrete Plant	Business	437m south south east
Jepson's Pond	Ecological	444m north west
Valleys Filling Station	Business	607m south south east
Closest house at Dowlais Top	Residential	626m south
Closest house at Pant	Residential	714m west
Pantysgallog Primary School	Educational	1009m west
Trecatti Landfill Site	Business	1000m south south east
Blean Carno Farm	Residential/Business	1006m East south east
Nant Carno	Ecological	1012 East
Cwm Taf Fechan Woodlands (SSSI)	Ecological	2125m North West

2.3.2 The prevailing wind at the site is from the south-west, based on regular observations at Ebbw Vale/Rassau monitoring station between April 2013 and June 2019, as summarised on www.windfinder.com[1]. Wind statistics from the monitoring station above are presented in Figures 2.3.1 and 2.3.2 below.

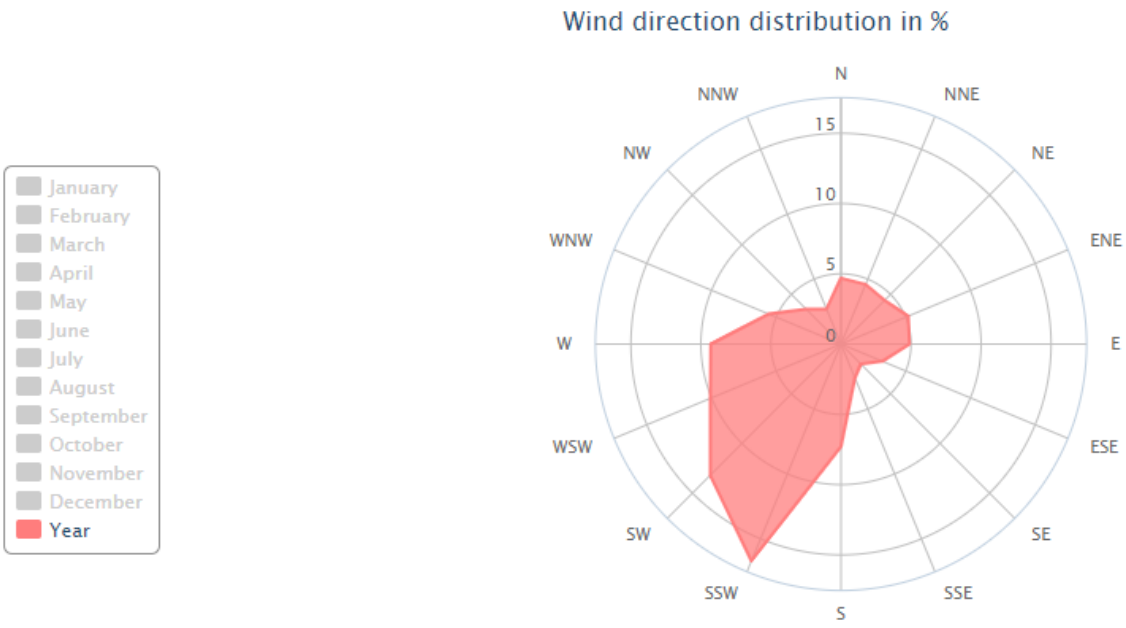
Figure 2.3.1: Ebbw Vale / Rassau Weather Station Wind Statistics



[1] https://www.windfinder.com/windstatistics/ebbw_vale_rassau

2.3.3 A flagpole will be positioned on the western boundary of the site to clearly identify local wind conditions to site operatives.

Figure 2.3.2: Ebbw Vale / Rassau Weather Station Wind Rose

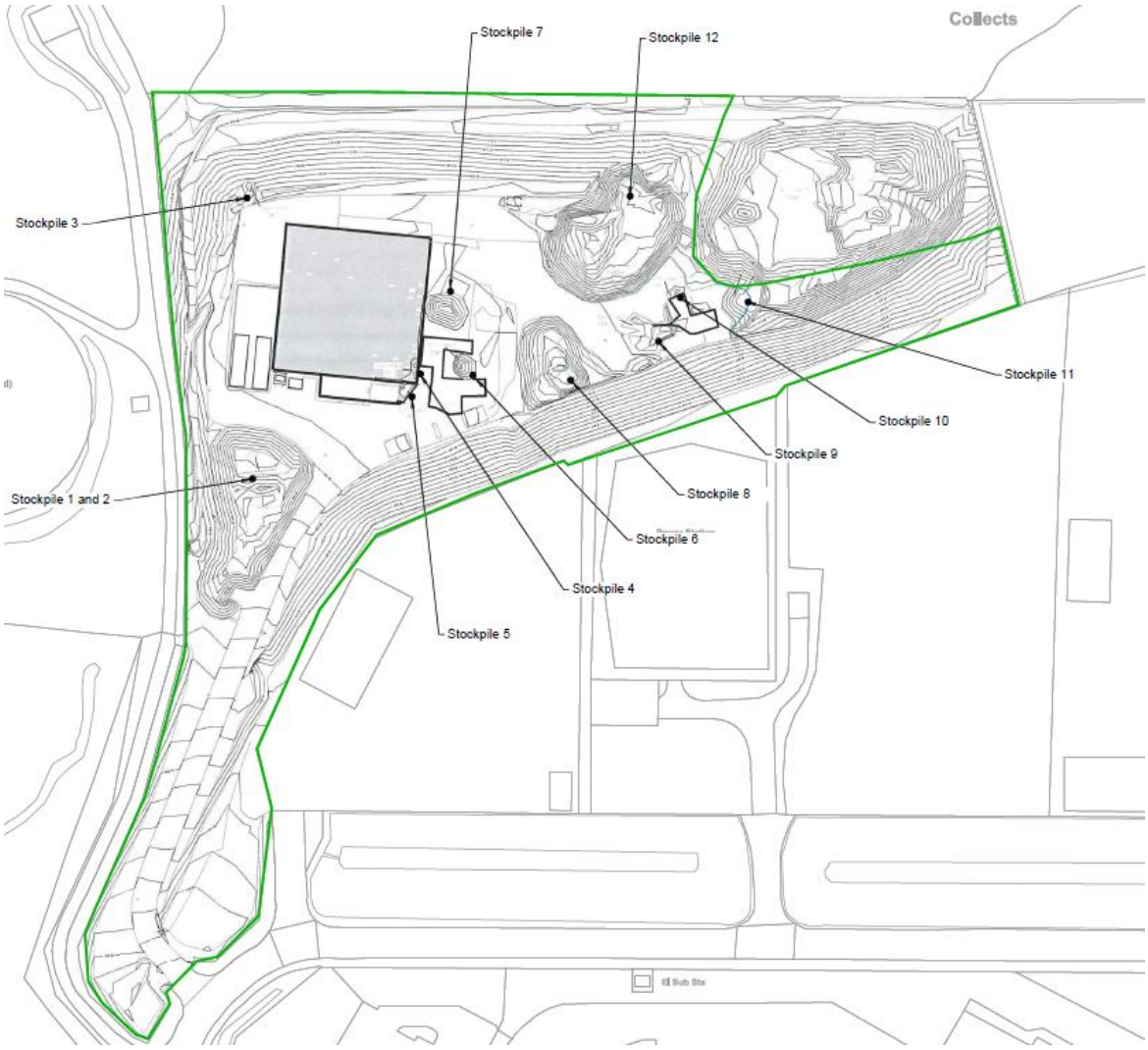


3.0 Facility Operations

3.1 Introduction

3.1.1 Figure 3.1.1 below shows the location of the waste piles on the site at present.

Figure 3.1.1: Site Layout



3.1.2 The piles will be processed in accordance with the techniques set out in the Operating Techniques and Monitoring Plan referenced CRM.0127.001.PE.R.006. A staged approach to processing will enable additional operational space to be created on the impermeable hardstanding on the site, which is served by the drainage system in place.

3.1.3 The proposed storage areas for processed combustible materials and the designated quarantine area can be seen on the FPMP Layout Plan CRM 0127 001 PE D 004.

3.1.4 Plans covering the entire site area have been included within Appendix B of this FPMP and illustrate its scope. The plans will be displayed in operational areas and offices on site and will be contained within an 'emergency information pack' at the entrance to the site - to inform the emergency services attending the site in the event of a fire occurring.

3.1.5 The Local Fire and Rescue Service have been consulted during the preparation of this FPMP and will receive a copy following approval by Natural Resources Wales prior to the Facility becoming operational.

3.2 Overview of Activities

3.2.1 This Permit Application is to permit the treatment and removal of waste, plant and equipment currently present on the site. MIS left 13 piles of waste materials. The Proposed Permit Boundary will cover 11 no. of the material stockpiles (Stockpile 5 has been removed) and the operational areas where waste treatment processes will be undertaken. The only waste the Operator intends on importing into the site is the waste present in the material stockpile referred to as 'Stockpile 13' which is located adjacent to the site.

