



Fire Prevention Plan

Premises/Depot Name	Pyle Community Recycling Centre
Location Address:	40b Sturmi Way, Village Farm Industrial Estate, Pyle, Bridgend, CF336BZ
Post Code/Grid reference:	CF33 6BZ / SS 83427 81951
Contact Tel:	07554668972 / 01656726010
Person responsible for location:	<i>Gareth Barnes</i>
Permit No:	TBC
Date:	<i>January 2024</i>
Next Review Date: Plan must be reviewed every twelve months as a minimum.	<i>January 2025</i>



Contents

1. Introduction	1
1.1. Document scope	1
1.2. Review and monitoring of the FPP.....	1
1.3. Communication of FPP.....	1
1.4. Incident reporting and investigation	2
2. Site activities	3
2.1. Waste activities.....	3
2.2. Other activities.....	3
3. Site plans	4
3.1. Site description	4
3.2. Drainage plans	5
3.3. Sensitive receptors.....	5
4. Neighbours	7
5. Geology	7
6. Common causes of fire and preventative measures	8
6.1. Arson or vandalism	8
6.2. Ignition sources.....	8
6.3. Self-combustion	8
6.4. Plant, equipment or equipment failure	8
6.5. Discarded smoking materials.....	9
6.6. Hot works.....	9
6.7. Industrial Heaters.....	9
6.8. Hot Exhausts	10
6.9. Damaged or exposed electrical cables.....	10
6.10. Reactions between wastes	10
6.11. Deposited Hot Loads.....	10
6.12. Build-up of loose combustible, waste, dust or fluff.....	10
6.13. Batteries within waste deposits.....	10
6.14. Cylinders stored at the site.....	11
6.15. Leaks and spillages of oils and fuels.....	11
7. Storage times and self-combustion factors	12
7.1. Storage Time Management	12
7.2. Waste Bale Storage.....	12

8. Managing waste material stack and separation distances	13
8.1. Preventing spread of fires	13
9. Stack sizes and separation distances	14
10. Baled waste storage	16
11. Enclosing Stacks using bays and walls	16
12. Waste stored within a building	17
13. Waste stored in containers	17
14. Layout of waste stacks on site	19
15. Seasonality and waste stack management	19
16. Monitoring and turning of stacks	19
17. Fire detection	20
17.1. Fire detection systems	20
18. Fire suppression system	22
19. Firefighting strategy	23
20. Water supplies	24
21. Managing water run-off	26
22. Designed quarantine area	29
23. During and after an incident	30

Tables

Table 1. Sensitive Receptors	6
Table 2. Plant and equipment.....	9
Table 3. Summary of combustibles.....	15
Table 4: Waste containment.....	18
Table 5. Water supply	25
Table 6. Surface water storage capacity	26
Table 7. Foul water storage capacity	27

Figures

Figure 1: Site Location plan.....	5
Figure 2. Photo of installed canopy	16
Figure 3. Proposed canopy layout plan.....	17

Appendix

Appendix 1 Depot layout	
Appendix 2 Site photos	
Appendix 3. Drainage Plan	
Appendix 4 Sensitive receptors	
Appendix 5 Building Layout	
Appendix 6. Fire hydrant locations	
Appendix 7 Prevailing Wind	
Appendix 8 Key site features	
Appendix 9 Areas of made/unmade ground	
Appendix 10 containment buffer zones	
Appendix 11 Borehole Map	
Appendix 12 Hydrogeological map	
Appendix 13 Watercourse Map	
Appendix 14 Canopy Plan	
Appendix 15 Combustible waste containment types	

1. Introduction

1.1. Document scope

This purpose of this fire prevention plan (FPP) is to determine the standards that shall be adopted to minimise the risk of fire occurring at the Pyle CRC that holds an environmental permit to store treat and transfer combustible materials.

This plan has been written in accordance with the NRW's "Fire Prevention & Mitigation Plan Guidance – Waste Management" and shall identify fire prevention standards to be followed which shall also be reflected in the site's waste working plan and Kiers management system and be implemented on site.

This FPP shall be implemented in accordance with the site's environmental permit, fire log and other relevant fire documentation with an aim to identify measures to:

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

This plan does doesn't replace any statutory requirements for sites controlled under local acts of parliament, the Regulatory Reform (fire safety) Order 2005 or other applicable legislation and should be read in conjunction with the following documents which form part of the wider management system:-

- Premises Management Register
- Waste Working Plan/EMS/Environmental Management Plan
- Bespoke environmental permit (permit ref. tbc)
- Incident Response Register/Site Fire Plan (addresses risk to persons)
- Incident Reporting and Investigation Standard (SHEMS-STD-GR-011)
- Drainage plan
- Site layout plan
- Traffic Management Plan
- Disaster Recovery and Business Continuity Standard (SHEMS-STD-GR-2018)
- Major Incident Response Plan (SHEMS-STD-GR-013)

1.2. Review and monitoring of the FPP

The Fire prevention plan will be reviewed annually to ensure the information provided is up to date and reflects current site activities and processes.

In the event of changes of circumstances at the site, the FPP will receive an additional review, the required updates will be made and NRW contacted to ensure the site remains compliant.

1.3. Communication of FPP

The FPP shall implement measures to prevent, detect, suppress, mitigate and contain fires. All staff and contractors working on-site shall be aware and understand the contents of this plan and the actions to take during a fire. All staff shall know where the FPP is kept. Regular exercises shall be undertaken to test how effective the plan is and assess the emergency preparedness of all staff working on the site.

1.4. Incident reporting and investigation

The Kier Incident Reporting and Investigation standard (SHEMS-GR-STD-011) is fully implemented at this site, so that any near misses, dangerous occurrences or accidents are all reported promptly to management and the SHEA Team, followed up and investigated thoroughly. This is all recorded on the Kier Airsweb system and any corrective actions required, or lessons learned are shared and promptly implemented. Any actions arising from investigations will be assigned to local managers for completion.

2. Site activities

2.1. Waste activities

The facility operates as a Household waste recycling centre for the receipt, storage, bulking and despatch of mainly segregated waste materials.

Materials will be brought to the facility by the public. Materials will either:

- A. Be tipped/deposited into individual open/closed storage containers, to be hauled out of depot in same loose state it arrived.
- B. Sorted by hand (if refuse) into segregated recycling streams and subsequently deposited into open/closed containers.

When containers require emptying, vehicles operated by Kier or an approved contractor will load and transport the containers to the disposal point. All transfers will be accompanied by a waste transfer note/consignment note.

Equipment – The Fuchs MH250 grab machine is fuelled by diesel and is a potential fire risk. The machine is under a maintenance contract which includes regular servicing and maintenance of the equipment. The red diesel fuel tank is also a fire risk. The diesel tank will be subject to a DSEAR assessment and is located at least 1m away from any potential source of ignition. CRC operatives undergo specific Fire Risk training and provide a fire watch during all operations. A fire risk assessment will be carried out and extinguishers are provided across the site.

2.2. Other activities

Vehicles Parking – See section 6.

There will be adequate parking facilities for site operatives and reuse shop staff/customers. 14 parking spaces in total including 1 accessibility space.

Customers will park in the reception bays near to the type of waste being deposited. Traffic flow is managed by site operatives.

3. Site plans

3.1. Site description

The site is located at 40B Sturmi Way, Village farm industrial estate, Pyle, CF330NB, National Grid reference SS834820. The site covers an area of 0.56ha. A site location included within the document shows the site operational area referred to as 'the site' within this report in a red boundary. The site has an entrance for staff which connects to Heol Mostyn and a second entrance for customers which connects to Sturmi Way (see figure 1).

The site is surrounded by industrial development on three sides with a lane to the rear which currently has a residential area in build

There are one building on site, comprising a 2-floor set of office block constructed with a brick exterior with a block interior with stud walls. The ground floor has a reuse shop. The 1st floor has 4 offices and a meeting room.

The site houses a 48m x 5m canopy over the main waste reception area partially covering the skip bays. The roofed areas will be monitored and checked for water ingress and structural defects. The canopy is installed in line with building regulations.

The main yard area, waste storage bays, oil bank areas etc are surfaced with concrete pavement. All areas of the site are either hardstanding or pavement and there is no natural or unmade ground at the site.

The main waste container bays will be constructed with 150mm of type 1 material, 200mm thick slab and retaining wall comprising C40 grade concrete, 20mm maximum aggregate size and 1 layer of A393 reinforcing mesh. All contraction and expansion joints will be made impermeable with sealant compound.

Operating Hours - 1st October to 31st March 09:00 to 16:00 7 days per week
- 1st April to 30th September 08:30 to 19:00 Mondays to Friday
- 1st April to 30th September 08:30 to 18:00 Saturday and Sunday
- Closed Christmas Day, Boxing Day and New Years' Day.

