

Final V1

Powys County Council North Powys Bulking Facility



Environmental Permit Application

Fire Prevention & Mitigation Plan

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Acknowledgements

The content of this Report has been based upon information provided by WRAP Cymru and Powys County Council.

1.0 Introduction

1.1 Report Context

The Waste and Resource Action Programme (WRAP), on behalf of Powys County Council (PCC), has instructed SLR Consulting Limited (SLR) to prepare a Fire Prevention & Mitigation Plan (FPMP) in support of a bespoke Environmental Permit (EP) application for the North Powys Bulking Facility, Abermule Business Park, under the Environmental Permitting (England and Wales) Regulations 2016 (as amended).

This report follows the Natural Resources Wales (NRW) guidance for FPMPs¹ and details the required mitigation and management methods to prevent a fire of combustible materials stored on site.

The information contained within this FPMP aims to satisfy NRW that the following factors are equivalent or less than would be incurred if the site followed the minimum standards in the regulatory guidance:

- Likelihood of fire;
- Impact from emissions during or after a fire on the local community, critical infrastructure and the environment;
- Resources required by NRW and other emergency responders during an incident; and
- Post incident clean-up and remediation costs.

Under current fire safety legislation², a responsible person must carry out, or appoint a competent person to carry out, a suitable and sufficient Fire Risk Assessment (FRA) of the risks of fire to employees and others who may be affected by the site. The FRA will be kept on site available for review at any time.

A copy of this FPMP is stored in a secure container fixed to the exterior wall of the site office.

1.2 Site Location

1.2.1 Surrounding Land Use

The site is situated in Abermule Business Park, approximately 5km north west of Newtown and approximately 500m south of the village of Abermule. The A483 runs to the west of the site with the River Severn and Montgomery Canal located to the north. The National Grid Reference (NGR) for the site is SO 15692 94193.

The site is predominantly surrounded by open/agricultural ground and areas of woodland. To the north east of the site is a small residential area with the larger residential village of Abermule located to the north.

The surrounding land uses and local receptors within 1km are identified on Drawing 001, Environmental Site Setting.

A summary of the site's immediate surrounding land uses is identified in Table 1-1 below.

¹ Fire Prevention & Mitigation Plan Guidance, August 2017

² Regulatory Reform (Fire Safety) Order 2005

Table 1-1
Surrounding Land Uses

Boundary	Description
North	Abermule Business Park, the B4386 and the A483 roads, followed by open ground. Beyond this lies the River Severn, Montgomery Canal and the residential areas of Abermule.
East	Adjacent to the site's eastern boundary lies the railway line. This is followed by a small pond, several drains and open ground. Beyond this lies an area of ancient woodland.
South	Immediately to the south runs a railway line, surrounded by a small strip of woodland. Beyond this lies open ground.
West	The A483 road followed by open ground and farm/agricultural buildings. Beyond this runs the River Severn, Montgomery Canal and areas of ancient woodland.

The immediate surrounding land uses are described in further detail below.

1.2.2 Residential Properties

The closest residential receptors are the farmhouses associated with Bryn-y-Maes approximately 50m west and Maesderwen 110m to the north east. A larger area of residential properties is located along Court Close approximately 270m north east of the site.

1.2.3 Caravan Park

Smithy Park Country Holiday Park is situated approximately 490m north east of the site.

1.2.4 Commercial and Industrial Premises

The site is situated within Abermule Business Park. Additional commercial/industrial premises are located approximately 290m north east and 400m south west of the site.

1.2.5 Farm/Agricultural Buildings

The closest farm/agricultural buildings to the site are located approximately 75m to the west.

1.2.6 Local Transport Network

The A483 is located approximately 30m from the site's north western boundary whilst the B4386 runs approximately 20m north of the site.

A railway line is located adjacent to the site's south eastern boundary.

There is a public footpath following the route of the River Severn located approximately 300m north of the site at its closest.

The wider local road network is illustrated on Drawing 001.

1.2.7 Educational Facilities

There is one educational facility within 1km of the site's boundary. Abermule County Primary School is located approximately 800m north east of the site.

1.2.8 Sewage Pumping Station

Adjacent to the north east of the site boundary lies a sewage pumping station.

1.2.9 Open Ground

There are areas of open ground surrounding the site in all directions. The closest areas lie adjacent to the site's south west and north east boundaries.

1.2.10 Surface Water Features

The River Severn is located approximately 210m north of the site and the Montgomery Canal is situated approximately 410m north of the site. Approximately 20m south lies a drain and a small pond beyond this at 60m.

1.3 Ecology

The following information has been assessed to determine the ecological site setting:

- MAGIC Mapping Website³;
- Lle Map Browser; and
- Natural Resource Wales Designated Sites Tool⁴; and
- Ecological surveys:
 - Preliminary Ecological Survey (GLEC-0896a-01), April 2017;
 - Great Crested Newt Survey and Mitigation Plan (GLEC-0896a-01), May 2017;
 - Reptile Survey (GLEC-0946b-01), June 2017;
 - Dormouse Survey (GLEC-0946a-01), September 2017;
 - Great Crested Newt Method Statement (RT-MME-126868-03-Rev E), November 2019; and
 - Addendum Ecology Note (RT-MME-153226-01), July 2020.

1.3.1 Sites of Special Scientific Interest

The Montgomery Canal Site of Special Scientific Interest (SSSI) is located approximately 410m north of the site. The site is a designated SSSI for its open waters that support a rich assemblage of plants and aquatic invertebrates indicative of good water quality.

1.3.2 Special Area of Conservation

The Montgomery Canal, located approximately 410m north of the site, is also a Special Area of Conservation (SAC) due to the wildlife it supports.

1.3.3 Ancient Woodland

There are several areas of ancient woodland located within 1km of the site's boundary. The closest area lies approximately 550m north of the site. Additional areas are situated approximately 700m east of the site.

1.3.4 Protected Species

The following species have been identified as potentially being present within 1km of the site's boundary:

- European Eel;
- Sea/Brown Trout;
- Atlantic Salmon;
- Great Crested Newts;
- Dormouse; and

³ <https://magic.defra.gov.uk/MagicMap>, accessed August 2020

⁴ NRW Designated Site Search, accessed August 2020

- Reptiles.

The searches confirmed that there are none of the following within the 1km:

- Ramsar's;
- Special Protection Area's (SPA).
- Areas of Outstanding Natural Beauty;
- Local Nature Reserves;
- National Nature Reserves; and
- National Parks.

1.4 Cultural and Heritage

1.4.1 Listed Buildings

There are seven listed buildings within 1km of the site's boundary as illustrated on Drawing 001. The closest is Bridge 148 and Byles lock located approximately 420m north west of the site. The other listed buildings are described below:

- Bridge 149 over Montgomeryshire Canal and Lock: 590m west;
- Oak Tree Cottage: 620m north east;
- Bridge 150 over the Montgomeryshire Canal: 735m west;
- Castle Cottage: 960m north west;
- Dolforwyn Castle: 980m north west; and
- Rock Cottage: 860m east.

1.4.2 Scheduled Monuments

The only scheduled monument located within 1km of the site boundary is Dolforwyn Castle, located approximately 940m to the north west.

The search on Lle Map confirmed that the following features do not lie within 1km of the site:

- World Heritage Sites;
- Registered Battlefields; and
- Registered Parks and Gardens.

1.5 Receptors

Table 1-2 and Drawing 001 show the locations of receptors that are considered to be potentially sensitive and could reasonably be affected by the activities occurring on site.