3.2.2 The procedures for waste processing activities on site are described in detail in the document referenced CRM.0127.001.PE.R.006. A staged approach to the processing of material will allow additional space to be created on the hardstanding on site served by the drainage system. Material will undergo the following stages of treatment before being stored prior to being exported off site:

1. Disused plant and equipment located by the building will be removed from the site to establish a waste processing area on the hardstanding at the site. Stockpile 3 will then be removed from the drainage ditch on the northern boundary. Inert, non-combustible material such as boulders and concrete will be stored on the eastern part of the site. Combustible oversize items such as tyres and UPVC windows and doors will be stored separately within 7.8m^3 metal containers/skips on the north-western part of the site.

2. The Operator will utilise a 'first in first' out approach to manage storage times for material in the metal skips (in accordance with the maximum durations in Table 3.3.2 below), recorded on a simple record sheet attached to the skips. When full skips are removed from the site they will be immediately replaced with empty ones, placed within the demarcated lines on ground to maintain a 2m separation distance between each container.

3. Once an operational waste processing area and quarantine area has been established, and drainage infrastructure has been checked, timber from Stockpile 1 and 2 will be transferred for processing. This will create space for the smaller of the two processed timber storage areas to the south of the building to be established, ensuring suitable separation distances are maintained at all times.

4. Material for processing will be loaded through a 3-way screener to segregate it into regular, oversized and fine material. The resultant stockpiles will be loaded onto a conveyor and hand picking will remove any non-timber waste material. Combustible materials such as plastics and metals will be segregated, graded and stored in metal skips prior to removal off-site. Batteries will be stored in a locked and sealed container.

5. Timber fines will be tested to determine their suitability for composting and where unsuitable will be temporarily placed in the quarantine area before being removed off site for disposal. Uncontaminated fines will be stored in metals skips within the smaller processed timber storage area, or in piles in this area, depending on the quantity being

processed in any given period. In any case, piles sizes will not exceed the maximum shown on the FPMP Site Layout and separation distances for the largest pile will be maintained at all times, as per the FPMP layout. Once sufficient material has been removed from Stockpiles 1 and 2 then the second processed timber storage area will be established on site, ensuring the separation distances around it are maintained as per the FPMP layout.

6. A record sheet will be maintained by the site supervisor for each of the two waste timber storage areas, including the date and time that the first material went into temporary storage. Whilst these storage areas are likely to be filled quickly, and material exported from the site far in advance of the maximum duration in Table 3.3.2 below, in any case the maximum duration of weeks (from the date the first material was stored) shall not be exceeded.

7. Unprocessed timber will be shredded before being placed in metal skips and/or piles in one of the two the designated timber storage areas (on concrete hardstanding) prior to removal off site. Material will be left to cool in the waste processing area before being stored. As above, records relating to material storage durations will be maintained. All processed timber will be stored in metal skips or piles in one of the two the designated timber storage areas (on concrete hardstanding) prior to being exported off-site. As above, records relating to material storage durations will be maintained.

8. Non-combustible inert material will be crushed on-site to produce a graded aggregate which will be stockpiled on the eastern site area in preparation for re-use off-site.

3.2.3 The location of plant and equipment used for processing materials and the storage locations of processed material is shown on the site plan referenced CRM.0127.001.PE.D.004 in Appendix B.

3.3 Combustible Material Storage

3.3.1 Table 3.3.1 below details the approximate types, quantities, and pile sizes of waste material currently present on the site.

3.3.2 The piles are shown on the drawing referenced CRM.0127.001.PE.D.002 in Appendix B.

Table 3.3.1: Waste Material Present on Site

Pile Number	Waste Types	Storage Location and Details	Approx. Storage (tonnes)
1	Oversize Timber	Located on concrete hardstanding in front of the existing building on site (northern end)	223
2	Chipped Screened Timber	Located on concrete hardstanding in front of the existing building on site (southern end)	50.7
3	Rubble and General Waste	Located on concrete hardstanding in front of the existing building on site (southern end)	25
4	Timber	Located within the site building	0.7
5	Domestic Waste	HAS NOW BEEN REMOVED	N/A
6	Unprocessed Timber	Located on concrete hardstanding	4.8
7	Chipped Timber	Located adjacent to the eastern side of the building on concrete hardstanding	52
8	Mixed Municipal Waste	Located to the south-east of stockpile 6 on concrete hardstanding	402

Pile Number	Waste Types	Storage Location and Details	Approx. Storage (tonnes)
9	Mixed Municipal Waste	Located around decommissioned plant and equipment on unmade ground	55
10	Mixed Municipal Waste	Located around decommissioned plant and equipment on unmade ground	0.8
11	Mixed Municipal Waste	3m high stockpiles of mixed materials to the east of the site. Stored on unmade ground	34
12	Mixed Municipal Waste	Located to the east of the quarantine area on unmade ground	1222

3.3.3 As the stockpiles are processed, material will be segregated and stored prior to export off-site. The proposed storage locations and approximate quantities of processed combustible materials are detailed in Table 3.3.2 below.

Table 3.3.2: Combustible Waste Types, Storage Locations and Quantities once Processed

Waste Types	Storage Location	Approx. Storage Capacity (tonnes)	Storage Duration (max)
Oversize combustible items (UPVC windows and doors, carpets and other material)	Metal skips located on hardstanding with dedicated drainage on NW of site	3.3 tonnes per 7.8m^3 skip	4 weeks
Plastics	Metal skips located on hardstanding with dedicated drainage on NW of site	2.8 tonnes per 7.8m^3 skip	4 weeks
Metals	Metal skips located on hardstanding with dedicated drainage on NW of site	6.7 tonnes per 7.8m^3 skip	4 weeks
Tyres and Rubber	Metal skips located on hardstanding with dedicated drainage on NW of site	3.7 tonnes per 7.8m^3 skip	4 weeks
WEEE	Metal skips located on hardstanding with dedicated drainage on NW of site	6 tonnes per 7.8m^3 skip	4 weeks
Timber fines	Metal skips located on hardstanding with dedicated drainage on NW of site	3 tonnes per 7.8m^3 skip	4 weeks
Other fines	Metal skips located on hardstanding with dedicated drainage on NW of site	3 tonnes per 7.8m^3 skip	4 weeks
Processed timber, including fines, unprocessed and oversized	In 12.6 m^3 metal skips or in piles, on hardstanding with dedicated drainage in the 2 no. dedicated storage areas on SW part of the site	**Wood storage area 1:** Max pile size = 13m(l) x 8m(w) x 3m(h) = 312m^3 Or 4.3 tonnes per 12.6m^3 skip	4 weeks
		Wood storage area 2: Max pile size = 10m(l) x 5m(w) x 3m(h) = 150m^3 Or 4.3 tonnes per 12.6m^3 skip	4 weeks

3.3.4 Table 3.3.3 below states the maximum pile sizes of processed combustible materials stored on site. In practice, piles sizes are unlikely to reach the sizes outlined below and can be seen on the scale drawing referenced.

Table 3.3.3: Maximum Pile Sizes of Combustible Materials Stored on Site

Waste Types	Max Height (m)	Max Length/Width (m)	Max Vol (m^3)
Oversize Items (UPVC Windows and Doors, Carpets and Material)	2	-	8
Plastics	2	-	8
Metals	2	-	8
Tyres and Rubber	2	-	8
WEEE	2	-	8
Timber	3	15 / 5	225
Timber	3	13 / 8	312

3.4 Quarantine Area

3.4.1 A quarantine area has been designated within the site layout and can be seen on the drawing referenced CRM.0127.001.PE.D.004 in Appendix B. The dimensions of the quarantine area are 15m by 10m. This equates to a maximum containment of 300m^3 of material at a height of 2m.

3.4.2 As such, it is suitably sized to contain 50% of the largest waste pile on site. The quarantine area will be kept clear at all times and a 6m buffer zone will be maintained to combustible waste storage areas, the site perimeter, buildings, vehicles, plant and equipment, shown on the site layout plan.

3.4.3 Following partial clearance of piles 1 and 2 from the south of the building, an additional quarantine area may be designated in this area. This will allow the Operator to process and store materials to the east of the building. This document will be updated to reflect any changes to the site layout and NRW will be notified through the appropriate channels.

3.4.4 A tracked 360^o material handler will be available on site for moving material in and out of the quarantine area, and a trained operator will always be present to move material in the event of a fire. The material handler has a fully enclosed cab and all external components are resistant to flaming and radiative heat. Training exercises relating to the use of the quarantine area, including moving material and metal skips in and out of the quarantine area as quickly as possible, will be undertaken prior to the commencement of processing activities. Training will be undertaken and documented with all new site operatives or where any significant change to operations on site occur.