Appendix 1 shows a detailed layout of the site plan.



Figure 1: Site Location plan

3.2. Drainage plans

See Appendix 2 for the drainage plan.

The site has both Surface and foul sewer on site.

Surface Drainage – All of the roadways, outer access areas and parking areas all drain into the surface drainage system which passes through an attenuation tank and interceptor situated to the south east corner of the site which discharges into the surface sewer on Heol Mostyn.

Foul Sewer – The waste from the welfare facilities, building and the skip storage area discharge into the foul drainage systems and passes through an attenuation tank and discharges into the foul sewer on Sturmi Way.

3.3. Sensitive receptors

Sensitive receptors have been identified within 1km of the site (Appendix 3) and are listed in the table below:

Sensitive Receptor List		
Location	Distance (m)	Direction from site
Surface Water		
Drain	84.3	N
Drain	87.3	NE
Drain	458.9	W
Drain	395.3	NE
Transport		
A48	373.1	SW
Rail – Bridgend line	196.7	S
M4	987.3	S
Nearest Housing		
Meadow Avenue	450	N
Cribbwr Square	512.9	NW
Bowyer Street	492.5	NNW
Heol Ty Draw	808	W
Schools		
Kenfig Hill Comprehensive School - East Ave, Kenfig Hill, Bridgend CF33 6NP – 740294	460	NE
Mynydd Cynffig primary school – Pwllgath Street Kenfig Hill Bridgend CF33 6ET 01656 815710	914	NNE
Pyle primary school – Pyle Inn Way, Pyle, Bridgend CF33 6AB 01656 815630	894	NNW2
Local Business		
Industrial Estate	Neighbours	All sides
Other		
Fire station - Ffald Rd, Pyle, Kenfig Hill CF33 6AD - 01443232000	825.8	NW
Eastern Frog pond wood local wildlife site.	638	E
Llys Ton nursing home - Waun Bant Road, Kenfig Hill, Bridgend CF33 6DE - 0300 123 2100	720.6	NNE
Pen Y Castell, Cefn Cribwr SSSI	884.9	E
Waun Cimla SSSI	1606	NE
Stormy down SSSI	1652	SE
Waun Fawr SSSI	2101	E
Asda Superstore	747	NW
Frog Pond wood nature	638	E
Pyle Garden Centre - 01656 741443	639.08	W

Table 1. Sensitive Receptors

4. Neighbours

On the site's Western boundary is Edwards machinery. At the southern border is Shillibiers utilities and aggregates. All combustibles on site are more than 6m to these boundaries. There are no premises to the north or the east of the site.

5. Geology

According to the British Geological Survey (BGS) 1:50,000 mapping (Sheet 262, Cantrill et al.(1901)), the geology comprises superficial head deposits and alluvium over Mercia Mudstone in the south of Site. To the north, likely separated by a fault running in close proximity to the Site, the alluvium is underlain by limestone and mudstone interbedded bedrock geology of StMary's Well Bay Member.

The BGS Onshore Geindex indicates one historical borehole (reference SS88SW154) within 0.7km (east) of the Site presented in Appendix 8. It records the following sequence of strata:

- 0.15m thickness of Topsoil
- 0.25m thickness of Alluvium
- 1.7 thickness of Head deposits
- 2.15m thickness of Glacial silts and clays (lacustrine deposits)
- 0.2m+ thickness of St Mary's Well Bay Member (base not proven).

See borehole map Appendix 8

See flood map Appendix 9

See Watercourse map Appendix 10

6. Common causes of fire and preventative measures

6.1. Arson or vandalism

The site is wholly contained within the boundary of 40b Sturmi Way. Perimeter security fencing bounds the site and all access points have lockable steel gates. All access points are kept locked when the site is unattended.

Additional security is provided via a security company 24/7/365 CCTV (Closed Circuit Television) & APNR (Automatic Number Plate Recognition) monitoring. The cameras are connected to monitors and recording equipment in the site office.

Site lighting will be provided by floodlights (or other), these are linked to a timer controlled within the site office. An approved electrician is on standby to attend site if any lighting fails.

The site office has full view of the waste deposit areas. A large, clearly visible sign is affixed to the boundary fence adjacent to the entrance gate, displaying the name and address of the site, the opening hours, and details of Natural Resources Wales as the Licensing Authority.

All visitors/contractors will receive a site induction which includes the fire evacuation plan. Signage on fire evacuation/assembly will be erected and visible. All residents visiting to deposit waste will have limited access areas on site and will be supervised and coordinated to the fire assembly point in the event of a fire evacuation. Sounders/alarms will alert visitors on site.

6.2. Ignition sources

All potential ignition sources on site shall be controlled by:

- keeping sources of ignition at least 6m away from piles of combustible and flammable materials
- reinforcing fire prevention messages using signs
- ensuring staff and contractors follow safe working practices when undertaking hot working, such as welding and cutting
- ensuring all visitors follow the correct safety and fire prevention procedures
- ensuring that a designated smoking area is supplied and situated away from combustible materials
- having all site vehicles fitted with fire extinguishers and dust filters
- ensuring that separation distances (> 10m) are observed between plant and material when the site is not staffed
- carrying out regular housekeeping inspections that include checks to ensure combustibles do not come into proximity of ignition sources
- A DSEAR assessment is carried out on the red diesel storage tank and gas bottle storage area.

6.3. Self-combustion

See section 7.

6.4. Plant, equipment or equipment failure

A maintenance and inspection programme is in place for all of the site's plant and equipment to ensure all site it is well maintained and meets manufacturers, legal and operational requirements.

Waste operatives carry out daily inspections on all plant and equipment and all defects are recorded and reported for repair.

Site operating procedures, such as the Site supervisors' weekly inspections, also act as a quality assurance mechanism by outlining control measures in the event of emergencies or unplanned circumstances.

Mobile plant will be parked at least 6m away from any combustible materials

Plant Equipment	& Fire Extinguisher	Description	Storage Location	Comments
Fuchs material handler	yes	A mechanical material handler is on site for the loading/unloading and compaction of material in skip.	Stored in location shown on plan - green circle – a minimum of 6m from any combustibles	Maintenance program in place.

Table 2. Plant and equipment

The Fuchs material handler will be parked in the centre of the skip area at least 6m away from any combustible material. The material handler has a fuel tank capacity of 64 gallons of red diesel. No cars will be parked on site overnight.

Refuelling of vehicles shall be undertaken before a shift begins to minimise the amount of fuel left in the tank overnight.

All site vehicles are CE marked which shows the following:

- that the manufacturer has checked that these products meet EU safety, health or environmental requirements
- is an indicator of a product's compliance with EU legislation
- allows the free movement of products within the European market.

All batteries within the vehicles are located on a plastic tray, have covered terminals, and have a further cover to enclose the battery.

6.5. Discarded smoking materials

There is a no smoking policy established throughout the site, with the exemption of the designated smoking area, which is located away from any combustible material (Appendix 1). This will be communicated to all staff and visitors.

6.6. Hot works

Hot works present a major fire risk and therefore alternative methods should be adopted where reasonably practicable. For instances, off site vehicle maintenance. Where there is no reasonable alternative, were possible, the hot work will be undertaken in a designated area away from combustible material.

All hot works will be subject to a hot work permit which includes a requirement for post work fire checks. Fire extinguishers will be employed as part of the hot work permit will be in addition to those distributed within fire points and will be positioned in the immediate vicinity of the hot work.

6.7. Industrial Heaters

There are no heaters used on the operational area

6.8. Hot Exhausts

Site operatives will be trained to ensure that wastes are cleared from around mobile plant exhausts at the end of each shift. Mobile plant will be parked after use away from waste and any combustibles at least 6m. A fire watch will be carried out every 4 hours and at the end of the shift which will involve checking all of the exhausts and engines are free from dust or debris that has potential to cause fire and that all vehicles have been parked at least 6m from any combustibles.

6.9. Damaged or exposed electrical cables

All electrical systems on site have an electrical installation certificate which details the extent of the installation, design, construction, inspection and testing in accordance with British Standard 7671. The system has been inspected tested and certified by a contractor who is approved by the National Inspection Council for Electrical Installation Contractors (NICEIC). Every three years, systems shall undergo an Electrical Installation Condition Report which is a report into the condition of the electrical installation to highlight any safety shortcomings, defects or deviations from the current revision of the electrical regulations BS7671.

Housekeeping on site shall include visual inspections of consumer units and wiring to ensure compliance is maintained.

6.10. Reactions between wastes

All wastes are checked on arrival and any aberrant waste would be removed to the designated quarantine area

6.11. Deposited Hot Loads

All loads are inspected on arrival, employees are trained to look out for any signs of hot loads and what action to take if they see one (such as the use of heavy mobile plant to move suspect loads to a safe area, dousing suspect loads with water

6.12. Build-up of loose combustible, waste, dust or fluff

Regular (daily) monitoring and inspection of the site and specifically high fire risk areas ensure effective housekeeping is maintained and other permit conditions are adhered to minimise fibre and paper/litter build-up within buildings and around the site.