Table 1-2
Identified Receptors

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (in metres)
Receptors located within 1km of the EP boundary as shown on Drawing 001			
Secondary B Aquifer	Secondary Aquifer	Below Ground	N/A

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (in metres)
Abermule Business Park	Industrial/Commercial	Site located within the boundary of the business park	N/A
Open Ground	Open Ground	South west	Adjacent
Open Ground	Open Ground	North east	Adjacent
Railway Line	Local Transport Network	South east	Adjacent
Sewage Pumping Station	Sewage	North east	Adjacent
B4386	Local Transport Network	North	20m
Drain	Surface Water Feature	South	20m
A483	Local Transport Network	North west	30m
Bryn-y-Maes	Residential	West	50m
Pond	Surface Water Feature	South	60m
Farm/Agricultural Buildings	Farm/Agricultural Buildings	West	75m
Maesderwen	Residential	North east	110m
The River Severn	Surface Water Feature	North	210m
Court Close	Residential	North east	270m
Commercial and Industrial Premises	Commercial and Industrial Premises	North east	290m
Public Footpath	Local Transport Network	North	330m
Commercial and Industrial Premises	Commercial and Industrial Premises	South west	400m
Montgomery Canal	Surface Water Feature	North	410m
Montgomery Canal	SSSI	North	410m
Montgomery Canal	Special Area of Conservation (SAC)	North	410m

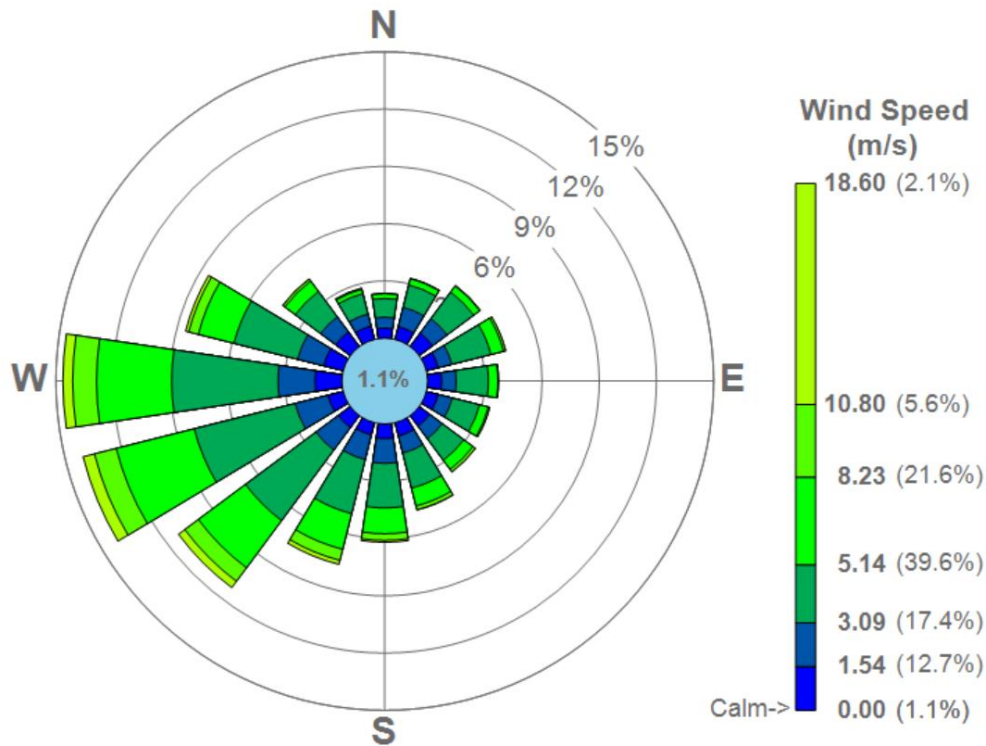
Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (in metres)
Bridge 148 and Byles Lock	Listed Building	North west	420m
Smithy Park Country Holiday Park	Residential	North east	490m
Ancient Woodland	Ancient Woodland	North	550m
Bridge 149 over Montgomeryshire Canal and Lock	Listed Building	West	590m
Oak Tree Cottage	Listed Building	North	620m
Abermule	Residential	North east	650m
Ancient Woodland	Ancient Woodland	East	700m
Bridge 150 over the Montgomeryshire Canal	Listed Building	West	735m
Abermule County Primary School	Educational Facility	North east	800m
Rock Cottage	Listed Building	East	860m
Dolforwyn Castle	Scheduled Monument	North west	940m
Castle Cottage	Listed Building	North west	960m
Dolforwyn Castle	Listed Building	North west	980m

1.6 Windrose

There are no meteorological stations in proximity to the site which were considered to be representative of the site location. Therefore, Numerical Weather Prediction (NWP) meteorological data has been utilised and presented in Figure 1-1 below.

The wind rose shows the most prominent wind direction is from the west and south west. Winds from the north, east and south are relatively infrequent. Receptors highlighted in bold in Table 1-2 above are likely to be affected in the event of a fire as they are located in the path of the prevailing wind (from the west and south west).

Figure 1-1
NWP Meteorological Data Wind Rose, 2015-2019



1.7 Site Type

The site is permitted to accept and process up to 22,500 tonnes per annum (tpa) of non-hazardous material arising from household and commercial premises collected by PCC.

The only treatment activity undertaken on site is the bulking up of materials. Materials received on site will be pre-segregated before arrival and therefore will not require any manual sorting or separation.

The site layout, including material storage locations have been identified on Drawing 002.

1.8 Waste Types

The EP allows for the following materials to be accepted on site which are defined as 'combustible materials' in the FPMP Guidance¹:

- Plastic;
- Metal;
- Paper;
- Cardboard;
- Rags/textiles;
- Waste Electrical and Electronic Equipment (WEEE);
- Non-hazardous batteries;
- Green waste; and
- Mixed waste.

The full waste list is included within Table S2.1 of the EP.

1.9 Site Access

The site is accessed via the B4386 to the north west which leads from the A483. The closest Fire Station is Newtown Fire Station to the south west of the site. Using Google directions and mapping⁵, the drive time is approximately 9 minutes and it is approximately 5.6 miles between the site and the Fire Station.

The local road network within the surrounding area is designed to accommodate large haulage vehicles. As such, the Fire & Rescue Service (FRS) would be able to reach the site without difficulty.

Access roads around the perimeter of the site, the bulking shed and the external storage bays each will be kept clear to allow easy access to the combustible material storage areas during an incident. The access points for vehicles are illustrated on Drawing 002.

The site's operating hours, as permitted in the planning permission, are Monday to Sunday 07.00 – 18.00.

1.10 Environmental Management System (EMS)

The site operates its own Environmental Management System (EMS) that governs all operations at this facility.

Consequently, operational procedures for the management of the facility ensures that all appropriate pollution prevention and control techniques are delivered reliably and on an integrated basis.

⁵ Google Maps, Accessed in October 2020

2.0 Fire Prevention Measures

The following measures are implemented on site to minimise the causes of fires.

2.1 Fire Detection and Alarm System

The bulking shed benefits from a UKAS accredited fire detection and alarm system consisting of an Advanced fire panel and Hochiki flame detectors positioned along the two short sides of the building providing coverage for all internal material storage areas. Manual call points are installed by each pedestrian exit and heat/smoke detectors are fitted throughout the office and welfare building.

Each element of the system connects to a fire alarm panel. If any of the flame, heat or smoke detectors are triggered, the fire alarm system will sound leading to an evacuation of the site during operational hours. Outside of operational hours the fire alarm system is monitored by an alarm receiving station via CSL Dualcom. If a detector is triggered, the receiving station is alerted and the site supervisor and/or the emergency services are contacted immediately. The alarm system is monitored 24 hours a day, 7 days a week (24/7).

Site operatives are trained in the detection of fires and therefore can provide an additional level of management for fire detection when the site is operational.

2.2 Waste Acceptance and Rejection

The site follows strict waste acceptance and rejection procedures to ensure that no non-conforming material is accepted. The procedure to be adopted by all site operatives is included in the EMS. The procedure includes the following key points:

- Each incoming load is visually inspected as it is deposited. Particular attention will be given to the identification of batteries and non-conforming material;
- Non-conforming material will be safely hand-picked and placed into the relevant bay or residual waste bay;
- If the non-conforming material is not suitable for separation into the existing bays, and if safe to do so, it will be moved to the quarantine area. The site management will be informed and, if required, a specialist contractor will be contacted to remove the material from site within 24 hours;
- Any non-conforming material deemed to be unsafe to move to the quarantine area will be cordoned off and site operations/traffic movements in that area will be suspended; and
- All details of the non-conformance will be recorded in the site diary and an incident report form will be completed.