3.4.5 The quarantine area and surrounds comprise impermeable hardstanding. The direction of surface water flow is shown on the site plan, along with the interceptor and discharge point from the site, labelled SW1. The drainage system can be closed off and firewater booms are located on site to direct flow if required. Further details on firewater containment are provided in section 4.3.

3.4.6 Firefighting techniques and procedures in place in relation to the quarantine area are detailed in Table 4.5.1.

4.0 Management of Fire Risk

4.1 General Measures to Minimise Fire Risk

4.1.1 Table 4.1.1 below details general measures implemented by the Operator to minimise fire risk at the site. Unless otherwise stated, the measures below relate to the entire Permitted Site.

Table 4.1.1: Measures for the Prevention of Fire

FPP Required Standards	Mitigation Measures Employed	Meets FPMP Guidance?
Prevent self-combustion	Storage times and piles sizes for all processed material is minimized and all material storage areas are to be managed on a first-in first-out basis. Monitoring procedures for all material on site is included within Table 4.1.2 below - Measures for the Detection of Fire	Yes
Tramp Metal	Metal is handpicked by site operatives from the conveyer as material is screened, prior to any further processing. Site operatives are trained to watch out for signs of 'hot spots' (such as steam or smoke) on machinery whilst it is operational. Fire extinguishers are on hand in the processing area to extinguish smaller fires immediately.	
Control sources of ignition such as heating pipes, naked flames, light bulbs, space heaters, furnaces and incinerators	Industrial space heaters are not used at the Facility. No waste materials will be burnt on the site. All electrically operated equipment which may present an ignition source is located at least 6m from combustible waste storage areas. No processing activities or waste storage will take place within the building on site. The designated smoking area is located to the south of the site building, shown on the FPMP layout. Clear 'No Smoking' signs are located across the rest of the site.	Yes
Reinforce fire prevention messages using signs	Visitors will be informed of the correct safety and fire prevention procedures when arriving on site. Information will be provided and displayed at the signing in point and by appropriate signage across the site.	Yes
Ensure staff and contractors follow safe working practices when undertaking hot working, such as welding and cutting	No hot works will be undertaken within 6m of combustible waste storage areas. If maintenance visits require hot works to take place, the site manager will schedule these and make an assessment of the fire risk before they take place. If necessary, operations will be temporarily ceased. A fire watch will be undertaken by a suitably trained site operative in any areas where hot works occur, for at least 2 hours after.	Yes
Ensure all visitors follow the correct safety and fire prevention procedures	Visitors will be informed of the correct safety and fire prevention procedures when arriving on site. Information will be provided and displayed at the signing in point and by appropriate signage across the site.	Yes
Apply a no smoking policy or ensure designated smoking areas are situated away from combustible materials	The designated smoking area is located to the south of the site building, shown on the FPMP layout. Clear 'No Smoking' signs are located across the rest of the site.	Yes
Introduce a regular maintenance and inspection programme for all site areas (including plant and equipment) and minimise fibre	A daily inspection programme of the site is incorporated into the site's Environmental Management System and all staff are trained to be observant for potential fire hazards. Inspections are recorded in the site diary and issues are reported directly to	Yes

FPP Required Standards	Mitigation Measures Employed	Meets FPMP Guidance?
and paper in buildings and around the site	the site manager or supervisor to be remediated as soon as possible. All static and mobile plant and machinery is inspected daily and maintained in accordance with the maintenance schedules in Appendix F. There is no waste stored within buildings	
Put site security measures in place (e.g. security fencing, intruder alarms and CCTV) to prevent arson (your arrangements should include outside normal working hours)	Site security measures are in place to prevent unauthorised access to the site. These include security fencing of the entire perimeter of the site, CCTV and 24/7 site security staff.	Yes
Have all site vehicles been fitted with fire extinguishers?	All site vehicles are fitted with fire extinguishers.	Yes
Implement a fire-watch at the end of each shift (when dust from processing operations can settle onto hot exhausts and engine parts)	A fire-watch will be achieved through the inspection of waste processing and all waste storage areas (including existing stockpiles) three times daily: Mid-morning, mid-afternoon and following the end of daily operations. Inspections of the waste processing area will be undertaken in line with written procedures and any concerns will be logged in the site diary.	Yes
Make sure separation distances are observed between plant and material when the site is not staffed	Separation distances are always maintained between combustible waste storage areas and plant/machinery laydown areas. The location of site vehicle parking is shown on the FPMP layout. Before the site is vacated at the end of the day a check will be carried out to ensure separation distances are maintained and vehicles and/or plant is stored/parked in the correct place. A site plan will be displayed on site for site operatives to follow when parking vehicles and/or plant at the end of each shift.	Yes
Provide a dedicated emergency or quarantine area big enough to cope with a major incident, with a clear area of at least 6m around the perimeter (this must be available at all times and identified on your site plan)	The dedicated quarantine area is illustrated on the site plans in Appendix B. The quarantine area will be kept clear and a 6m buffer zone will be maintained to combustible material storage, the site perimeter, buildings and any laydown areas for vehicles, plant or equipment. Any material temporarily quarantined will be removed as soon as possible (within 72 hours in a worst-case scenario). The quarantine area is 150m^2, equating to 300m^3 at a maximum height of 2m. This is suitably sized to contain 50% of the volume of the largest waste pile on site.	Yes
Documented waste acceptance procedure to identify incompatible wastes/ hot loads	Waste acceptance procedures have been developed for the site which are detailed in the document referenced CRM.0127.001.PE.R.006. Temperature monitoring procedures are in place to identify hotspots in existing waste stockpiles before and during their relocation to the processing areas.	Yes
Mitigate and reduce risk from hot exhausts	Staff are trained to watch out for signs of smouldering and smoke from vehicle and machinery exhausts at all times. The area around vehicle exhausts will be checked at the end of each shift. General housekeeping measures, including regular sweeping of the site and the cleaning and plant and machinery, will prevent the build-up of dust and fluff.	Yes

FPP Required Standards	Mitigation Measures Employed	Meets FPMP Guidance?
Building electrics fully certified by a qualified electrician and documented maintenance schedule in place	Where plant and machinery are electrically powered, safety checks will be incorporated into the machine specific inspection and maintenance program and recorded. Maintenance and inspection schedules for all plant and machinery on site are included in Appendix F.	Yes
Gas containers/flammable items in an isolated location	Flammable materials left on site by the previous site operator will be removed for off-site disposal. If gas cylinders are inadvertently found in the waste stockpiles at the site they will be removed by hand immediately and stored temporarily in the quarantine area prior to removal off site. Any portable oxygen and propane cylinders used for hot works are only removed from secure storage when being used and are otherwise locked in storage. The location of this storage is shown on the site layout.	Yes
Routinely turn waste piles	The material stockpiles already present on the site have been on site for some years. They will not be turned as such as the introduction of oxygen may increase the risk of combustion and potential odour/dust release. A staged approach has been proposed for the treatment and removal of material stockpiles on the site. Stored material will be managed in a first in first out manner for all waste storage areas, with residence times minimised as far as possible. Temperature monitoring and stock rotation forms can be seen in Appendix D and E. Procedures are detailed within Table 4.1.2.	Yes
Manage leaks and spillages of oils and fuels	Checks for leaking liquids and oils from all plant, machinery and vehicles on site form part of the inspection program undertaken, and any leaks will be addressed immediately. The site area will be kept as clear and clean as possible at all times, allowing for spills on the impermeable concrete area to be identified quickly and remediated. Spill kits are in place within the waste processing area and operatives are trained in their use. The location of spill kits is shown on the site plan in Appendix B	Yes
Prevention of fire within buildings outside operational hours	No combustible wastes will be stored within the building on site at any time. This building only contains decommissioned plant and equipment and as such the risk of fire within the building is considered low.	Yes
Batteries within waste deposits	There is the potential for batteries to be present within material deposits at the site which may present an ignition source if inadvertently put through waste treatment processes, such as screening or shredding. Site operatives are trained to look for larger batteries in waste deposits when material is removed from stockpiles for processing. Material will then be loaded onto a three-way screener before it is passed onto a conveyor for hand picking, where any remaining batteries will be removed by hand and stored in a sealed box within the site office for off-site disposal.	