A DSEAR ignition and explosion hazard assessment will be conducted prior to the site operating. This report will be used to mitigate any potential ignition of flammable/explosive materials.

6.13. Batteries within waste deposits

Batteries are understood to be a common cause of a fires within the waste industry in particular, Lithium batteries. Although Pyle CRC will accept vehicle and domestic batteries as a material stream, site staff will pay particular attention to the type of battery being deposited and the correct storage of batteries. As a way to reduce the number of batteries left in electrical items, Kier and Bridgend county Borough council will utilise their social media platforms to broadcast and promote the removal of batteries from electrical items by residents prior to the arrival to site so that they can be sorted appropriately within a lidded container to prevent water entering Lithium batteries and increasing the risk of a fire.

Domestic/vehicle batteries should be stored in non-conductive, well-ventilated containers.

Containers should have a lid to allow ventilation and prevent water getting in.

Containers should be clearly marked to ensure that vehicle and domestic batteries are stored separately.

Containers for domestic batteries should be kept close to those for vehicle batteries (for easy use by the public), but at least 3 metres apart in case of spills from vehicle batteries and at least 6m away from any other combustible materials.

Battery containers must not be dropped, knocked or maltreated.

Do not use water to fight fires that may contain lithium batteries.

Site staff will receive frequent toolbox talks and training to keep their awareness of the risks of batteries and their understanding of how batteries should be stored up to date.

6.14. Cylinders stored at the site

All gas cylinders must be stored segregated in secure and clearly identified cages.

6.15. Leaks and spillages of oils and fuels

All plant and waste fuel and oil will be stored in accordance with the Kier Group Standard (SHEMS-GUI-GR-063c). Appropriate staff are trained in spill response and spill kits are available.

There is 2000l waste oil storage (cooking oil and motor oil) and red diesel storage on site (Appendix 4) away from ignition sources. All tanks are double bunded.

7. Storage times and self-combustion factors

7.1. Storage Time Management

Some materials can self-combust under certain conditions. The risk increases when materials are stored for more than 3 months. No combustible materials shall be stored on site for longer than 3 months, thus significantly reducing the risk of self-combustion.

Daily monitoring and inspection of commodity quantities shall be undertaken to ensure that quantities are kept to a minimum.

Stock rotation will not need to be considered at the Pyle Community Recycling Centre, due to the following order of operations:

- An empty skip/container will be placed in an empty bay,
- Members of the public will fill the skip/container with the corresponding waste,
- Site operators will frequently use the Fuchs material handler to avoid waste buildup in any areas of the skip/container,
- When the skip/container reaches capacity the full skip/container will be removed from the bay and taken off site to the waste transfer station,
- The cycle will now repeat as a new skip/container takes its place.
- All empty skip containers will be visually check by site staff on arrival to ensure they are completely empty.

The length of time a skip/container has been on site will be recorded, and skips/containers that have been on site for a prolonged period of time will be removed from the site before reaching capacity to ensure they are not exceeding their maximum storage times.

If, for reasons outside of normal operation, piles are to be retained for > 10 days then loads shall be routinely (daily) turned and dampened with fine spray if necessary, to reduce the potential for hot spots. Steam is a good indicator of heat build-up.

Fire risk from retained waste shall be reduced by ensuring that skip quantities are kept to a minimum while being stored on site and that stock rotation for all stored materials is managed effectively and that quantities are monitored and inspected daily. Dry recycle storage times will not exceed 10 days during which the pile will be subject to daily monitoring and control.

Consideration has been given to reduce other risk factors related to the types of waste stored at the site to prevent and reduce the risk of self-combustion. As there are no fines stored at the site this does not need to be considered as a risk factor. There are also no treatment processes carried out which may generate heat.

As all combustible waste is stored outside, mechanical moisture control is difficult to achieve, however, during the warmer seasons, site staff will dampen high risk combustible materials such as cardboard, wood and green waste to achieve this. Also taken into consideration is the relatively small amounts stored at site and the frequency of collections which reduces the risk of fires further.

7.2. Waste Bale Storage

No baled material will be stored at this site. All wastes are stored loose, within containers.

8. Managing waste material stack and separation distances

The Pyle Site is permitted to accept non-hazardous and hazardous waste streams. Table 3 highlights the combustibles which are currently accepted at the site, storage methods, treatment, daily volumes and maximum storage timescales.

8.1. Preventing spread of fires

The Waste Storage Plan can be seen in in Appendix 1.

The Waste Storage has been designed in such a way that combustible materials are not stored adjacent to each other.

Materials are stored in separate containers and containers are placed as such to accommodate the separation of combustibles.

A number of bays are separated by a concrete wall with a thickness of 300mm. The concrete walls are not built to prevent fire at the site.

No wastes are stored within 6m distance to the building.

The Fuchs material handler may be used in the event of a fire, to ensure this plant is suitable it will have the following:

- An enclosed cab to ensure site operatives will be protected from smoke and fumes,
- A fire-resistant sleeves will be fitted over all hydraulic hoses from the machine to the grab, as well as those within the grab.

The Fuchs material handler will not be used to move any burning material, instead used to move nearby containers to create large fire breaks to minimise the risk fire spreading. Combustible materials stored close to the fire will be prioritised.

Material containers have been located to reduce the likelihood of fire spread:

- Bunded containers which may be harder to move in a fire incident are located away from the corner of the site which may be hard to reach with the materials handler,
- Smaller/easy to move containers have been placed in the corner of the site, being easier to move than larger containers,

Operators will undertake training before operating the Fuchs material handler. In the event of a fire the fire service will be called and any use of the material handler in the event of a fire will be undertaken only on instruction from the fire service.

Prior to the FRS arrival, a fire extinguisher or hose can be used by trained fire marshals from the top level down into the skip to douse the contents of the container. There are no pools or tanks available for quenching at site.

In the event of a fire, cool unburned materials within the container and in nearby containers will be doused and dampened to reduce the likelihood of the fire spreading. An assessment must be carried out prior to the cooling of unburned materials to ensure that the risks of eater and air contamination have been considered. This should be discussed and agreed with the FRS and TCM (if present) before to ensure that appropriate measures have been undertaken such as activating drainage system shut off to contain contaminated water entering the external drainage system.

Provisions for fire safety training are detailed within the SHEMS-STD-GR-020-fire management.

9. Stack sizes and separation distances

Table 3 below shows the wastes which are currently accepted at the site, storage methods, treatment, anticipated average daily volumes and maximum storage timescales. Plan in Appendix 8 shows where the following wastes are stored. Stored waste is as received from members of the public, no waste is treated on site.

Waste description	Max. quantity on site (at any one time)	Storage type	Max. storage duration	Amount received daily (anticipated average)	EWC code
General household waste	30 tonnes	35/40 cubic yard skip	48 hours	3 tonnes	20 03 01 15 01 05 15 01 06
Green waste	20 tonnes	35/40 cubic yard skip	48 hours	5 tonnes	20 02 01
Scrap metal	40 tonnes	35/40 cubic yard skip	2 weeks	2 tonnes	20 01 40 15 01 04
Inert material	30 tonnes	15 cubic yard skip	2 weeks	3 tonnes	17 01 07
Fridges/Freezers	50 tonnes	Stored loose with doors taped closed	1 month	3 tonnes	20 01 35 20 01 23*
Gas bottles	100 units	Lockable cage	1 month	0.5 tonnes	16 05 05
Asbestos	2 tonnes	Locked specialist container, double bagged	3 months	0.5 tonnes	17 06 05
Wood	20 tonnes	35/40 cubic yard skip	2 weeks	2 tonnes	20 01 38 15 01 03
LDA/SDA	1 tonne	35/40 cubic yard skip	1 month	0.25 tonnes	20 01 36
TV's & monitors	1 tonne	35/40 cubic yard skip	1 month	0.25 tonnes	20 01 35
Fluorescent tubes	1 tonne	Specialist container, lockable. Carefully placed on shelves in the container.	1 month	0.25 tonnes	20 01 21
Household chemicals & paints	200 litres	1bc container in bunded area	1 month	0.25 tonnes	20 01 28
Waste oil	2 tonnes	1200l bunded oil tank	1 month	0.25 tonnes	20 01 26
Plasterboard	20 tonnes	35/40 cubic yard skip	2 weeks	2 tonnes	17 08 02
Mattresses	5 tonnes	35/40 cubic yard skip	2 weeks	0.5 tonnes	20 03 07
Tyres	6 tonnes	N/A	8 weeks	N/A	16 01 03
Paper or cardboard	20 tonnes	35/40 cubic yard skip	2 weeks	3 tonnes	20 01 01 15 01 01
Textiles	5 tonnes	Specialist container bagged and loose	4 weeks	0.5 tonnes	15 01 09
Clothes					20 01 11 20 01 10
Plastics	20 tonnes	35/40 cubic yard skip	4 weeks	3 tonnes	20 01 39 15 01 02
Glass	30 tonnes	30 yard bottle bank	8 weeks	1 tonne	20 01 02 15 01 07