2.3 Inspections and Amenity Monitoring

The site is continually manned during operational hours and site operatives are asked to remain vigilant at all times and look out for signs of fire. Staff are trained in how to identify fires and fire hazards on site. Staff also receive training on the use and selection of fire extinguishers, site evacuation and shut down procedures, fire safety and all relevant emergency procedures.

All material storage areas are visually inspected throughout the day and all findings are logged in the site diary as a minimum.

The site is swept daily and washed down weekly using mobile plant and wash down hoses/jet wash to prevent a build-up of debris and dust on site. All escape routes, fire exits, alarm call points and fire extinguishers are kept clear from loose material at all times.

Daily and weekly monitoring is recorded in line with the requirements of the EP and detailed in the EMS.

2.4 Material Storage Arrangements

Material storage takes place within the areas illustrated on Drawing 002.

2.4.1 Bulking Shed

All material in the bulking shed, with the exception of batteries and WEEE, is stored in bays. AHP's are stored in a container located within a bay. All bays are constructed from Legioblock walls with the following fire resistance properties:

- Class A1 fire resistance in accordance with clause 4.3.4.4 of EN 13369;
- Concrete specification of RC40/50XF equivalent with a minimum cement content of 360kg/m³, cement type CEM1 52.5N;
- Walls have a designed work life of 100 years as defined in BS EN 1990:2002 + A1: 2005; and
- Are 0.8m thick.

2.4.2 External Concrete Bays

The external concrete bays are constructed from pre-cast concrete with class A1 fire resistance in accordance with clause 4.3.4.4 of EN 13369.

A freeboard space of 1m is maintained at the top, sides and front of all bays on site. Lines drawn on the inside of each bay mark the maximum height and width of each stockpile ensuring the maximum volumes are adhered to.

All material is stored within bays except for batteries and WEEE which are stored in suitable containers or skips. AHPs are stored within a skip within a bay. Table 2-1 details the storage location and how each material type is stored.

Separation distances have been calculated in accordance with guidance from WISH, WASTE 28: Reducing fire risk at waste management sites, issue 2 April 2017 and are shown on Drawing 002. The separation distances and 1m freeboard prevent the spread of fire between piles and brands or lighted material moving outside the bay walls.

The amount of material received daily will be as follows:

- Monday – Friday: 85 tonnes; and
- Saturday and Sunday: 0-100 tonnes (Only likely around bank holidays or due to missed collections).

The amount of any one material type included in Table 2-1 received or stored on site could be up to the maximum thresholds shown above. The combination and quantities of different material types will vary daily but will not exceed the maximum daily tonnage shown above.

The total amount of material stored on site at any one time will not exceed 425 tonnes.

The material types, maximum storage times and storage arrangements are detailed in Table 2-1 below. Non-combustible material types are shaded grey in the table below and are not subject to the FPMP guidance requirements.

Table 2-1
Material Types, Storage Time and Dimensions

Material Type	Max Storage Time	Length (m)	Width (m)	Height (m)	Max Volume (m ³)
Bay 1: Absorbent Hygiene Products	Maximum of 1 week	4.5	2.5	2.0	22.5
Bay 2: Paper and Cardboard	4 days	10	10	3.0	207 ⁶
Bay 3: Cans and Plastic	5 days	8.35	10	3.0	172.8 ⁶
Bay 4: Cans and Plastic	5 days	8.35	10	3.0	172.8 ⁶
Bay 5: Residual Waste including Street Cleaning Litter and Bulky Waste	4 days	10	10	3.0	207 ⁶
Bay 6: Food	4 days	5.0	8.0	3.0	73.5
Non-hazardous Batteries	3 months	1.3	1.3	1.0	1.69 ⁷
WEEE	3 months	1.3	1.3	1.0	1.69 ⁷
Glass	4 days	10.53	11.77	2.0	182.6 ⁶
Green Waste	4 days	9.75	6.3	3.0	184 ⁶

2.4.3 Non-Waste Materials

The site stores non-waste materials that are not covered by the FPMP Guidance but are considered due to the potential for them to cause or increase the impact of a fire on the site. The materials and their storage arrangements are shown in Table 2-2 below and illustrated on Drawing 002.

Table 2-2
Non-Waste Materials: Storage Arrangements

Type	Storage Location	Storage Arrangement
------	------------------	---------------------

⁶ Maximum volume accounts for the slope of the stockpile and the freeboard space at the top and sides of each stockpile.

⁷ Maximum volume based on a 1,100 litre storage container.

Fuel Tank (red and white diesel)	Externally in the vehicle re-fuelling area.	Stored within a tank which is integrally banded with a leakage containment bund capable of containing at least 110% of the volume of the tank.
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There is no storage of gas bottles or oil on site.

2.4.4 Seasonality of Material Acceptance

Material volumes and supply and demand of material on site are subject to seasonal variation at Christmas and during summer months. Procedures to monitor the variations are included within the EMS. Incoming material volume is measured and recorded via the weighbridge software and material transfers off site will be increased if the site appears to be reaching maximum capacity.

PCC have the following contracts in place allowing for the daily removal of material from site. Each contract allows for additional loads to be collected during periods of peak throughput:

- Glass: Recresco;
- Plastics: Brecon Waste Transfer Station (WTS);
- Aluminium cans: Brecon WTS;
- Steel cans: Brecon WTS;
- Paper and cardboard: Palm Recycling; and
- Food: Seven Trent Green Power.

2.5 Management of Hotspots

2.5.1 Bay Storage - Stockpiles

As detailed in this FPMP, suitably qualified site operatives carry out daily checks of the site to identify the risks and to inspect the storage bays. Visual checks on moisture content are included and any excessively wet loads will be monitored to check for 'steaming off'. If identified, the stockpile will be rotated using a tele-handler.

To reduce the likelihood of hotspot development within material storage areas the storage time is minimised. Under normal operating conditions, all material received on site is processed and removed within a maximum of 5 days.

The site operates on a 'first in, first out' basis. Material is deposited on alternate sides of the material specific bay and emptied at least 4 times per week starting with the material that was accepted first. For example, material is deposited into the left side of the bay on Monday and the right side on Tuesday. It is then removed from the left side first followed by the right and the process repeats like this. Therefore, stock rotation is not required.

During normal operating conditions, materials are not driven over by on site plant to avoid compaction, which may contribute to a build-up of heat within the pile.

The only treatment of material on site is bulking up, therefore all material is stored in its largest form prior to being removed from site.

Stockpiles are visually inspected throughout the day and the findings logged within the site diary at the start and end of each shift as a minimum.

To summarise, stockpiles are managed as follows to minimise self-combustion:

- Stockpile storage times are minimised;
- Risk factors (e.g. mixing of materials) are reduced;
- Stockpile sizes are minimised;
- Stored materials are rotated, on a first in and first out basis; and
- Hotspots are detected and controlled within stockpiles by:
 - Routinely visually monitoring stockpiles; and
 - Minimising external heating during hot weather by avoiding ignition hot spots / concentrated beams of sunlight or glare reflected onto stockpiles through surfaces.

2.6 Plant and Equipment on Site

The following items of mobile plant are held on site:

- 2 x Tele-handlers.

Daily checks are carried out on all mobile plant and any findings are recorded in the site diary. All mobile and fixed plant servicing and maintenance is carried out as per the manufacturer's instructions. Any defects that might harm the environment are entered into the incident management system.

All mobile plant is fitted with fire extinguishers as are all vehicles entering the site.

Any mobile plant not in use is temporarily stored within the collection vehicle parking areas as illustrated on Drawing 002. The storage areas are located over 6m from any combustible material.

Plant and equipment are visually inspected prior to every use to ensure it is fit for purpose.