4.1.2 Table 4.1.2 below describes the measures in place to detect a fire at the site.

Table 4.1.2: Measures for the Detection of Fire

FPP Required Standards	Mitigation Measures Employed	Meets FPP Guidance?
You must carry out regular inspections, including at the start and end of every working day	All combustible waste storage areas and the wider site will be inspected three times daily, at the start and end of every day and at mid-day. Staff are trained to look for smoke, steam, combustible items such as litter, built up dust, fluff, oil and grease. Checks will be undertaken more frequently on hot days, supplemented by additional monitoring when ambient temperatures are above 26^{o}C. The site operative carrying out the inspection will be looking to ensure there are no signs of material stockpiles self-heating and will carry the infra-red thermal probe to take readings.	Yes
Consider fitting automatic detection systems such as smoke and heat detectors including temperature probes	No waste is proposed to be stored inside any building on site and as such fitting automatic detection systems is not considered necessary.	Yes
Monitor and control sub-surface temperature and moisture content with a thermal probe or other device and ensure that this is capable of reaching all parts of a pile Detect and control hotspots within piles	Storage times and sizes of stockpiles of processed combustible material have been minimised to reduce the risk of self-combustion. Stock rotation policies are in place for all material storage areas and fire prevention measures are in place to reduce the likelihood an ignition source will be introduced at the site. Site operatives are trained to identify signs of self-heating, such as steam or smoke, and visual inspections of the **entire site** form part of the three times daily checks. All existing and processed material stockpiles will be monitored regularly to ensure that temperature increases and changes in moisture content are minimised. All procedures are overseen by the TCM for the site and temperature monitoring forms can be seen in Appendix D. Monitoring procedures are as follows: <u>Processed material storage areas</u> When the ambient air temperature at the site is above 26^{o}C (as recorded by the thermometer on the side of the building on site) monitoring of all combustible material storage areas will be undertaken hourly by site operatives and recorded on the record sheet. Any exceedance of 10^{o}C above ambient air temperature will trigger action in the form of dampening down with water from on-site hoses. Repeat monitoring will be undertaken until this level comes down to within 5^{o}C of ambient air temperature. <u>Existing stockpiles</u> Existing stockpiles will not be turned as the introduction of oxygen will increase the risk of self-combustion. Prior to using plant and machinery to remove material from waste stockpiles, monitoring with a handheld probe will be undertaken to identify hot spots in the area to be moved. Existing stockpiles will be moved in a phased manner, with one operative on the excavator and another taking regular reading of temperatures. Any exceedance of 10^{o}C above ambient air temperature will trigger action in the form of dampening down with water from on-site hoses. Repeat monitoring will be undertaken until this level comes down to within 5^{o}C of ambient air temperature.	Yes

FPP Required Standards	Mitigation Measures Employed	Meets FPP Guidance?
	If ambient temperatures are forecast to be over 35°C then existing stockpiles of fines will be sheeted to protect them from being heated by the sun.	

4.2 Storage of Waste to Minimise Fire Risk

4.2.1 Table 4.2.1 below describes the containment (if any) of all processed combustible material storage.

Table 4.2.1: Details of the Storage of Combustible Materials

Combustible Material	Type of Containment
Oversize Items (UPVC Windows and Doors, Carpets and Material)	Open topped steel skips with sealed bases, on hardstanding with dedicated drainage. Separation distances are maintained as per the site plan. A 360° tracked material handler is on site to move the skips in the event of a fire.
Plastics	Open topped steel skips with sealed bases, on hardstanding with dedicated drainage. Separation distances are maintained as per the site plan. A 360° tracked material handler is on site to move the skips in the event of a fire.
Metals	Open topped steel skips with sealed bases, on hardstanding with dedicated drainage. Separation distances are maintained as per the site plan. A 360° tracked material handler is on site to move the skips in the event of a fire.
Tyres and Rubber	Open topped steel skips with sealed bases, on hardstanding with dedicated drainage. Separation distances are maintained as per the site plan. A 360° tracked material handler is on site to move the skips in the event of a fire.
WEEE	Open topped steel skips with sealed bases, on hardstanding with dedicated drainage. Separation distances are maintained as per the site plan. A 360° tracked material handler is on site to move the skips in the event of a fire.
Timber – unprocessed, oversized and fines	Stored in metal skips and/or piles in wood storage area 1 or 2, on concrete hardstanding with dedicated drainage. Separation distances are maintained as per the site plan. A 360° tracked material handler is on site to move the skips in the event of a fire.

4.2.2 Table 4.2.2 below details the measures in place to reduce fire risk when storing combustible materials.

Table 4.2.2: Measures to Minimise Fire Risk when Storing Combustible Materials

Factor	Mitigation Measures Employed	Meets FPMP Guidance?
Documented and recorded stock rotation e.g. bay or pile plan with dates in and out and clear methodology for showing duration of storage for any wastes within a pile	Combustible material stored in the processed timber storage areas and the metal skips to the NW of the site will be managed on a first-in first-out basis, recorded on a simple record sheet in each area. This process will be overseen by the TCM at the site. Waste already on the site will be dealt with in a managed basis as provided using the control forms in Appendix D. This is overseen by the technically competent manager on site. This staged approach has been proposed to facilitate an efficient approach to the processing of material on the site.	Yes
Storage duration - if the operator is proposing mixed durations during processing, then take the LONGEST duration	The majority of waste is already on site. Documents detailing when and how the material will be processed will be completed and held on site. Storage durations will be overseen by the technically competent manager on the site.	Yes

Factor	Mitigation Measures Employed	Meets FPMP Guidance?
	4 weeks is proposed for all material storage to allow flexibility. In reality, material is likely to be exported from the site in advance of this due to limited space available for storage and established off takers for processed material.	
Minimise pile sizes and maintain sizes and separation distances	Pile sizes have been minimized to ensure NRW required separation distances can be maintained across the site from the outset, in accordance with the FPMP layout plan.	Yes
Control moisture levels	Piles of finer material will be damped to reduce the risk of dust and self-combustion following monitoring procedures, and before being disturbed and processed.	Yes
Store material in its largest form prior to processing	Any metals, plastics, tyres, rubber or other oversized materials will be stored in their largest form within skips and only be processed (if required) immediately prior to being exported off site. As a phased approach is proposed to process the material stockpiles on the site, material will only be processed when it is ready to be exported of site to minimise any dust and odour.	Yes
Take into account external heating during hot weather and consider shading waste from direct sunlight or using other techniques to enable heat generated within the pile to be released	Piles of finer processed materials will be sheeted and damped down to reduce the risk of self-combustion where monitoring indicates elevated temperatures (as above). If existing stockpiles are identified to be self-heating during routine monitoring, these may be sheeted. The need for action to prevent self-heating will be determined by the TCM for the site in accordance with the adopted monitoring procedures.	Yes
Mark any hazardous or combustible materials on the site plan	All hazardous and combustible materials are marked on the site plans in Appendix B.	Yes
Allow heat generated during processing to dissipate before piling waste	Processed timber will be left to cool in the process area before being placed into the storage area.	Yes

4.3 Actions in the Event of a Fire

4.3.1 In the event of a fire, refer to the Emergency Fire Response Procedure in Appendix C.

4.3.2 Table 4.3.1 below describes the fire-fighting techniques and methods to be employed in relation to each waste storage area in the event of a fire. The following techniques are re-produced to be displayed on site along with the Fire Response Procedure in Appendix C.

4.3.3 In the event of a fire all non-essential operations will cease and if waste is being imported onto the site from Pile 13 this activity will also cease.

Table 4.3.1: Fire-fighting Techniques for Combustible Waste Storage Areas

Waste Storage Area	Fire-Fighting Technique/ Method
Oversize Items (UPVC Windows and Doors, Carpets and Material)	Small fires within metal skips will be extinguished with fire extinguishers or on-site water hoses. The location of fire extinguishers and hoses is shown on the site plans in Appendix B. Firewater will be contained within the skips and once it has cooled it will be tankered off site for disposal. For larger fires (only when safe to do so) the 360^{o} tracked material handler available on site will be used to move the metal skips into the quarantine area and a larger volume of water will be deployed to the burning material. Firewater will be contained within the impermeable site area using firewater booms to direct water if necessary.
Plastics	Small fires within metal skips will be extinguished with fire extinguishers or on-site water hoses. The location of fire extinguishers and hoses is shown on the site plans in Appendix B. Firewater will be contained within the skips and once it has cooled it will be tankered off site for disposal. For larger fires (only when safe to do so) the 360^{o} tracked material handler available on site will be used to move the metal skips into the quarantine area and a larger volume of water will be deployed to the burning material. Firewater will be contained within the impermeable site area using firewater booms to direct water if necessary.
Metals	Small fires within metal skips will be extinguished with fire extinguishers or on-site water hoses. The location of fire extinguishers and hoses is shown on the site plans in Appendix B. Firewater will be contained within the skips and once it has cooled it will be tankered off site for disposal. For larger fires (only when safe to do so) the 360^{o} tracked material handler available on site will be used to move the metal skips into the quarantine area and a larger volume of water will be deployed to the burning material. Firewater will be contained within the impermeable site area using firewater booms to direct water if necessary.
Tyres and Rubber	Small fires within skips will be extinguished with fire extinguishers or on-site hoses. The location of fire extinguishers and hoses is shown on the site plans in Appendix B. Firewater will be contained within the skips and once it has cooled it will be tankered off site for disposal. For larger fires (only when safe to do so) the 360^{o} tracked material handler available on site will be used to move the metal skips into the quarantine area and a larger volume of water will be deployed to the burning material. Firewater will be contained within the impermeable site area using firewater booms to direct water if necessary.