Waste description	Max. quantity on site (at any one time)	Storage type	Max. storage duration	Amount received daily (anticipated average)	EWC code
Steel, aluminium cans	10 tonnes	35/40 cubic yard skip	6 weeks	1 tonne	20 01 40 15 01 04
Batteries – household	50 units	Lidded battery box	1 month	0.25 tonnes	20 01 33* 20 01 34
Batteries - Car	5 tonnes	Lidded battery box	8 weeks	0.25 tonnes	16 06 01
Edible oils and fats	4 tonnes	Specialist container	6 months	N/A	20 01 25
Paints, inks, adhesives, and resins containing hazardous substances	2 tonnes	Specialist container	12 weeks	N/A	20 01 27*
Soil and stones	25 tonnes	N/A	4 weeks	N/A	20 02 02
Other non bio degradable wastes	30 tonnes	N/A	8 weeks	N/A	20 02 03
Wastes from markets	10 tonnes	N/A	6 weeks	N/A	20 03 02
Street cleansing residues	15 tonnes	N/A	4 weeks	N/A	20 03 03
Municipal wastes not otherwise specified consisting of absorbent hygiene products	45 tonnes	Specialist container	2 weeks	N/A	20 01 99

Table 3. Summary of combustibles

10. Baled waste storage

No baled material will be stored at this site. All wastes are stored loose, in skips or appropriate containment.

11. Enclosing Stacks using bays and walls

The primary containment utilised at the community recycling centre are the various waste storage containers, built to specification for use at waste sites. Some containers located at the site are contained within concrete bays. All the walls segregating the bays are case in situ concrete walls with a thickness of 300mm. Each of the concrete bays will house two 40-yard open skips containers.

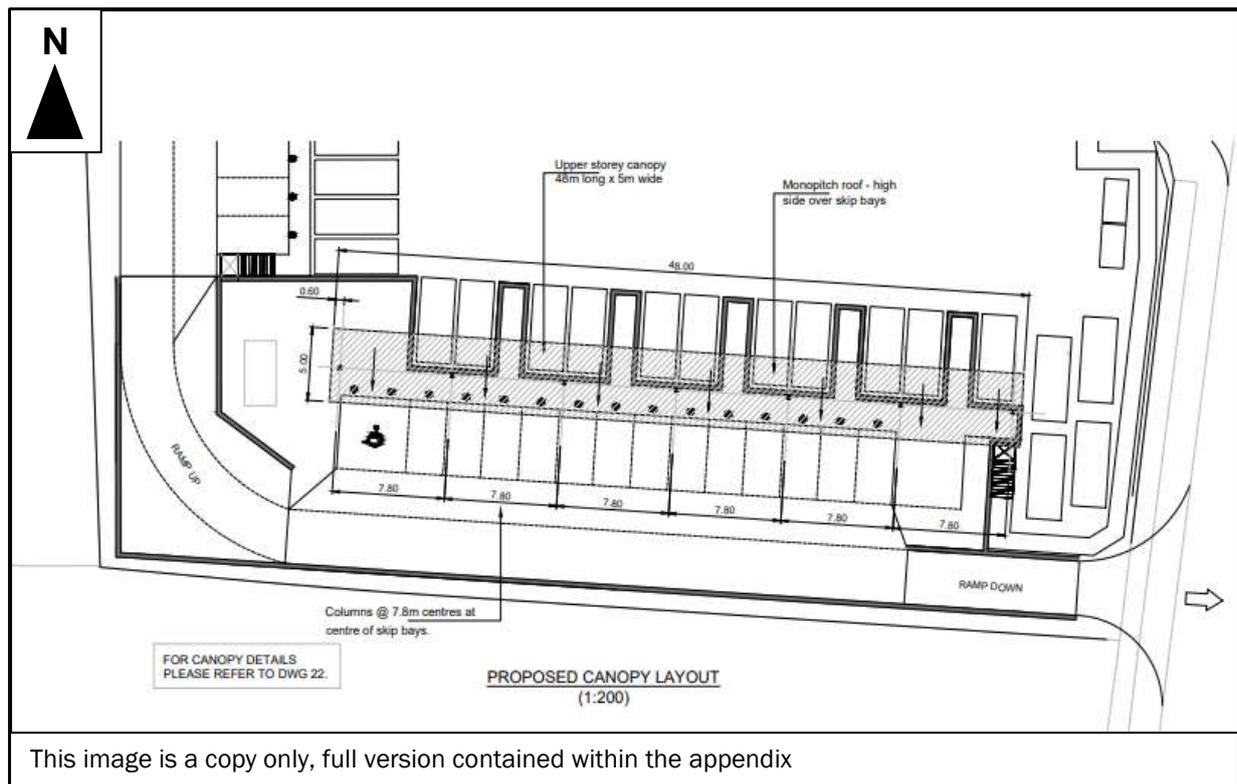
The primary means of preventing fire spreading is the container itself. Waste will be contained within the containers on site, however as the site is a community recycling site, used by members of the public, a small amount of waste may fall between the sides of the container and bay walls. spot cleaning will be undertaken to ensure waste does not build up within the bays. On removal of the containers, before replacement of a new container, any waste made unreachable by the containers will be removed by site operatives and the bay cleaned.

The external waste bays containing the waste skips are located beneath a canopy structure. The canopy is made of a steel frame and columns and a monopitch steel cladding roof and extends the length of the external bays and visitor parking spaces on the top level. The canopy is fixed to the floor of the top level of the site and overhangs the bays by 2.5m on the lower level. The dimensions of the canopy are L48m x W5m x H2.5m.

There is sufficient and clear access to the waste materials from the top and bottom levels of the site and the canopy does not impede on access to the waste stored in the skips/bays. Photos of the installed canopy are provided in Figure 2. Dimensions of the canopy are provided in Figure 3 below.



Figure 2. Photo of installed canopy



This image is a copy only, full version contained within the appendix

Figure 3. Proposed canopy layout plan

12. Waste stored within a building

There are no wastes stored within a building.

13. Waste stored in containers

Most waste materials are stored within steel containers, but some have more bespoke containment suitable for the type of waste such as textiles banks, double skinned waste oil bowers, battery boxes and gas bottle cages.

Waste type	Containment
General Household Waste	35/40 yd container
Green Waste	35/40 yd container
Scrap Metal	35/40 yd container
Inert Material	15/20 yd container
Fridges/Freezers	Loose. Doors to be securely taped shut
Gas bottles	Loose in cage
Asbestos	40 yd lockable container (same dimensions as other 40yd containers)
Batteries	1m3 battery boxes
Wood	35/40 yd container
LDA/SDA	35/40 yd container
TV's & Monitors	35/40 yd container
Fluorescent tubes	Specialist container
Household chemicals & paints	Specialist container – 1000l capacity (items placed into container as opposed to poured)
Waste oil	Specialist container - 1200l capacity (bunded oil tank)
Plasterboard	35/40 yd container
Mattresses	35/40 yd container
Tyres	Loose
Paper or cardboard	35/40 yd container
Textiles	Specialist container
Plastics	35/40 yd container
Glass	30/35/40 yd container/bottle bank
Steel, aluminium cans	35/40 yd container

Table 4: Waste containment

The waste containers can be accessed by the FRS from the top level of the site or the bottom level of the site. There is road access and clearance for heavy goods to enter these areas.

All skips, drums, and other mobile tanks or containers being used to store waste shall only be placed upon an impermeable pavement with a sealed drainage system.

Bays and containers will be clearly labelled. In the table below is a summary of the methods of containment. Containers can be either open skips or ISO.

Fill levels of containment will be regularly monitored to prevent overspill from a static position, or from the loading and unloading of vehicles.

When a waste container or bay is nearly full or requires emptying, a site operative will contact the appropriate contractor by telephone to arrange collection.

Dimensions of the above containers are as follows:

- 40 yard skip/container – L 5791mm, W 2185mm, H 2438mm
- 35 yard skip/container - L 5791mm, W 2185mm, H 2250mm
- 20 yard skip/container - L 5791mm, W 2185mm, H 1220mm

- 15 yard skip/container – L 4267mm, W 2438mm, H 1370mm
- 30 yard bottle container – L 5400mm, W 2185mm, H 1828mm
- Textile container - L 1220mm, W 1500mm, H 1940mm
- Gas Cage – L 1800mm, W 1250mm, H 1890mm
- Waste oils – L 1960mm, W 1200mm, H 1245mm
- Household chemicals and paints – L 1200, W 1000mm, H 1160mm
- Fluorescent tubes – L 2100mm, L 1000mm, H 1000mm

14. Layout of waste stacks on site

See Appendix 1.