2.7 Training

Staff receive training in the use and selection of fire extinguishers, site evacuations, fire safety and all relevant emergency procedures.

All staff and contractors working on site are made aware of the contents of the FPMP and the procedures that are in place in the event of a fire on site during their induction. Staff training is regularly refreshed particularly in the event of non-compliance.

The procedures for fires discovered on site are provided both in the site's EMS and on-site notice boards.

PCC review the FPMP at least once a year, or in the event of any significant changes to site operations, to ensure that the contents are still relevant and that all staff members' knowledge is current and up to date. Fire evacuation drills are conducted every 6 months.

2.8 Security Measures

The site is entirely enclosed by 2.4m high metal palisade fencing. There are lockable gates at the site's access point which will be locked outside of operational hours.

The gates and fencing are inspected weekly to identify any weaknesses or defects. Any defects identified are repaired with a temporary solution within 24 hours, with a permanent fix implemented within 7 days, unless a timescale is otherwise agreed with the NRW.

The site benefits from a recorded CCTV system that provides full coverage of all external and internal areas on site and all doors to buildings are locked when not in use.

2.9 Fire Sources and Prevention Measures

Table 2-3 below provides a summary of the potential causes of fire on site and associated preventative measures and is taken from the FPMP guidance.

Table 2-3
Fire Sources and Preventative Measures

Cause	Preventative Measure
Arson and Vandalism	<p>The site has a number of security measures in place to limit the likelihood of arson or vandalism including:</p> <ul style="list-style-type: none"> ■ Perimeter fencing with a gated entrance which is locked if appropriate; ■ Lockable doors on the processing building and office/welfare facilities; ■ Full recorded CCTV coverage of all areas; ■ Intruder alarms in the office and welfare buildings monitored by CSL Dualcom; ■ Inspection and maintenance procedures; and ■ A visitor sign in system. <p>In the event of a breach of security at the site, the cause will be investigated, and appropriate mitigation measures implemented. This will be recorded in the Daily Site Log. Records maintained will include inspections and maintenance of doors and locks, breaches of security, investigations and actions taken.</p>
Site Visitors and Contractors	<p>Site safety and fire prevention procedures are explained to all site visitors and contractors. Site visitors are accompanied at all times by a site operative.</p>
Self-Combustion	<p>Effective stock management limits the likelihood of the self-combustion of materials stored on site. As such, the site has waste acceptance and stock management procedures which are upheld by all employees at the site, as detailed in Section 2.2.</p> <p>The majority of material accepted on site originates at households where it will have been stored for short periods of time before collection. The risk of self-combustion is significantly removed due to the short overall storage time of material.</p> <p>Only material included in Table S2.1 of the EP are accepted at the site.</p> <p>Non-waste materials that pose a risk of self-combustion are stored as indicated in Table 2.2.</p>
Plant or equipment failure	<p>Plant and equipment are maintained in accordance with the manufacturer's recommendations. All new plant on site is fitted with telematics, which automatically highlights any faults.</p>

Cause	Preventative Measure
	<p>Plant and equipment are operated in accordance with the manufacturer's instruction manuals. Instruction manuals for plant and equipment are held either on site or online if a hardcopy is not available from the manufacturer.</p> <p>No industrial heaters are utilised on site. A low-pressure hot water system with associated radiators on a timer system are provided in the office and welfare areas. There is no heating provided in the main building.</p> <p>Induction training and refresher training is provided to staff in the safe operation of plant and equipment relevant to their role, in accordance with the EMS.</p> <p>Inspection of plant and equipment is undertaken on a daily basis to check for faults and ensure appropriate safeguards are in place. The procedure also covers general housekeeping and cleaning of plant and all equipment on site.</p> <p>Storage of mobile plant is detailed in Section 2.6 above.</p> <p>In the event of a failure or suspected fault with an item of plant or piece of equipment, the operator will ensure that the equipment is shut off in a safe manner and not used until the equipment can be repaired or replaced.</p>
Electrical faults (including damaged or exposed electrical cables)	All electrics on site are fully certified by a qualified electrician and regular safety inspections are carried out in accordance with the EMS. Records of faults and/or daily electrical maintenance are recorded in the site diary. Annual PAT testing is carried out on all electrical devices.
Naked lights	All ignition sources are kept a minimum of 6m away from the storage of combustible and flammable materials. No naked lights are permitted on site.
Discarded Smoking materials	No smoking is permitted on site.
Hot works	<p>All hot works are undertaken under a permit to work system which includes a 60-minute fire watch by a competent person at the end of the works. No hot works will be carried out within the last 2 hours of the working day. No hot works are undertaken by staff unless they are trained and have the relevant permit to work.</p> <p>All hot works are conducted in a cleared area of the site at least 6m from any combustible materials. A site operative performs a continuous fire watch during the hot work and for a minimum of 60 minutes after the work is completed.</p>
Hot Exhausts	Vehicles are turned off when not in use. Consideration is given to the high-risk time for hot exhausts (one hour after switch off when dust can settle on hot surfaces) and wherever possible vehicles are given time to cool down prior to site staff leaving site at the end of a shift. Plant is parked a minimum of 6m from material storage, minimising potential for exhausts to result in ignition of materials when left unattended following the end of the shift.
Open Burning	Burning is not permitted on site.

Cause	Preventative Measure
Reactions between incompatible materials	<p>To ensure that incompatible materials or reactions do not take place, material is offloaded at the site supervised by suitably qualified site operatives.</p> <p>Only vehicles that are accompanied by the correct documentation are accepted onto site. Material undergoes a visual inspection at the point of deposit into the building.</p> <p>Tanks containing fuel are constructed so that any leaks/spillages are contained. Tanks are integrally bunded with a leakage containment bund capable of containing at least 110% of the volume of the tank. Bunds are impermeable and resistant to the stored materials.</p>
Neighbouring sites	<p>The site is located within a predominately rural area with no immediate neighbours that pose a risk of fire.</p> <p>Employees remain aware at all times and report activities or behaviour which could represent a fire risk from nearby sites to the site supervisor. The manager will then take action as appropriate to address the risk.</p>
Incompatible Wastes (Including reactions between incompatible materials and batteries)	<p>All materials arriving onsite are checked in accordance with the waste acceptance procedure, details of which are included within Section 2.2 of this FPMP, to ensure no non-conforming materials are accepted at the site.</p> <p>Any identified non-conforming materials are safely handpicked and moved to the relevant bay or into the residual waste bays for removal from site. Any non-conforming material not suitable for separation into the existing streams on site will be placed in the quarantine area if safe to do so. Any non-forming material that is not safe to move to the quarantine area will be cordoned off and site operations suspended in that area.</p> <p>Any identified batteries are safely handpicked and placed into the specialised battery storage box supplied by the off taker.</p> <p>Spillages and leakages of fuels and oils will be handled in accordance with the Accident Management Plan.</p>
Hot loads deposited at site	<p>No burning, reactive / reacting or visibly hot (producing steam or heat) loads are accepted on site. In accordance with the waste acceptance procedure detailed within Section 2.2 of this FPMP, each load is visually inspected at the site entrance to ensure compatibility with accompanying delivery notes, therefore minimising prohibited materials and the acceptance of hot loads.</p> <p>Instructions are given to customers to ensure no hot loads are accepted on site.</p> <p>Should a hot load be deposited on site, it will immediately be removed to the dedicated quarantine area and removed from site the same day to a suitably licenced facility for disposal.</p>
Build-up of loose combustible waste, dust and fluff	<p>As outlined in Section 2.3, the site undergoes daily cleaning using brooms, and weekly washdowns using hoses/jet wash to prevent a build-up of debris and dust on site.</p>

Cause	Preventative Measure
	PCC adopt good housekeeping measures on site.
"Tramp" metal	Materials are pre-segregated before acceptance on site and the waste acceptance procedures outlined in Section 2.2 ensure a low risk of contamination.

3.0 Fire Management

3.1 Containing and Mitigating Fires

A fixed fire suppression system, such as a deluge or high-level sprinkler system is not considered to be appropriate or Best Available Technique (BAT) for buildings that are open and have very high ceilings.