Waste Storage Area	Fire-Fighting Technique/ Method
WEEE	Small fires within skips will be extinguished with fire extinguishers or on-site hoses. The location of fire extinguishers and hoses is shown on the site plans in Appendix B. Firewater will be contained within the skips and once it has cooled it will be tankered off site for disposal. For larger fires (only when safe to do so) the 360° tracked material handler available on site will be used to move the metal skips into the quarantine area and a larger volume of water will be deployed to the burning material. Firewater will be contained within the impermeable site area using firewater booms to direct water if necessary.
Timber – unprocessed and oversized	Larger piles will be extinguished with on-site water hoses in situ. Unburned material will be removed from the piles where possible with the 360° tracked material handler to reduce the fuel available for the fire. For larger fire requiring the attendance of the emergency services, fire hydrants and standard fire and rescue hoses will supply water to the piles until at a stable and suitable temperature. Small fires within skips will be extinguished with fire extinguishers or on-site hoses. The location of fire extinguishers and hoses is shown on the site plans in Appendix B. Firewater will be contained within the skips and once it has cooled it will be tankered off site for disposal. For larger fires (only when safe to do so) the 360° tracked material handler available on site will be used to move the metal skips into the quarantine area and a larger volume of water will be deployed to the burning material. Firewater will be contained within the impermeable site area using firewater booms to direct water if necessary.
Timber Fines	Larger piles will be extinguished with on-site hoses in situ. Unburned material will be removed from the piles where possible with the 360° tracked material handler available on site, to reduce the fuel available for the fire. For larger fire requiring the attendance of the emergency services, fire hydrants and standard fire and rescue hoses will supply water to the piles until at a stable and suitable temperature.
Quarantine Areas	In the event of a fire, waste will be moved into the quarantine area with the 360° tracked material handler available on site (if/when safe to do so) to reduce the volume of material available as fuel for the fire. The area is located on the hardstanding on the site and water can therefore be applied at rates necessary to extinguish a fire from on-site hoses and off-site hydrants.
Existing Stockpiles	Small fires within existing stockpiles will be extinguished with fire extinguishers. For larger piles, water will be applied from on site hoses or off-site hydrants, until at a stable and suitable temperature. Unburned material will be removed from the piles where possible with the 360° tracked material handler available on site to reduce the fuel available for the fire. Firewater will be contained on the site and directed to the hard standing with fire water booms where possible. and firewater contaminated material will be transferred to the quarantine area during clean up.

4.3.4 Table 4.3.2 below describes how the actions and procedures to be undertaken in the event of a fire prescribed in Natural Resources Wales FPMP Guidance are integrated into on site procedures.

Table 4.3.2: Actions and Procedures to be Undertaken in the Event of a Fire

Factor	Mitigation Measures Employed	Meets FPMP Guidance?
A firefighting strategy must be included within the fire prevention plan	Actions to be undertaken after a fire has occurred are detailed in Section 4.3. A Fire and Emergency Response Procedure is included as Appendix C. Firefighting techniques and methods for each combustible waste storage area is detailed in Table 4.3.1. The site plans in Appendix B shows the access route for the emergency services. A minimum of a 3.7m width of	Yes

Factor	Mitigation Measures Employed	Meets FPMP Guidance?
	this access will be maintained at all times. Direction will be taken from the emergency services if attending a larger fire at the site.	
Provision of portable fire extinguishers	Fire extinguishers are located on site and are shown on the site plans in Appendix B. All site operatives are trained in their use.	Yes
Materials stored in a building will require a fire suppression system. Materials must be kept a minimum of 3m below the level of the spray or sprinklers	N/A	N/A
Installation of secondary and tertiary containment to prevent fire-water run-off polluting the local receiving environment	The proposed locations for combustible material storage and the quarantine area comprises concrete hard standing. A concrete lip runs along the edge of the hard standing on site and the incline of the site area causes surface waters to flow to the south. This ensures if water was required to be deployed onto the waste piles on the hard standing any firewater run-off will not run into drainage ditches beyond the northern site boundary. A class 1 forecourt interceptor is installed as part of the drainage system installed at the site which is shown on the site plans in Appendix B. This can be closed off to the prevent firewater flowing into surrounding drainage ditches. The location of the shut off valve is shown on the FPMP layout. The waste piles currently on site conceal potential additional drainage features on the site, such as gullies and channels. The Operator will repair these features as the material is cleared and update the FPMP Site Layout Plan accordingly. Deployable firewater booms are located on site to help to channel firewater onto the southern part of the site in the event of a fire. In the event of a fire a sufficient volume of contaminated firewater could be contained on the site. After a fire, firewater will be tankered off site for disposal at a suitably permitted facility.	Yes
Water supply volume available, rate of supply and location to site	The location of all fire hydrants and on-site hoses are shown on the site plans in Appendix B. The nearest hydrant is maintained by Welsh Water who will be contacted in the event of an incident. Contact detail are provided in Appendix A. On site hoses sized to 32mm are on site for extinguishing smaller fires. (rates and pressure tbc by Operator) To extinguish a fire in the largest pile (312m3) we would require 374,400 liters of water supply at the specified rates. Welsh Water have confirmed that water is available to supply the above in the event of a n emergency. Confirmation of this has been provided to NRW.	Yes
Containment of fire water volume	The area of known hard standing on the site comprises approximately 4,000m^2 which is bounded by a 15cm concrete lip. This provides an approx. containment value of 600,000 liters temporarily until water could be tankered off site.	Yes

4.3.5 Training for site operatives on these procedures is required following any significant changes to this FPMP or other relevant on-site procedures. Training records will be maintained in accordance with the facilities written management system and the Fire Response Procedure will be incorporated into the sites Environmental Management System.

4.3.6 The Site Manager will oversee any decision to apply on-site fire-fighting equipment or procedures in the event of a fire. They have the authority to cease on-site operations and evacuate the facility should the risk to personnel prove too high.

4.3.7 Any incidents of fire will be reported to Natural Resources Wales in accordance with the requirements of the Environmental Permit and will be recorded in the site diary. The outcome of any root-cause investigations will also be recorded.

4.4 Actions After a Fire

4.4.1 All waste processing operations will cease as a result of a serious fire. Firewater contained on the site will be tankered off site using a local waste contractor for disposal at a suitably permitted facility.

4.4.2 Once the fire is extinguished the site will be cleaned and any waste materials created during the process will be sent off site for disposal without processing. Any firewater contaminated equipment shall be stored in the quarantine area prior to removal off site prior to removal if immediate removal is not possible. The maximum storage time shall be 24 hours.

4.4.3 All plant and equipment will be checked and where necessary replaced. The site will not become operational before the Operator is confident that processes and procedures can continue as before the fire, in line with the requirements of the Environmental Permit.