15. Seasonality and waste stack management

At certain times of the year specific waste stream volumes will increase, for instance, the summer period under extended operating hours, brings an increase in tonnage throughout. In this period, consideration to additional staff and extra vehicles used to service the site will be given to ensure effective management of the increased demand.

Regular contact and communication with the supply chain/service providers enable Kier to future proof site activities by ensuring contingency measures are in place for events which could influence business continuity. Forming part of these measures, regular market analysis of recyclables is undertaken to inform and notify Kier Management of fluctuations (falls and rises) in prices for such materials and which subsequently affect or influence site conditions.

16. Monitoring and turning of stacks

The measures described in Section 7.1 Storage Time Management will be adhered to. With regard to the monitoring and turning of stacks the measures to be adopted at the site include:-

- Daily monitoring and inspection of commodity quantities shall be undertaken to ensure that quantities are kept to a minimum and that good stock rotation is achieved.
- If, for reasons outside of normal operation, piles are to be retained for > 10 days then loads shall be routinely (daily) turned and dampened with fine spray if necessary, to reduce the potential for hot spots. Steam is a good indicator of heat build-up.
- Fire risk from retained waste shall be reduced by ensuring that skip quantities are kept to a minimum while being stored on site and that stock rotation for all stored materials is managed effectively and that quantities are monitored and inspected daily.
- Dry recycle storage times will not exceed 10 days during which the pile will be subject to daily monitoring and control.
- During the warmer seasons, site staff will dampen high risk combustible materials such as cardboard, wood and green waste to achieve this. Also taken into consideration is the relatively small amounts stored at site and the frequency of collections which reduces the risk of fires further.

17. Fire detection

17.1. Fire detection systems

The building at Pyle CRC is fitted with an automated fire alarm system linked to heat and smoke detectors throughout the building and offices. An actuation of the alarm system will alert an ARC monitoring centre who will alert the FRS of the actuation and will also alert the Keyholder or the premises. In the event of an actuation, the alarm sounders will activate and will alert all site personnel to evacuate.

The CCTV system includes a thermal imaging camera covering the external waste skips which will trigger when high heat levels are detected in its view, and this will alert the monitoring centre who will then contact the key holder or contact the FRS if a live fire is confirmed during or outside of operational hours as the CCTV is monitored 24/7. The thermal imaging camera is located to cover all areas used for the storage of combustible waste.

In addition to the thermal imaging camera on the CCTV system, site operatives also utilises a thermal heat gun thermometer. This is kept onsite

The thermal heat check procedure is as follows:

- This procedure is to be carried out by a CRC operative.
- All material in containers will be checked using a thermal heat gun at 3 stages of the day (am, midday and pm prior to closure) and also prior to containers being taken away.
- The temperature check should be taken from different areas within the containers and each reading must be recorded on a check sheet.
- Any readings taken above 80 degrees Celsius will require further investigation to check for fire risk. If a fire is found, then fire evacuation procedures must be followed immediately.
- Garden waste must be check more frequently in the summer season with an additional check between the standard checks.
- All readings are to be recorded and handed to the team Leader at the end of each shift.
- Infra-red heat guns must be calibrated regularly to ensure accuracy.

A prestart and end of shift fire watch will be carried out by site staff and this will be recorded in the premises register. Site staff will continuously be alert and monitoring the waste skips for early signs of a fire such as smoke, steam, smell etc. and will activate the nearest wireless call point to alert site personnel.

In the event a fire is detected that poses risk to nearby sensitive receptors, all sensitive receptors will be contacted and informed of the fire and the nature of the fire. The list of sensitive receptors will be located in the fire pack at the main gates and also recorded electronically in this FPMP and the site Premises register and accessible to our call handlers based in the Tondu depot so the calls can be managed efficiently and effectively. The call handlers will also manage contacting the sensitive receptors during and post incident so that they can be kept up to date.

17.2. Site fire evacuation plan

On the discovery of a fire located at the community recycling centre site a minimum of three qualified Fire Marshalls will be responsible for raising the alarm and undertaking the evacuation of personnel and the public, to do this they will ensure the following:

- Team Leader Fire Marshall – Ensure the site office and toilets are clear.
- Site Operative Fire Marshall – Ensure the yard is clear.
- Site Operative Fire Marshall – Ensure the public access areas of the site are clear.
- Each Fire Marshall shall coordinate with the other to ensure effective communication throughout the site evacuation. They will direct people to the sites fire assembly point and ensure that South Wales Fire Service has been called to attend the site. Whilst waiting for the fire service they may undertake the following tasks:
 - Control the fire if it is safe to do so using equipment on site, e.g. an extinguisher or fire hose,
 - Ensure operators of appropriate machinery are in a safe location to help create fire breaks, under the direction of the FRS when they arrive,
 - Ensure site access routes are clear,
 - Stop surface drainage lift pump where safe to do so,
 - Organise a roll call using the personnel list (located at reception) and visitors register ,
 - In the event of missing personnel, instigate a search, if safe to do so. Ensure that nobody leaves the site until the emergency is over.

Once the fire service has arrived at the site, the site marshals can assist them with the following where required:

- Providing the fire service access via the site entrance,
- Provide the fire service with the 'off site' emergency pack, including a site plan,
- Informing the FRS of quarantine areas and fire water capture facilities (drainage system),
- Provide this plan, and any other relevant information where required,
- Liaise with the FRS and determine which hazardous or dangerous substances are stored in the area of the fire,
- Inform FRS of any missing persons,
- Inform FRS of any operators of appropriate machinery which can be used to create fire breaks,
- Consult with FRS whether it is safe to return to the premises.

If safe to do so, investigations will be undertaken to determine the cause of the fire, any clean-up and remedial works can be undertaken as required and the site can be assessed to ensure if and when it is safe to open to the public.

An 'off site' emergency pack, including a site plan, will be kept in a storage box at the fire assembly point.

17.3. Out of Hours procedures

In the event of a fire incident outside of operating hours the following detection systems are in place to ensure any fire events are identified:

- Within the site building temperature and smoke detectors are in place to raise the alarm,

- Within the general site area (outside the building), a 24-hour CCTV monitoring system, is utilised on site and monitored by a CCTV monitoring centre. The CCTV system has temperature and motion monitoring which will alert an operative allowing them to raise an alarm.

Once a fire has been identified out of hours by the CCTV monitoring centre, the fire service and named key holder will be contacted. The key holder will attend site immediately, they will not be expected to tackle a fire, instead waiting for the fire service to arrive and assisting them where required.

This may include the following:

- Providing the fire service access via the site entrance,
- Provide the fire service with the 'off site' emergency pack, including a site plan,
- Informing the FRS of quarantine areas and fire water capture facilities (drainage system),
- Provide this plan, and any other relevant information where required,
- Liaise with the FRS and determine which hazardous or dangerous substances are stored in the area of the fire,
- Consult with FRS whether it is safe to return to the premises, the next working day.

At the end of each working day, the following will be undertaken to ensure any out of hours incidents can be safely attended by the key holder and the fire service.

- The offices and toilets will be checked and when empty will be locked and alarmed,
- The yard will be tidied and all access routes left clear,
- The site will be checked for members of the public and site operatives and locked once clear,

The next working day if safe to do so, investigations will be undertaken to determine the cause of the fire, any clean-up and remedial works can be undertaken as required and the site can be assessed to ensure if and when it is safe to open to the public.

18. Fire suppression system

An adequate number of fire extinguishers are on site and are serviced every 12 months by a competent person.

19. Firefighting strategy

When considering which form of techniques are appropriate for our site, we have considered the following;

- scale & nature of the environmental hazards and activities that take place
- risks posed to people, the environment and property
- type of materials stored on site, the form they are stored in & the length of time needed to extinguish a fire involving them
- availability of firewater containment facilities
- local topography, weather conditions and fire scenarios that could reasonably be expected on site

Containment - Operations at the site shall ensure that all appropriate measures are in place to limit the size, duration and impact of a fire. Waste quantities shall be managed in accordance with the criteria established in Section 6 of this document that determines the appropriate size location and separation distances of stacks/stockpiles and that their throughput is maximised to keep stack sizes below the recommended sizes.

On site firefighting – Yard staff have been trained to use fire extinguishers and how to manage small fires on site resulting from materials found within the recycled waste collected.