The nature of the on-site building is that it has very high ceilings with the roller shutter doors opened periodically throughout the day.

Because such systems rely on being activated by heat sensors located in the roof of a building, they need to detect a temperature well above 50 degrees to be activated. However, in large buildings with high ceilings, a 'cold air plug' would typically develop at ceiling level during the early stages of a fire due to cold air becoming trapped above the rising hot air. This means that the system is only likely to be activated in this type of building once a fire has become deep seated.

Therefore, the most effective way of minimising the time it would take to extinguish a fire in this type of building, is to focus on early detection and monitoring of material piles. This allows any potential fire to be detected and managed at the earliest possible stage when on-site plant can be utilised to move material and isolate a fire so that it can be suppressed and extinguished quickly using extinguishers.

As discussed in Section 2.1, the site benefits from an extensive series of detection systems and is manned between 07.00 and 16.00 Monday to Friday, therefore fires will be detected early by the trained employees or the automatic detection system in and out of operational hours.

The local FRS will assume full control for the approach to suppression/extinguishing of any fire once it is in attendance at the site.

3.1.1 Manual Fire Suppression

The locations of all fire extinguishers on site are illustrated on Drawing 002. Foam, carbon dioxide and powder extinguishers are provided across the site. The extinguishers are inspected annually.

The bulking shed is constructed to the appropriate standards. Should fire compromise the stability or integrity, the buildings and site will be immediately evacuated.

3.1.2 Site Plans

Up-to-date site plans are on display in the site office and detail:

- Site layout;
- Material storage arrangements;
- Firefighting equipment locations (Pollution Control Equipment); and
- Personal Protection Equipment (PPE).

In addition, all procedures relating to emergency procedures on site, including fires, are held within the site office and can be easily found and are readily available.

3.2 Managing Emissions to Air, Land and Water

3.2.1 Fire Combustion Emissions

As detailed in Section 2.1, the building is alarmed and has a fire detector connected to a 24hr alarm receiving centre ensuring rapid detection of a fire and minimisation of damage and emissions. The fire will likely be contained within the building and the waste is classified as non-hazardous.

The bulking shed has roller shutter doors to aid fire-fighting by enabling the clearance of any smoke. This provides multiple access points to the building for the FRS.

3.2.2 Emergency Response

As detailed in Section 3.6.3, all firewater will be contained within the site via site kerbing and permanent bund features comprised of a containment wall along the southern boundary and a 75mm bund at the site entrance. All penstock valves will be closed to prevent the release of firewater to surface or foul water. The closure of the valves is completed electronically and can be carried out remotely without the need to be on site. The FRS will collect and reuse firewater where possible to reduce the volume of water requiring containment and therefore reduce the risk of any emissions to water.

3.3 Fire Drills on Site

A fire drill is carried out and documented on a 6-monthly basis.

This FPMP is implemented across the site and all fire management equipment is tested on an annual basis.

If any issues are found during these fire drills, the FPMP will be updated or amended accordingly and site operatives will be re-trained.

Regular checks are made of all escape routes and equipment.

3.4 Emergency Contact Details

An emergency contact sheet is included in Appendix 01. In the event of a fire the following procedure will be followed:

- The site supervisor or individual nominated by the site supervisor will locate the emergency contact list included in Appendix 01;
- In the event of a large fire, 999 will be dialled first;
- The site supervisor or individual nominated by the site supervisor will phone each of the local receptors included in Appendix 01, followed by the sewage service if appropriate to do so; and
- Finally, the NRW incident hotline will be dialled once the situation is under control.

PCC will use its website and social media channels to further communicate information regarding the fire event.

3.5 Firefighting Strategy and Procedures

3.5.1 Firefighting Strategy

There is sufficient space within the operational areas on site to move unburnt material to the quarantine area as outlined in Section 3.8.1.

Mobile plant required to move material from within bays and to move skips/containers is available at all times.

As detailed in Section 2.7, site operatives are trained in the use of fire extinguishers, fire safety and procedures for moving material to the quarantine area. A trained Fire Marshal is always present on site.

Depending on the severity and location of the fire, the following techniques may be used:

- Applying water to cool unburnt material within a bay or a skip and other nearby hazards; and
- If safe to do so, separating unburnt material from a bay or skip using a tele-handler and placing it in the quarantine area thereby reducing the amount of material available to be burnt.

3.5.2 Firefighting Procedures

Small Fire

A small fire or area of smouldering waste will be dealt with as follows:

- A fire or area of smouldering waste will not be dealt with in-situ, mobile plant will be utilised to pull the affected waste into the open and away from any further waste that could become a light on contact; and
- If safe to do so, the fire the waste will extinguished immediately⁸ utilising the fire extinguishers or hose reels.

Once a small fire is dealt with the remaining area will be visually inspected immediately by site operatives for any signs that a fire / smouldering waste still remains. The same procedure, detailed in this section, will be implemented should this be the case.

Uncontainable Small Fire or a Large Fire

The following procedure is in place on site that will be followed in the event of a small fire becoming uncontainable or in the event of a major fire onsite:

- The site supervisor and FRS will be contacted immediately. The local sewerage service and NRW will be notified at the first opportune moment;
- The site and buildings will be evacuated; and
- The penstock valves will be closed. During operational hours the valves will be closed immediately upon discovery of the fire. Outside of operational hours, the site supervisor

⁸ Should a single item of the waste stream be alight, and the fire is well contained, then the waste will be doused via use of an extinguisher/hose reel as it is pulled from the waste pile. The burned / fire- damaged portion will then be removed to the quarantine area and the remaining waste returned to the pile.

will be notified of the fire by the fire alarm receiving station and the valves will be closed remotely before firefighting commences on site.

3.5.3 Additional Procedural Considerations

The following techniques will be considered in addition to extinguishing a fire using water:

- Reducing the amount of firewater run-off generated by using sprays and fogs rather than jets (this is the responsibility of the FRS); and
- Recycling firewater will occur if it is not hazardous and it is possible to reuse.

Site operatives will work in conjunction with, and take instruction from, the FRS if they deem recycling firewater to be a possibility.

The following parameters will be considered when determining which firefighting options/strategy to implement in the event of a fire:

- The scale and nature of the environmental hazards on site and the activities that take place on it;
- The risks posed to people, the environment and property;
- The types of materials currently stored on site, in what form they are stored in and the length of time needed to extinguish a fire involving them; and
- The availability of firewater containment facilities.

3.6 Fire Waters

3.6.1 Site Drainage

The main details of the site's drainage system are illustrated on Drawing 003 and described below.

The site operates under a discharge consent to public sewer (009188V). The external storage bays, the vehicle wash down area and the internal bulking shed all connect to the foul pipeline. The external storage bays and the vehicle wash down drain to a washdown silt separator fitted with an alarm. All foul drainage flows into a class one full retention oil separator before entering an attenuation tank connected to the public sewer.

All surface water collected from the building roofs and from the external yard area passes through a class one full retention oil interceptor before entering one of two soakaways on site.

3.6.2 Firewater Calculations

Based upon the FPMP guidance firewater calculations a 300m³ stack of combustible material will require an average water supply of at least 2,000 litres a minute for a minimum of 3 hours. This equates to approximately 360m³ of water. Based on this calculation and the largest stockpile within each area of the site, the water requirements are as follows:

- Bulking Shed: 249,642 litres (249m³); and
- External Storage Bay (Green Waste): 184,000 litres (184m³).

Sources of water available onsite are:

- 1 x Hydrant as shown on Drawing 003; and

- The on-board water supply from FRS vehicles.