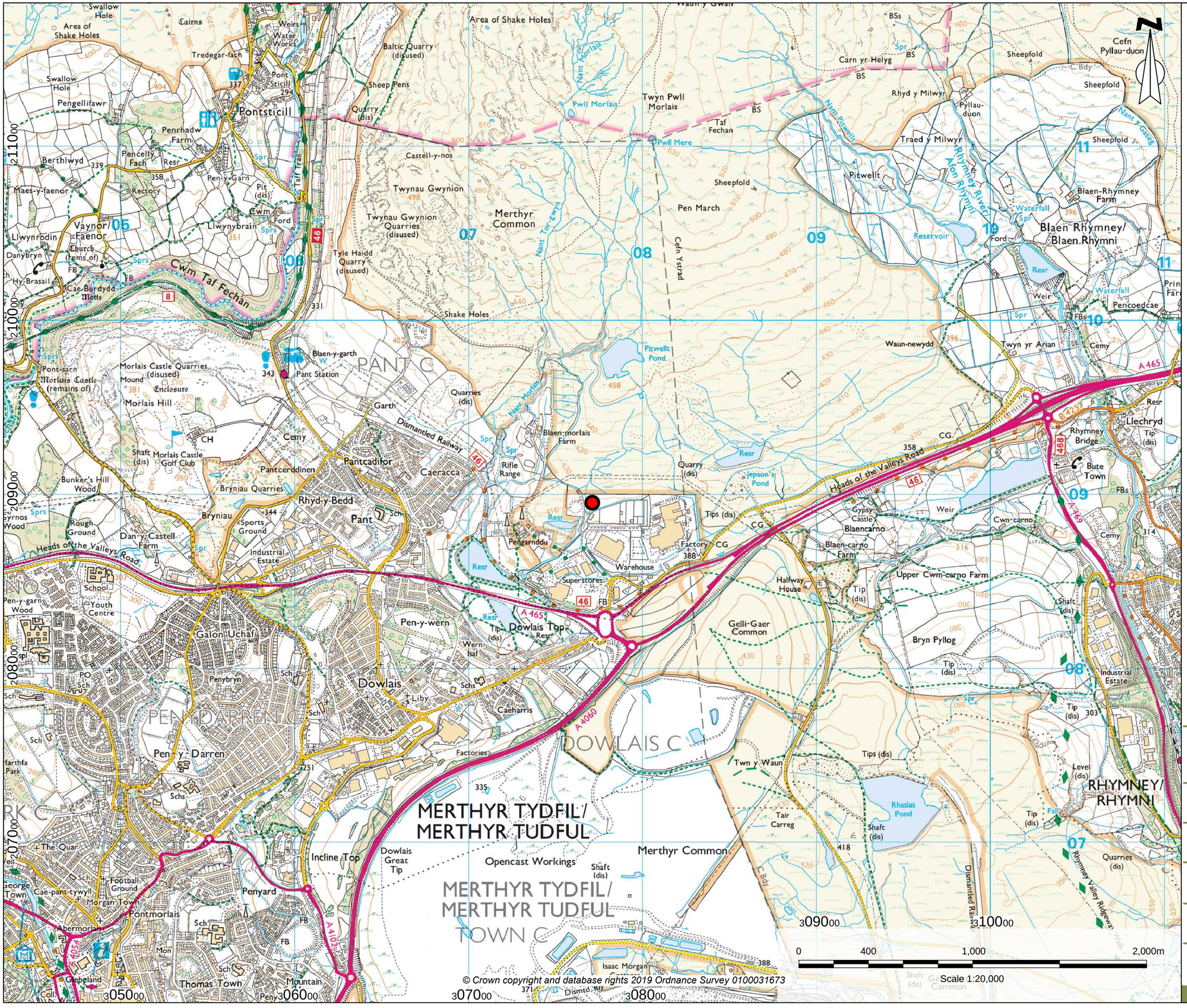
Appendix A – Key Site and Emergency Contacts

To be completed fully before the site becomes operational

SITE DETAILS		
Location: Unit 2 Pengarnddu Industrial Estate, Pengarnddu, Merthyr Tydfil, Wales		
Postcode: CF48 2TA		
Site Access Grid Reference: SO 778 089		
SITE CONTACTS	Office Hours (specify)	Out of hours
General Manager:		
Site Manager:		
Site Supervisor:		
Security Contact:		
EMERGENCY SERVICES	Office Hours	Out of hours
Emergency	999	999
Medical:	111/999	111/999
Police:	999	999
Fire:	999	999
REGULATORS	Office Hours	Out of hours
Health and Safety Executive (HSE)	0845 300 9923	0151 922 9235
Local Authority:		
Natural Resources Wales (Local)		
Natural Resources Wales (24-hour emergency hotline)	0300 065 3000	
UTILITY AND KEY SERVICES	Office Hours	Out of hours
Water provider: Dwr Cymru	0800052 0130	0800052 0130
Sewerage provider: Dwr Cymru	0800052 0130	0800052 0130
Gas supplier:		
Electricity supplier:		
Oil supplier:		
Fuel supplier:		
Oil spill contractor:		
Maintenance contractor:		
Electrician:		
Plumber:		
Locksmith:		
OTHER KEY CONTACTS	Office Hours	Out of hours
Specialist advisors: Enzygo Ltd	01454 269 237	
Merthyr Reclamation	07702 399 711	07702 399 711
St Merryn	01685 354 800	
Abba	01685 722 758	
B&M Home Stores	0330 838 9521	
New Tredegar Skip Hire	01685 370 188	
Poundstretcher Phone	01685 269 283	
Carpetright	01685 707 080	
Heads of the Valleys Salvage	01685 386 649	
CEMEX Merthyr Tydfil Concrete Plant	0345 155 9229	
Comfortzone Merthyr	01685 377 880	
Lidl Phone	0800 977 7766	
ASDA	01685 379 981	
Trade Price Sofas Wales	01685 375 897	

Appendix B - Drawings and Site Plans

Site plans are to be displayed at the site entrance, in the site office, in waste processing areas and in areas of active firefighting



Key

●	Site Location (SO 07780 08940)

enzygo
environmental consultants

Samuel House, 5 Fox Valley Way, Stocksbridge, Sheffield, S36 2AA

CLIENT:
Hampshire Demolition and Recycling Limited

SCALE:
1:20,000@A3

PROJECT REF:
CRM.0127.001

DRAWN:
MG

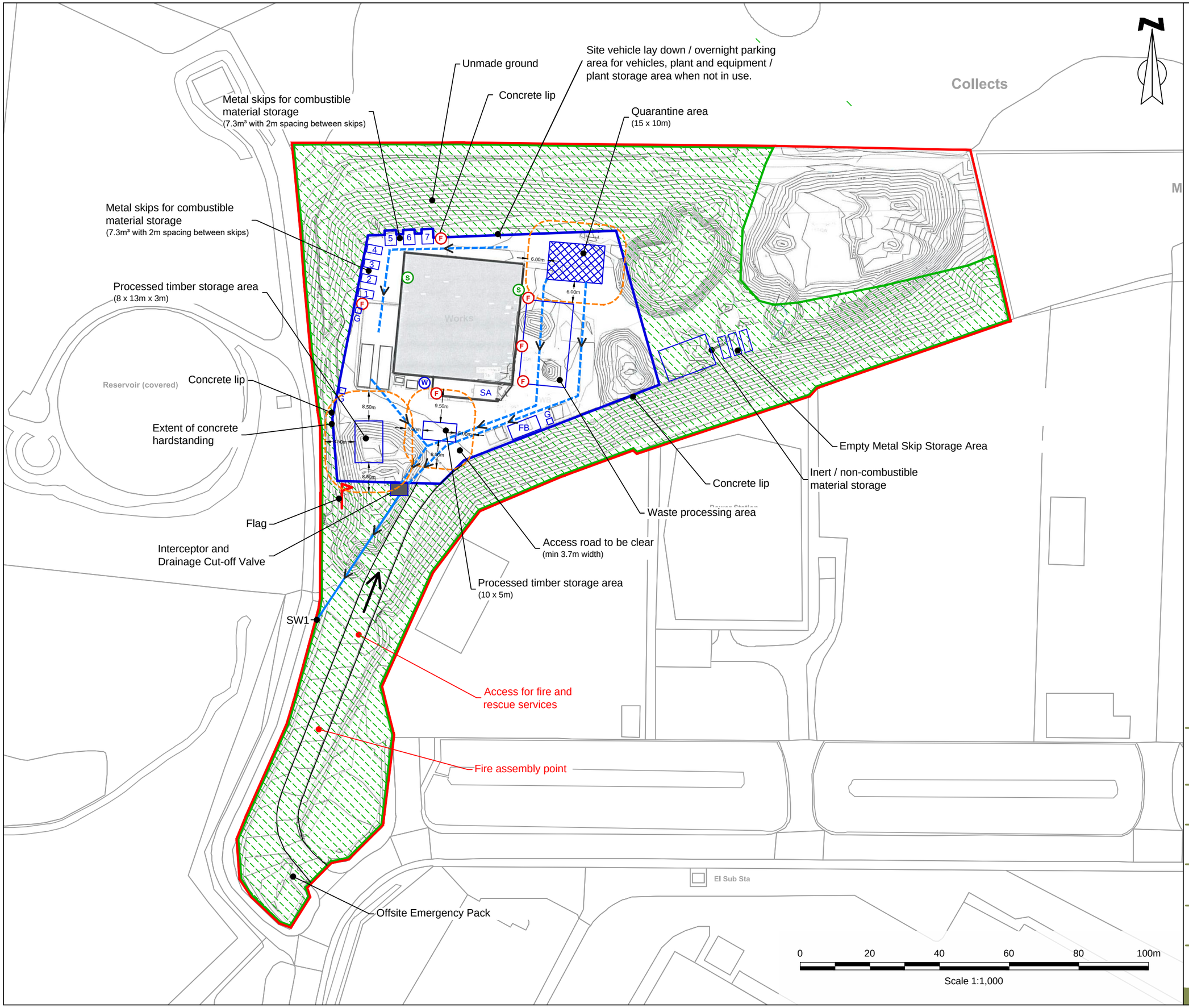
CHECKED:
RC

DATE:
July 2019

PROJECT:
Penganddu Industrial Estate

TITLE:
Site Location Plan

DRAWING NO:
CRM.0127.001.PE.D.001



KEY

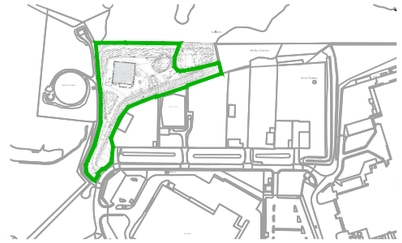
- Permit Boundary
- Site Boundary
- Extent of Concrete Hardstanding
- Potential for Unmade Ground
- F — Fire Extinguisher
- W — Water Supply Point
- Surface Water Drainage
- S — Spill Kits
- SA — Smoking Area
- FB — Fuel Bowser
- G — Road Gullies