Use of plant- The Fuchs 250MH material handler will be used to segregate burning or hot material from other combustible waste (no burning material will be moved directly by the handler, only any at risk containers will be moved to create a firebreak) to prevent further spread of a fire. The plant may also be used to separate unburned material from burning material.

Material from the rubble skips (soil, crushed brick) will be used as a means to suppress a fire where groundwater vulnerability is low upon agreement with FRS and NRW. The contaminated material will be disposed of legally as soon as it is safe to do so.

20. Water supplies

In terms of FRS water supply, The FRS will be able to access the supplies mentioned above and there is also a fire hydrant (H28) located on Heol Mostyn) approx. 56m east of the site (SS834820). It is estimated that this hydrant will deliver in excess of the calculated minimum requirement of 408 litres/minute. This assessment is based on the recommendation found within the “National guidance document on the provision of water for fire-fighting”, 3rd edition (January 2007)’s, which stipulates that hydrants provide a minimum 480l/min. This guidance is provided in support of relevant legislation including the Fire and Rescue Service Act 2004 and the Water Act 2003.

In reference to NRW’s FPMP guidance, as a minimum, a water source should supply at least 2,000 litres a minute, for a minimum of 3 hours, for a 300 cubic metre pile of combustible material. Taking this calculation and applying it to the likely worst-case scenario, (two adjacent skips catching fire) the largest waste pile at the site, of 80 cubic yards (61 cubic metres) this supply of water is deemed as sufficient. It is not intended that Kier operatives will use this hydrant, but may be used by the Fire Service in the event they are called to a fire at the site.

Kier have liaised with the FRS and Dwr Cymru (Welsh Water) in relation to the nearby hydrants and unfortunately, they were not able to provide the flow rate for the hydrant referred to within this FPMP, however, both parties consider the site to be well covered for hydrant access as there are a number of additional hydrants located:

- Outside of the public entrance, on Sturmi Way,
- Approximately 65m north of the site’s operator entrance, on Heol Mostyn,
- Approximately 110m south of the site’s operator entrance, on Village Farm Road,
- Approximately 15m west of the sites public entrance, on Sturmi Way, and
- Approximately 175m north of the site’s operator entrance, on Heol Mostyn.

Please see appendix 6 for the locations of the fire hydrants.

Dwr Cymru (Welsh Water) confirmed the water main supply to the main to be from a 150mm diameter pipe at 3.5 bar. Dwr Cymru (Welsh Water) verified in July 2023 that the hydrant is in good working order, and the pressure is confirmed to be 4 bar / 40m head. This is above the 1.5 bar minimum pressure that Dwr Cymru (Welsh Water) guarantee on the network. (Confirmed by email from Dwr Cymru (Welsh Water)’s Fire Service Liaison Manager by email on 19 July 2023).

The provision of a 150mm diameter water main meets with the specification for water supply to industrial estates (from the above mentioned National Guidance, Appendix 5 – Guidelines on flow requirements for fire-fighting), which for new developments and permanent system changes, states that the following should be provided:-

“In order that an adequate supply of water is available for use by the Fire and Rescue Authority in case of fire it is recommended that the water supply infrastructure to any industrial estate is as follows with the mains network on site being normally at least 150mm nominal diameter:-

- *Up to one hectare 20 litres per second*
- *One to two hectares 35 litres per second*
- *Two to three hectares per second*
- *Over three hectares 75 litres per second”*

Based upon the lower pressure estimate of 3.5 bar provided by Dwr Cymru (Welsh Water) Kier Services Ltd estimate the flow rate to be 115l/s (7,000l/min) based on this pressure and water main diameter.

This is consistent with the water supply for a large industrial estate. It is noted that typical hydrant size is a 2 – 2½” pipe which will throttle the flow significantly, relative to that delivered by the water main.

A minimum flow rate through a specific hydrant is not specified for industrial estates in the National Guidance. However, minimum flow rates through a single hydrant are specified for other land uses including housing, transportation, schools and other community facilities.

As the flow rate of the hydrant cannot be verified by either Dwr Cymru (Welsh Water) or the Fire and Rescue Service, the value of 480l/min has been selected. This is consistent with the minimum flow rate that must be provided through any single hydrant for up to two-storey housing developments, which represents the lowest specified flow rate through any single hydrant for any development type. This has been selected as the absolute minimum flow rate to be supplied from a fire hydrant, to represent a “worse-case scenario”, in the absence of confirmed flow rate for the specified hydrant. This demonstrates that “worse-case” flow rate, the fire hydrant would still provide sufficient water supply to extinguish a “worse-case” fire within three hours. This is shown in Table 5 below.

The nearest fire station is 0.8 miles away and a 3-minute drive by car so response time is expected to be quick.

In terms of on-site water supply, there will be 4no x 2000l IBC containers filled with water which can be used as a backup supply. This is identified on the site map (see Appendix 8) as a red square. There is also a mains water supply with a hose fitted. These water supplies would not be used for tackling a large fire but for dowsing and cooling any at risk material or extinguishing any embers of any small fire put out using the fire extinguishers located around the site.

Maximum pile volume in cubic metres	Water supply needed in litres per minute	Overall water supply needed over 3 hours in litres	Total water available on site in litres
61 cubic metres (2 x 40-yard containers)	408 (these figures are based on the estimates provided within the FPMP guidance note)	73,440 (these figures are based on the estimates provided within the FPMP guidance note)	Hydrant – 86,400 (this is based on the UK min rate of 480l per min). 4 x IBC’s 8000l. Total min of 94,400 available.

Table 5. Water supply

21. Managing water run-off

In order to limit the amount of firewater produced burning material may be separated from the fire using heavy plant (if safe to do so under the supervision of the FRS) and treated with either the onsite hose or FRS equipment. In addition, there will be some inert material (soil, hardcore etc.) which may be utilised to smother and suppress a fire. However, this will only be done as part of an agreed strategy by the FRS and NRW.

In the event of a fire, cooling water would be sprayed/misted onto the fire and any threatened primary container or bay through hoses to reduce the amount of firewater run-off generated.

The surface water drainage system is equipped with a submersible pump which will be shut-off to prevent contamination of the external surface water system. Once the shut off procedure has been activated, and the pumping station closed off, the site will effectively be plugged and the surface water attenuation area, drainage system and the bottom yard will be used as a sink to capture and contain firewater. It has been calculated that the site can contain more than the 94.4 metres cubed required to manage a 'worst case' scenario amount of firewater. The contained fire water can then be accessed easily via the interceptor manhole and re-used if necessary, by the FRS.

The surface water drainage system can contain approximately 307.375m³.

The foul water drainage system can contain approximately 19.414m³. Discharge is limited to the rate permitted by the trade effluent consent.

A breakdown of how the storage capacity for each system is provided in the tables below, with reference to the Drainage Plan included in Appendix 2.

Feature Ref	Length/Depth (m)	Dia (mm)	Volume (m ³)	
MH3	1.954	1200	2.210	
Pn 1.002	12.5	225	0.497	
Pn 2.001	10	225	0.398	
MH5	1.828	1200	2.067	
Pn 1.003	27	300	1.909	
Pn 5.000	17.5	150	0.309	
MH6	2.221	1200	2.512	
Pn 1.004	4.2	300	0.297	
Pn 7.000	13.5	150	0.239	
MH 7	1.498	1200	1.694	
Pn 7.001	13	150	0.230	
MH8	1.721	1200	1.946	
Pn 7.002	5.3	150	0.094	
Pn 6.000	7.2	225	0.286	
M9	2.151	1200	2.433	
Pn 1.005	3.6	300	0.254	
Attenuation 1	15.2x15.2x1.32		290	includes factor of 0.95 for blocks
Total			307.375	

Table 6. Surface water storage capacity

Feature Ref	Length/Depth (m)	Dia (mm)	Volume (m ³)	
Pn 8.000	26.5	150	0.468	
MH 14	1.567	1200	1.772	
PN 8.001	11.2	150	0.198	
PN 9.000	12.8	150	0.226	
MH15	1.764	1200	1.995	
PN 8.002	9	150	0.159	
Attenuation 2	5.6x4.0x0.66		14.000	includes factor of 0.95 for blocks
ACOS	33.7	150	0.596	
Total			19.414	

Table 7. Foul water storage capacity

Drain covers are included in the sites spill kits, although these are principally for pollution control purposes in the event of spillages. They are not included to be used fire event to prevent water from entering the site drainage system. If drains on site were to be blocked contaminated fire water may spread outside of the site, rather than being contained in the attenuation tank located below the site. Instead drain covers will be utilised to avoid any polluting spills from entering the site drainage system.

In addition to the above, the site will be equipped with 4no. x 1000l IBC containers and a submersible pump which can be used to contain and reuse firewater run-off.

Any residual water within the IBC's will be correctly disposed of following a fire.