3.6.3 Fire Water Containment

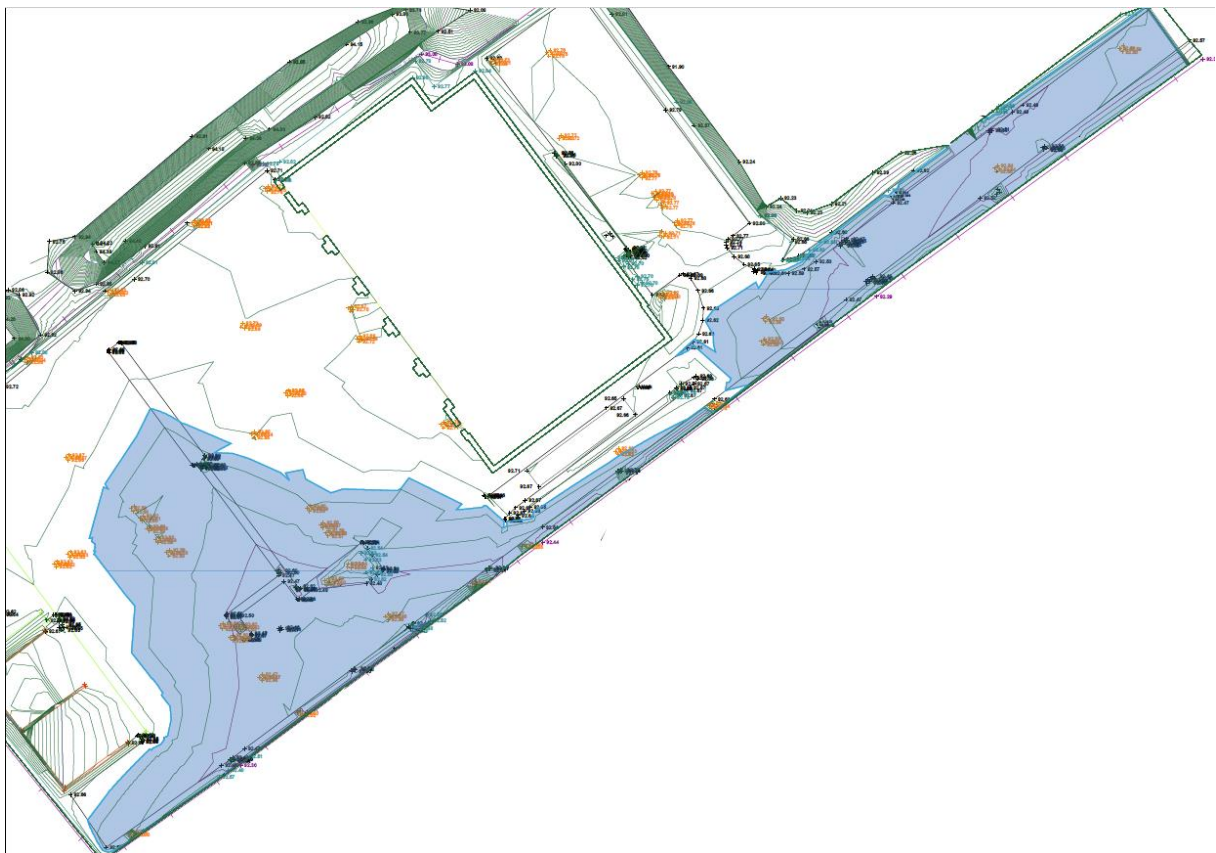
The containment capacity of the site has been modelled using 'Civil 3D' software based on the required firewater for material stored within the bulking shed and the external green waste bay as shown in Section 3.6.2 above.

The primary means of containment on site is provided by the site perimeter kerbing, a containment wall constructed along the southern boundary of the site and a 75mm ramp at the entrance to the site. In the event of a fire, all penstock valves will be closed prior to the commencement of firefighting activities to prevent the release of firewater outside the site through the surface or foul water drainage systems. The penstock valves are closed electronically and can be closed remotely from outside the site. All containment features are illustrated on Drawing 003.

Any firewater contained within the site will be removed via tanker to a suitably authorised facility.

Figure 3-1 illustrates the containment capacity of the site. The volume of water shown is 259,000 litres (259m³), therefore the site is capable of containing the worst-case firewater requirements calculated in Section 3.5.2 above.

Figure 3-1
Modelled Firewater Containment



3.7 Management after a Fire Event

After a fire event, the following procedure will be implemented depending on the severity of the fire:

- A small and containable fire that can be safely dealt with in-house using suitably trained staff and firefighting equipment located on site: The fire will be recorded in the site diary, including the causes of the fire and methods used to manage the fire. An assessment will be carried out to determine whether further mitigation measures could have prevented the fire. Any outcomes to be implemented onsite will be incorporated within this FPMP and the site's EMS as required.
- A larger fire that requires the presence of the FRS: If the site operatives have been told to evacuate or cease operations by the NRW and/or FRS, the site will wait until told safe to re-enter site and resume operations. All incoming material will be diverted to the authorised facilities shown below and no material collections will take place during the fire event. Any closure of the site will be followed by informing customers and the regulatory authorities. The fire will be recorded in the Daily Site Log and in an incident report and will detail the causes of the fire and methods used to manage the fire. An assessment will be carried out to determine whether further mitigation measures could have prevented the fire. Any outcomes to be implemented onsite will be incorporated within this FPMP and the site's EMS as required.

Should damage be sufficient to prevent the site from being able to store material, the site will cease accepting material and will divert to Rhayader Waste Transfer Station (EPR/DB3930AB).

The site supervisor will liaise with NRW to determine a plan-of-action to introduce normal operations at the site, and the timescales involved to achieve this.

3.8 Fire Damaged Material

A visual assessment will be carried out by the site supervisor to determine whether the material can remain on site and bulked up. Wherever possible, unburnt material s will be separated from fire damaged piles. If material piles have become mixed, then it is likely that the material will be removed from site to a suitably permitted facility.

Site Management will determine what decontamination and cleaning measures will be required to be carried out proportionately to the impact caused by the fire. Measures to be implemented include (but are not limited to):

- Hose down affected areas;
- Sweep/brush up any loose burnt material or contaminated firewater ready for removal from site; and
- Assess any damage to site infrastructure as detailed below.

After a significant incident, an assessment will be undertaken by a suitably qualified individual. Technically competent managers and/or engineers and/or the insurance company will assess the degree of damage caused by a fire and the residual risk from fire damaged material, emissions or equipment. Burnt material will be kept on site for a short period of time if required for a subsequent internal investigation. Following this, the material will be transferred off site to a suitably licensed disposal facility.

The period of time taken to restore the site or affected part of the site to operational status will be determined by the nature and extent of the fire. If the affected area does not impact the rest of the site's operation, operations will re-start as and when appropriate.

3.8.1 Quarantine Area

The site benefits from a dedicated fire management quarantine area that can hold at least 50% of the largest stockpile on site. The quarantine area will remain clear at all times.

The location of the quarantine area is illustrated on Drawing 002 and detailed in Table 3-1 below.

Non-conforming material will be handled in one of the following ways:

- Deposited within the residual waste; or
- Handpicked in the existing bay.

Table 3-1
Quarantine Area Dimensions

Quarantine Area	Primary Use	Length (m)	Width (m)	Height (m)	Volume (m ³)
Fire Prevention	Separation of unburnt material.	6.0	6.0	3	108

The quarantine area will always have a separation distance of at least 6m on all sides. The largest stockpile on site is 207m³ therefore the quarantine area is able to hold at least 50% of the largest stockpile.

The quarantine area will be used to store unburnt material that has been separated from any burning material to prevent any further fire spread. The area will not be used to douse burning material therefore no containment measures for firewater are required.

The placement of the quarantine area in this location provides an open area of the site to allow for the prompt and direct removal of unburnt materials from the material storage and to allow access by the FRS.

Site Management will instruct all site operatives when and how the unburnt material, or any hot loads delivered accidentally to site, will be moved to the quarantine area. The following procedure will be implemented on site:

- When it is safe to do so, the material will be moved by on site plant to the quarantine area;
- The movement of the material will be overseen at all times by the site supervisor to minimise any spillages and ensure the area is not overfilled; and
- To limit any spillages, plant will not be overfilled when moving the material.

All site operatives will be trained to follow this FPMP and all procedures listed in the above sections.