STORAGE MATERIALS (SKIPS)

1	Fines (timber)
2	Other fines
3	WEEE
4	Oversized items
5	Metals
6	Plastic
7	Tyres and rubber

CONTEXT PLAN

Scale 1:10,000



enzygo environmental consultants
Samuel House, 5 Fox Valley Way, Stocksbridge, Sheffield, S36 2AA

CLIENT: Hampshire Demolition and Recycling Limited

SCALE: 1:1,000@A3

PROJECT REF: CRM.0127.001

DRAWN: MG

CHECKED: RC

DATE: Nov 2020

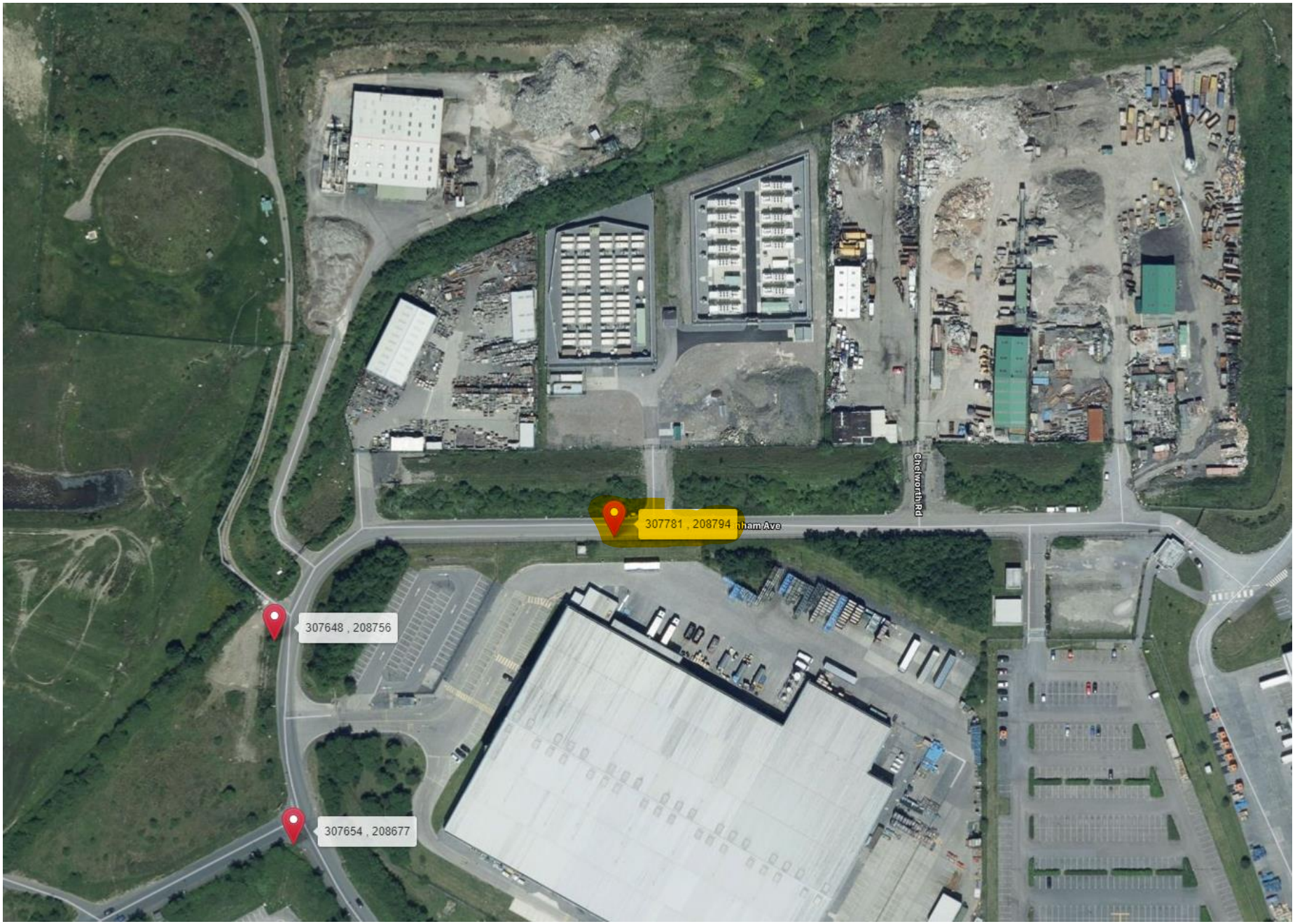
PROJECT: Penganddu Industrial Estate

TITLE: FPMP Site Layout

DRAWING NO: CRM.0127.001.PE.D.004

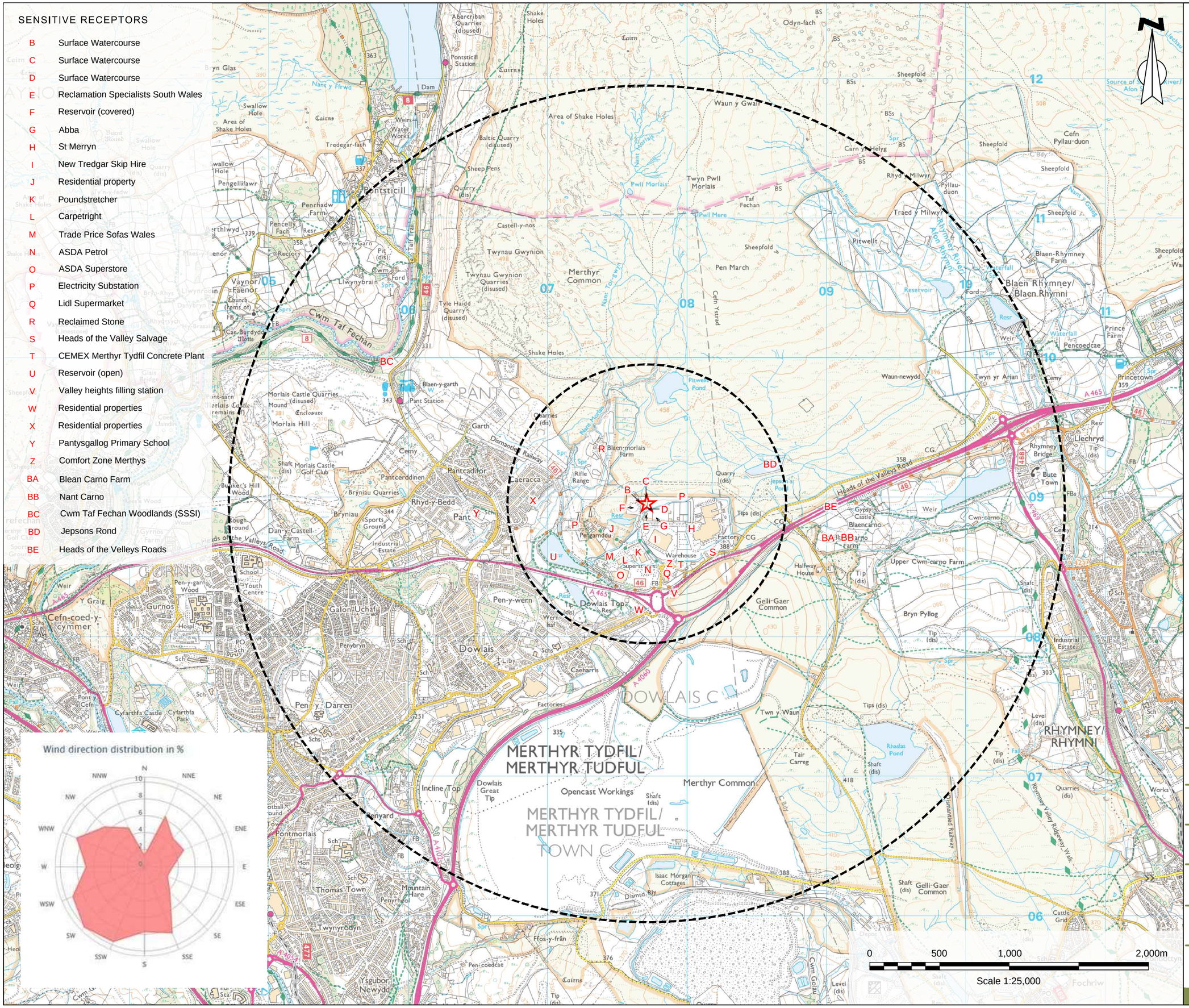
Fire Hydrant Location Plan

Principal hydrant to be used in the event of an incident is highlighted below.