Surface water protection measures should remain in place and regular checks on them should be maintained until the clean-up and removal of all fire water has occurred and the final brushing up of the affected area has been undertaken. It is the site management who will be responsible for deciding when an appropriate level of clean-up has been achieved to authorise the removal of the surface water protection measures.

Standing fire water will be cleared either by:

- using a vacuum bowser to draw up the fire water and remove from the site or for temporary storage pending removal off-site;
- obtaining agreement from the local sewerage company (Welsh Water) that the fire water can be discharged directly to the foul sewer.
- Using all available resources, manually clean out any surface water gullies removing the debris to the pile of fire damaged waste for removal to landfill or permitted site.
- Using a road sweeper, sweep the yard (damp as required using the bowser) until all ash and clinker has been removed.
- All debris has now been isolated and all contaminated water holding areas have been cleaned and emptied.
- Wash the yard down in its entirety using clean water, or allow a reasonably heavy rain shower to wash the yard down.

It is at this stage that site management should decide whether it is appropriate to remove the surface water protection measures or repeat areas of the clean-up.

If the clean-up operation has been deemed complete, the surface water protection measures can now be removed and post-fire checks can be completed, as set out below:

- Remove any temporary bungs.
- Remove any sand bags/booms.
- Surface water discharge from the site is now possible the next time it rains. Ensure that surface water checks are made during the next rainfall event to validate that clean-up has been undertaken satisfactorily. Record all findings and actions in the site diary.

22. Designed quarantine area

The Quarantine Area is somewhere to place hot or burning wastes to cool/extinguish them. The area is (15m x 15m) large enough to hold 6no 40yd containers of waste. The area has 6m around it to prevent the spread of any fire. The Quarantine Area will be kept clear at all times – unless it's being used in the event of a fire or hot load.

The site has a fire alarm system linked to a live response centre. The site also has call points located in the main building with fire sensors/smoke/heat sensors in place. All operatives will be fire marshal trained. Fire alarm testing and evacuation drills will also be periodically carried out.

In the event of a fire, a trained operator will use the Fuchs material handler to move containers away from any burning waste to the quarantine area either by pulling the skip out of its bay or by moving the material with the attachment on the machine. This will ensure a large fire break is created, reducing the likelihood of fire spread. Combustible wastes near to the incident will be moved first.

22.1. Quarantine cleaning procedure

Once a fire has been dealt with, and the FRS have provided the all clear that the waste can be moved, the material handler will be used to clear any larger items which will be placed in an empty skip. Once the larger items have been removed, the remaining waste will be cleared manually with shovels and brushes by site staff. The floor will be washed down with the on-site hose whilst the drainage system is still in shut off mode so that all water will be contained. Our environmental waste contractor CSG will be contacted and arranged to visit site to pump out all of the firewater from the system and this will be disposed of correctly. The TCM will assess the fire damaged waste and determine the appropriate disposal route for the type of waste. All plant and machinery will be inspected before first use following the fire.

23. During and after an incident

23.1. Reporting, recording, and monitoring of fires.

All fire incidents must be recorded and reported in line with SHEMS-STD-GR-011 Incident reporting and Investigation and SHEMS-STD-GR-20 Fire Management and must be logged on the Airsweb incident reporting system. The events logged must include remedial actions to prevent reoccurrence and actions must be assigned using the system and monitored by the SHE team for closure.

Site operatives will routinely monitor the waste skips for risk of fire and will use Infra-red thermometer to take readings of temperatures to identify potential hotspots. Site staff will be trained to monitor for any evidence of heat such as steam etc. and will report such findings immediately.

In the event of a fire, all sensitive receptors will be contacted immediately and made aware of the fire, the nature of the fire and the scale of the fire.

23.2. Impact to water, land and air

All waste activities and storage take place on an impermeable surface which is designed to prevent and reduce the risk of contaminated fire water from contaminating any land. The layout of the site is designed to gravitationally encourage fire water to run into the sealed surface drainage system. The drainage system is equipped with submersible pump which will be shut off valve to prevent contamination of the external surface water system. Once the shut off procedure has been activated, and the pumping station closed off, the site will effectively be plugged and the surface water attenuation area, drainage system and the bottom yard will be used as a sink to capture and contain firewater. It has been calculated that the site can contain more than the 94.4 metres cubed required to manage a 'worst case' scenario amount of firewater. The contained fire water can then be accessed easily via the interceptor manhole and re-used if necessary, by the FRS. The site is also built of walls/bays which can reduce the effect of wind impact and the spread of air products (smoke, ash) arising from a fire. We are aware that the mitigation of air pollution is reliant on effective detection and response so that Fires can be identified and tackled as promptly as possible by means of implementing the Fire preventing plan to reduce the amount of air products. All sensitive receptors will be contacted and made aware of any fire incident.

23.3. FRS arrival

On arrival, the FRS will be directed to the main access route, entering site from Heol Mostyn, the FRS should be met by the Fire Marshalls who must provide them with a copy of this plan and emergency response plan and update them with relevant information that will assist them in dealing with a fire more effectively.

The nearest fire hydrant (H28) is located 56m to the east of the site on Heol Mostyn.

23.4. Recovery

When the fire has been successfully dealt with, operation personnel shall:

- remove burnt material using appropriate and lawful disposal
- safely re-commission plant
- investigate the cause of the fire, to ensure it does not recur
- review and improve emergency response plans and associated plans and management system documents
- review any training requirements for site personnel

- assess what further fire reduction measures are required and implement any new measures and procedures
- Review the Fire risk assessment before operating the site again.

23.5. Assembly Points

The assembly point is located at the North/East side of the main building in the parking area. Fire assembly point signage erected.

23.6. Post fire site recovery

When the fire has been successfully dealt with the following actions will take place:

- All fires will be reported to Natural Resources Wales on the working day that they occur and will be confirmed in writing by email or letter within 3 working days, including all steps taken by site staff, management and/or emergency services to deal with the fire.
- Removal of burnt material using appropriate and lawful disposal.
- Investigation into the cause of the fire, to ensure it does not reoccur.
- A review of the FPMP and EMS, associated amendments will be implemented.
- Review of any additional training requirements for site personnel as a result of the incident.
- All fire extinguishers used to tackle the fire will be serviced and replaced after use.
- The site will be cleared of all contaminated waste and fire water by a contractor and by use of a pump tanker as mentioned above.
- A Fire risk assessment will be undertaken before re opening the site.

A full Site inspection will be carried out by our internal Environmental advisor and Health and Safety advisor and the actions/findings liaison with NRW and the FRS to determine that all the appropriate actions have been taken before the site can re-open.

23.7. Fire debris

Fire debris should continue to be turned using the on-site plant and doused as necessary with the loading shovel and hosepipe or bowser if necessary until site management confirm that the embers are cooled and there is no chance of a flare-up.

Debris can then be cleared and isolated to skips for onward temperature monitoring until and assessed by the TCM to determine the appropriate disposal method.

See drainage plan (Appendix 2).

23.8. Contingency measures

Kier Bridgend operate 3 CRC sites within the local authority. In a case where the whole site closes and contingency is needed, traffic flow can be diverted to the Brynmenyn or Maesteg CRC site until the site is operational again.

Communications will be broadcast via social media to inform residents that waste must be diverted from the site. Site staff will man the site to ensure that any visitors with waste are diverted.

The Kier Procurement team will be informed of the incident and will support in identifying contractors to support with decontaminating the site and disposing of any excess fire water run-off.

All contractors will be informed of the incident and the need to divert the waste.

The site will be cleared of all contaminated waste and fire water by a contractor and by use of a pump tanker.

A Fire Risk Assessment will be undertaken before re opening the site.