4.0 Conclusion

This FPMP is considered to be a 'working' document that is reviewed and updated annually or as required should any of the following occur:

- A fire on site;
- A change or review of legislation; or
- If the site is instructed to do so by the NRW.

It is the responsibility of the site supervisor or nominated person to maintain this FPMP and to ensure it is adhered to in the event of a fire on site.

Appendix 1: Emergency Contact Sheet

Fire Service (in the event of a major fire)

- 999 or 112

Natural Resources Wales Hotline (24 hour service)

- 0300 065 3000

Local Receptors (with associated directions)

- SDW Plant Hire & Sales (West): 01686 630270;
- Morris Rogers & Sons Abermule Ltd (North-East): 01686 630327;
- Gareth Pugh Steel Framed Buildings North-East): 01686 630500;
- The Abermule (North-East): 01686 630117;
- Smithy Park (North-East): 01686 630657;
- Abermule Mobile Service Post Office (North-East): 01686 650516; and
- Abermule County Primary School (North-East): 01686 630240.

Sewage Service – Hafren Dyfrdwy Emergency Number (24-hour service)

- 0800 085 8033

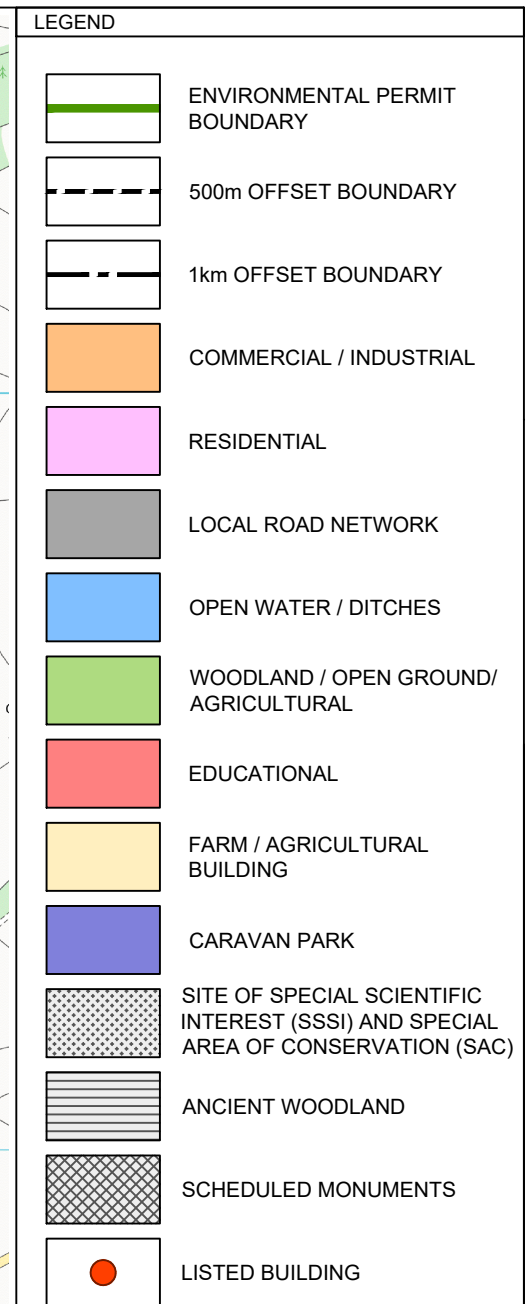
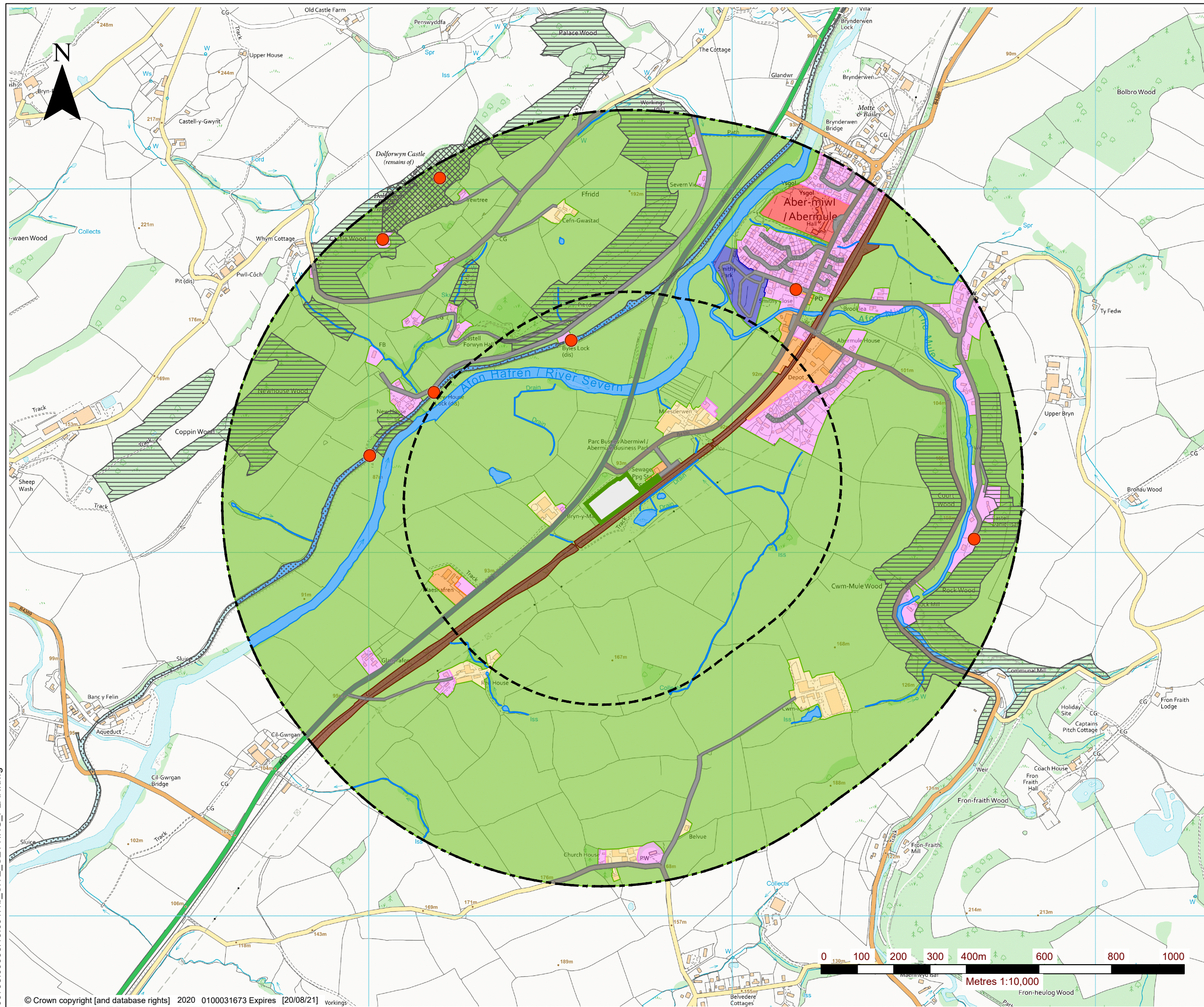
North Powys Bulking Facility

- Mark Jones: 07920138363 (Emergency Key Holder); and
- Mark Francis: 07403271997 (Emergency Key Holder)

Appendix 2: Drawings

Drawing 001	Environmental Site Setting
Drawing 002	Site Layout and Fire Management
Drawing 003	Site Drainage