SENSITIVE RECEPTORS

B	Surface Watercourse
C	Surface Watercourse
D	Surface Watercourse
E	Reclamation Specialists South Wales
F	Reservoir (covered)
G	Abba
H	St Merryn
I	New Tredgar Skip Hire
J	Residential property
K	Poundstretcher
L	Carpetright
M	Trade Price Sofas Wales
N	ASDA Petrol
O	ASDA Superstore
P	Electricity Substation
Q	Lidl Supermarket
R	Reclaimed Stone
S	Heads of the Valley Salvage
T	CEMEX Merthyr Tydfil Concrete Plant
U	Reservoir (open)
V	Valley heights filling station
W	Residential properties
X	Residential properties
Y	Pantysgallog Primary School
Z	Comfort Zone Merthys
BA	Blean Carno Farm
BB	Nant Carno
BC	Cwm Taf Fechan Woodlands (SSSI)
BD	Jepsons Rond
BE	Heads of the Velleys Roads



Key

☆ Site

- - - - 1000m & 3000m Buffer Zone

enzygo
environmental consultants

Samuel House, 5 Fox Valley Way, Stocksbridge, Sheffield, S36 2AA

CLIENT:
Hampshire Demolition and Recycling Limited

SCALE:
1:25,000@A3

PROJECT REF:
CRM.0127.001

DRAWN:
MG

CHECKED:
RC

DATE:
July 2019

PROJECT:
Penganddu Industrial Estate

TITLE:
Sensitive Receptor Plan

DRAWING NO:
CRM.0127.001.PE.D.003

Appendix C - Fire Emergency Response Procedure

To be printed and displayed in waste processing areas and the site office

Fire Detected

- Raise Alarm
- Isolate gas and electric if safe to do so

Evacuate Area

- Evacuate site to designated point on access road - take signing in book
- Move people aware fom danger area
- Cease operations

Call Emergency Services if Neccesary

- Inform of number of people missing
- Casualties
- Notify of hazards

Apply Fire Fighting Measures

- Only if safe to do so and by appropriately traiend employees - follow the sope of measures deailed in Plan
- Ensure firewater booms are in place and drainage is sealed before applying water to waste piles

Minimise Risk to Human Health and Environment

- Inform nearby businsses and advise evacuation where appropriate - contact details in Appendix A
- Liase with Natural Resources Wales and HSE where appropriate
- Follow the steps in the FPMP

To be printed and displayed in waste processing areas and the site office

Waste Storage Area	Fire-Fighting Technique/ Method
Oversize Items (UPVC Windows and Doors, Carpets and Material)	Small fires within metal skips will be extinguished with fire extinguishers or on-site water hoses. The location of fire extinguishers and hoses is shown on the site plans in Appendix B. Firewater will be contained within the skips and once it has cooled it will be tankered off site for disposal. For larger fires (only when safe to do so) the 360 re-handler available on site will be used to move the metal skips into the quarantine area and a larger volume of water will be deployed to the burning material. Firewater will be contained within the impermeable site area using firewater booms to direct water if necessary.
Plastics	Small fires within metal skips will be extinguished with fire extinguishers or on-site water hoses. The location of fire extinguishers and hoses is shown on the site plans in Appendix B. Firewater will be contained within the skips and once it has cooled it will be tankered off site for disposal. For larger fires (only when safe to do so) the 360 re-handler available on site will be used to move the metal skips into the quarantine area and a larger volume of water will be deployed to the burning material. Firewater will be contained within the impermeable site area using firewater booms to direct water if necessary.
Metals	Small fires within metal skips will be extinguished with fire extinguishers or on-site water hoses. The location of fire extinguishers and hoses is shown on the site plans in Appendix B. Firewater will be contained within the skips and once it has cooled it will be tankered off site for disposal. For larger fires (only when safe to do so) the 360 re-handler available on site will be used to move the metal skips into the quarantine area and a larger volume of water will be deployed to the burning material. Firewater will be contained within the impermeable site area using firewater booms to direct water if necessary.
Tyres and Rubber	Small fires within skips will be extinguished with fire extinguishers or on-site hoses. The location of fire extinguishers and hoses is shown on the site plans in Appendix B. Firewater will be contained within the skips and once it has cooled it will be tankered off site for disposal. For larger fires (only when safe to do so) the 360 re-handler available on site will be used to move the metal skips into the quarantine area and a larger volume of water will be deployed to the burning material. Firewater will be contained within the impermeable site area using firewater booms to direct water if necessary.
WEEE	Small fires within skips will be extinguished with fire extinguishers or on-site hoses. The location of fire extinguishers and hoses is shown on the site plans in Appendix B. Firewater will be contained within the skips and once it has cooled it will be tankered off site for disposal. For larger fires (only when safe to do so) the 360 re-handler available on site will be used to move the metal skips into the quarantine area and a larger volume of water will be deployed to the burning material. Firewater will be contained within the impermeable site area using firewater booms to direct water if necessary.
Timber – unprocessed and oversized	Larger piles will be extinguished with on-site water hoses in situ. Unburned material will be removed from the piles where possible with plant and machinery to reduce the fuel available for the fire. For larger fire requiring the attendance of the emergency services, fire hydrants and standard fire and rescue hoses will supply water to the piles until at a stable and suitable temperature. Small fires within skips will be extinguished with fire extinguishers or on-site hoses. The location of fire extinguishers and hoses is shown on the site plans in Appendix B. Firewater will be contained within the skips and once it has cooled it will be tankered off site for disposal. For larger fires (only when safe to do so) the 360 re-handler available on site will be used to move the metal skips into the quarantine area and a larger volume of water will be deployed to the burning material. Firewater will be contained within the impermeable site area using firewater booms to direct water if necessary.

Timber Fines	Larger piles will be extinguished with on-site hoses in situ. Unburned material will be removed from the piles where possible with the 360 re-handler available on site, to reduce the fuel available for the fire. For larger fire requiring the attendance of the emergency services, fire hydrants and standard fire and rescue hoses will supply water to the piles until at a stable and suitable temperature.
Quarantine Areas	In the event of a fire, waste will be moved into the quarantine area with the 360 re-handler available on site (if/when safe to do so) to reduce the volume of material available as fuel for the fire. The area is located on the hardstanding on the site and water can therefore be applied at rates necessary to extinguish a fire from on-site hoses and off-site hydrants.
	Small fires within existing stockpiles will be extinguished with fire extinguishers. For larger piles, water will be applied from on site hoses or off-site hydrants, until at a stable and suitable temperature. Unburned material will be removed from the piles where possible with the 360 re-handler available on site to reduce the fuel available for the fire. Firewater will be contained on the site and directed to the hard standing with fire water booms where possible. and firewater contaminated material will be transferred to the quarantine area during clean up.

Appendix D – Waste Storage Rotation Control Forms

To be printed and displayed in each waste storage area

Waste Type and Approx. Quantity	Date Placed in Bay / Container	Date of Removal/ Disposal	Signed

Appendix E – Waste Storage Temperature Control Forms

To be printed and displayed in each waste storage area

Waste Temperature Recording for:			insert storage area		
Date	Evidence of heat and/or smoke? Yes/No	Temperature of waste pile °C	Ambient Temperature °C	Waste > 10°C above ambient temperature? Yes/No	Corrective actions (e.g. waste dampened down, waste turned, bales taken to quarantine area, next shift informed) - provide details

Appendix F – Maintenance Schedules for Site Plant

To be included following receipt from manufacturer

Enzygo specialise in a wide range of technical services:

Property and Sites
Waste and Mineral Planning
Flooding, Drainage and Hydrology
Landscape Architecture
Arboriculture
Permitting and Regulation
Waste Technologies and Renewables
Waste Contract Procurement
Noise and Vibration
Ecology Services
Contaminated Land and Geotechnical
Traffic and Transportation
Planning Services

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