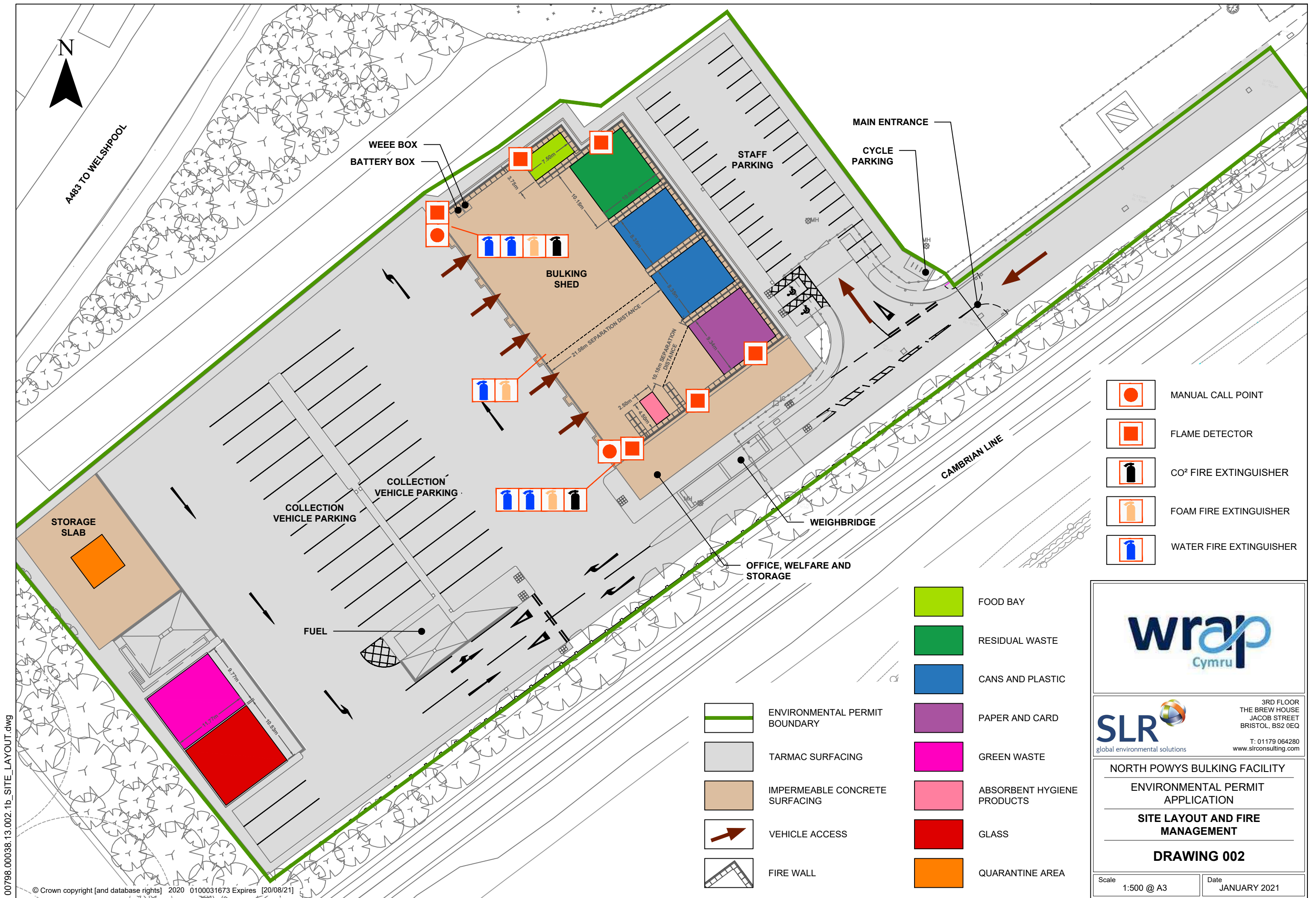
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ENVIRONMENTAL SITE SETTING
DRAWING 001

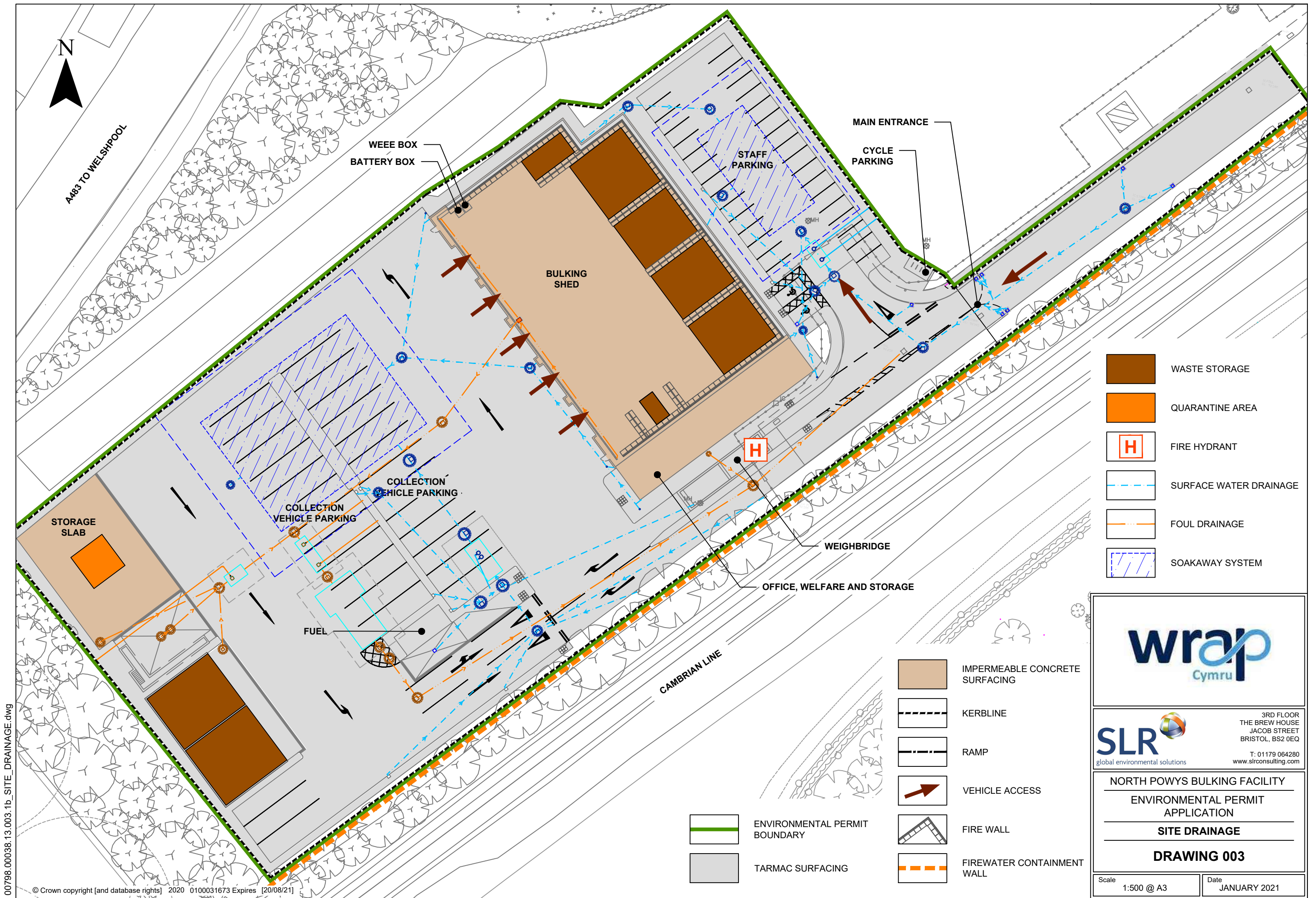
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- WASTE STORAGE
- QUARANTINE AREA
- FIRE HYDRANT
- SURFACE WATER DRAINAGE
- FOUL DRAINAGE
- SOAKAWAY SYSTEM

- IMPERMEABLE CONCRETE SURFACING
- KERBLINE
- RAMP
- VEHICLE ACCESS
- FIRE WALL
- FIREWATER CONTAINMENT WALL

- ENVIRONMENTAL PERMIT BOUNDARY
- TARMAC SURFACING

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NORTH POWYS BULKING FACILITY

ENVIRONMENTAL PERMIT APPLICATION

SITE DRAINAGE

DRAWING 003

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