Appendix

Appendix 1 – Depot Layout

Appendix 2 – Site Photos

Appendix 3 – Drainage Plan

Appendix 4 – Sensitive Receptors

- Nearby Receptors
- 1km site buffer zone
- Nearby SSSIs
- Nearby SACs

Appendix 5 – Building Layout

Appendix 6 - Fire Hydrant Location

Appendix 7 – Prevailing Wind Direction

Appendix 8 – Key Site Features

Appendix 9 – Areas of made/unmade ground

Appendix 10 – Waste Containment Buffer Zone

Appendix 11 – Borehole Map

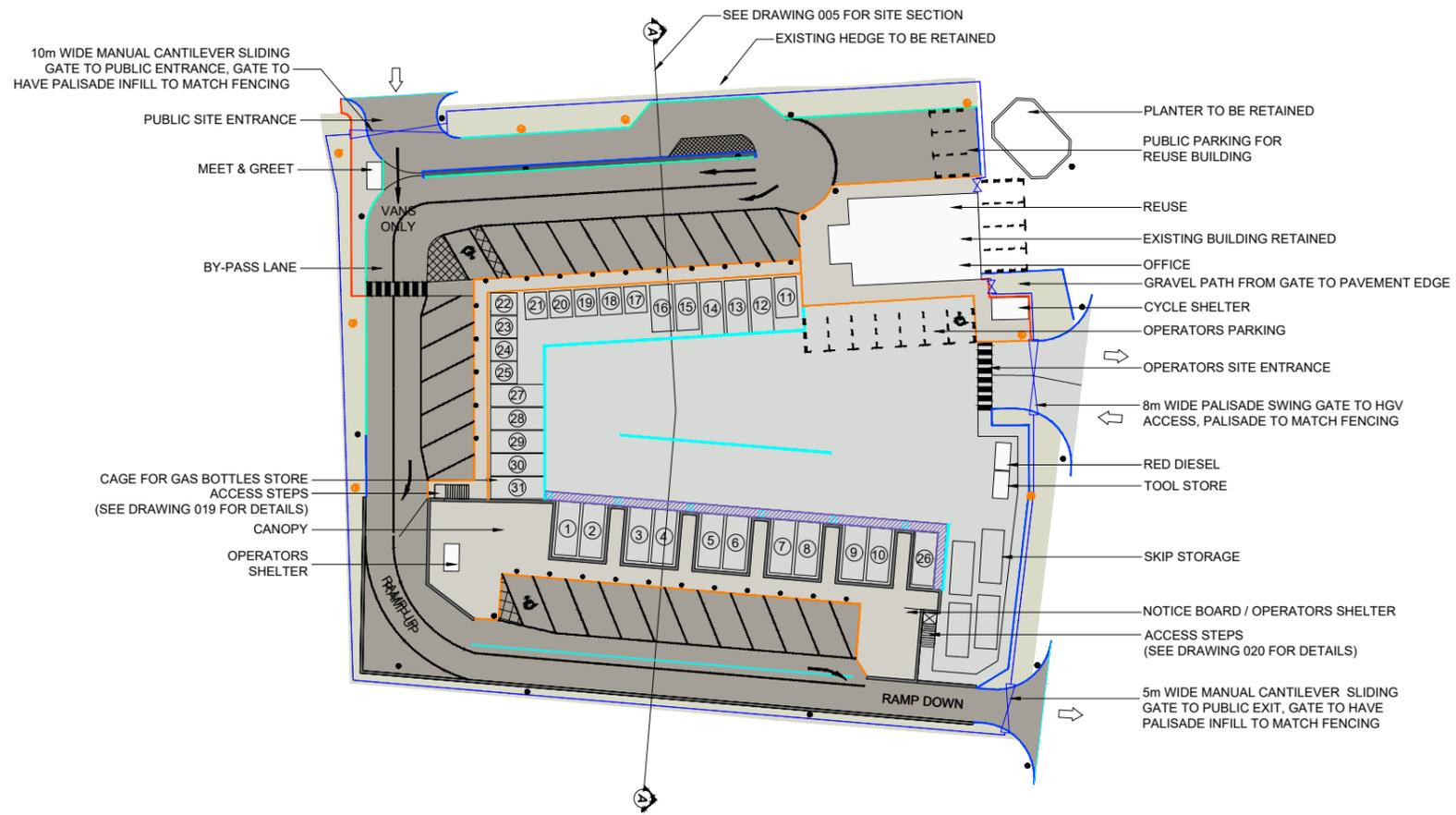
Appendix 12 – Hydrogeological Map

Appendix 13 – Watercourse Map

Appendix 14 – Canopy Plan

Appendix 15 – Combustible waste containment types

Appendix 1.- Depot layout



- 1 Household (large mixed)
- 2 Household (black bag)
- 3 Bulky waste
- 4 Cardboard
- 5 Ferrous Metal
- 6 Green waste
- 7 Plastic
- 8 Wood
- 9 Rubble
- 10 Paper
- 11 Asbestos
- 12 Aluminium Cans
- 13 Steel cans
- 14 Glass
- 15 Textiles
- 16 Plasterboard
- 17 Books
- 18 Bric a brac
- 19 Bikes
- 20 Batteries -house
- 21 Batteries - car
- 22 Mattresses
- 23 Paint
- 24 Oil
- 25 Cooking oil
- 26 WEEE E - SDA
- 27 WEEE A - LDA
- 28 WEEE C - CRT
- 29 WEEE D - LAMPS
- 30 WEEE B FRIDGES
- 31 Gas Bottles

NOTES

LEGEND

- BACK EDGE OF PAVEMENT KERB
- BULL NOSE KERB
- HB2 KERB
- HB2 KERB DRAIN
- ACO S150 CHANNEL DRAIN
- PALISADE FENCING
- PEDESTRIAN FENCING
- 900mm WIDE CHANNEL IN CONCRETE HARD STANDING
- TARMAC ROAD
- CONCRETE HARDSTANDING
- PEDESTRIAN PAVEMENT
- LANDSCAPING

C0	TW	DP	23.08.18	CONSTRUCTION ISSUE
T0	IMR		MAR 14	
Revision	By	Chk'd By	Date	Comments



4 THE ROUNDAL
RODDINGLAW BUSINESS
PARK, GOGAR
EDINBURGH, EH12 9DB
T: 0131 335 6830
F: 0131 335 6831
www.slrconsulting.com

Site
BRIDGEND CC

Project
HWRC FACILITY

Drawing Title
PROPOSED SITE LAYOUT

Scale
1:500 @ A2

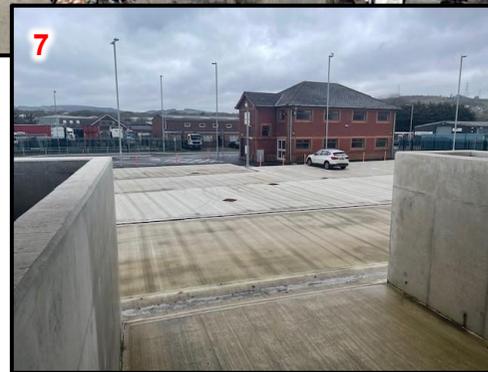
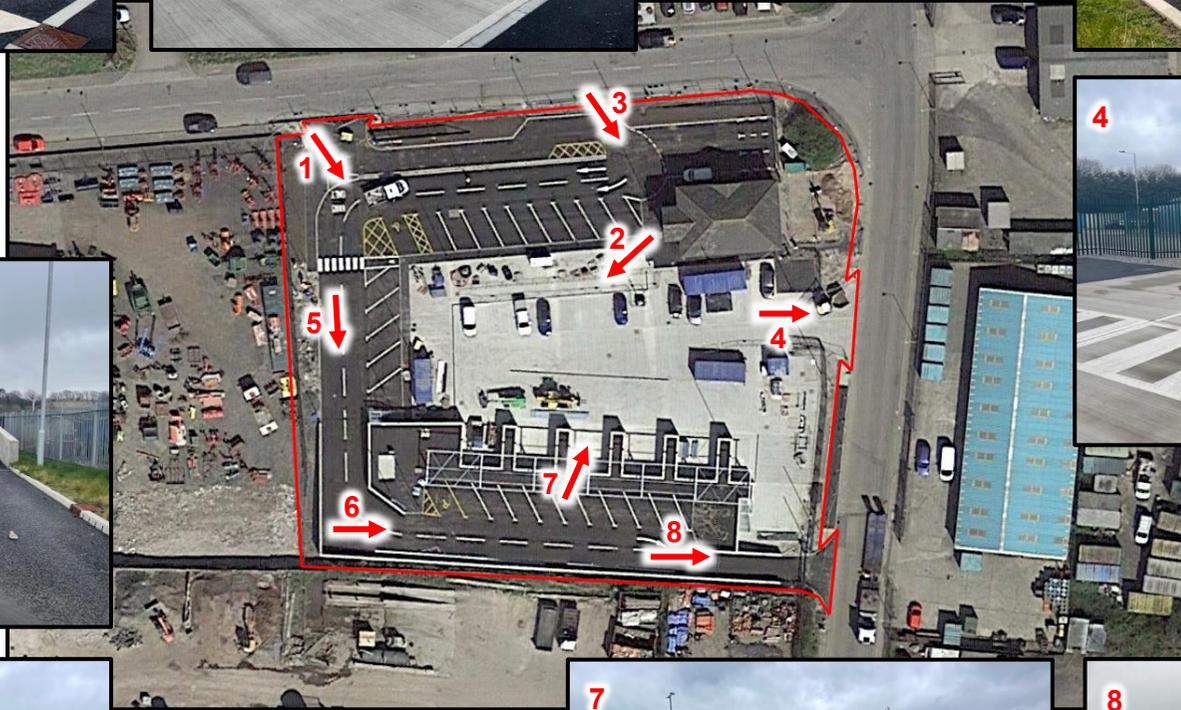
Date
MARCH 14

Drawing Number
004

Revision
C0

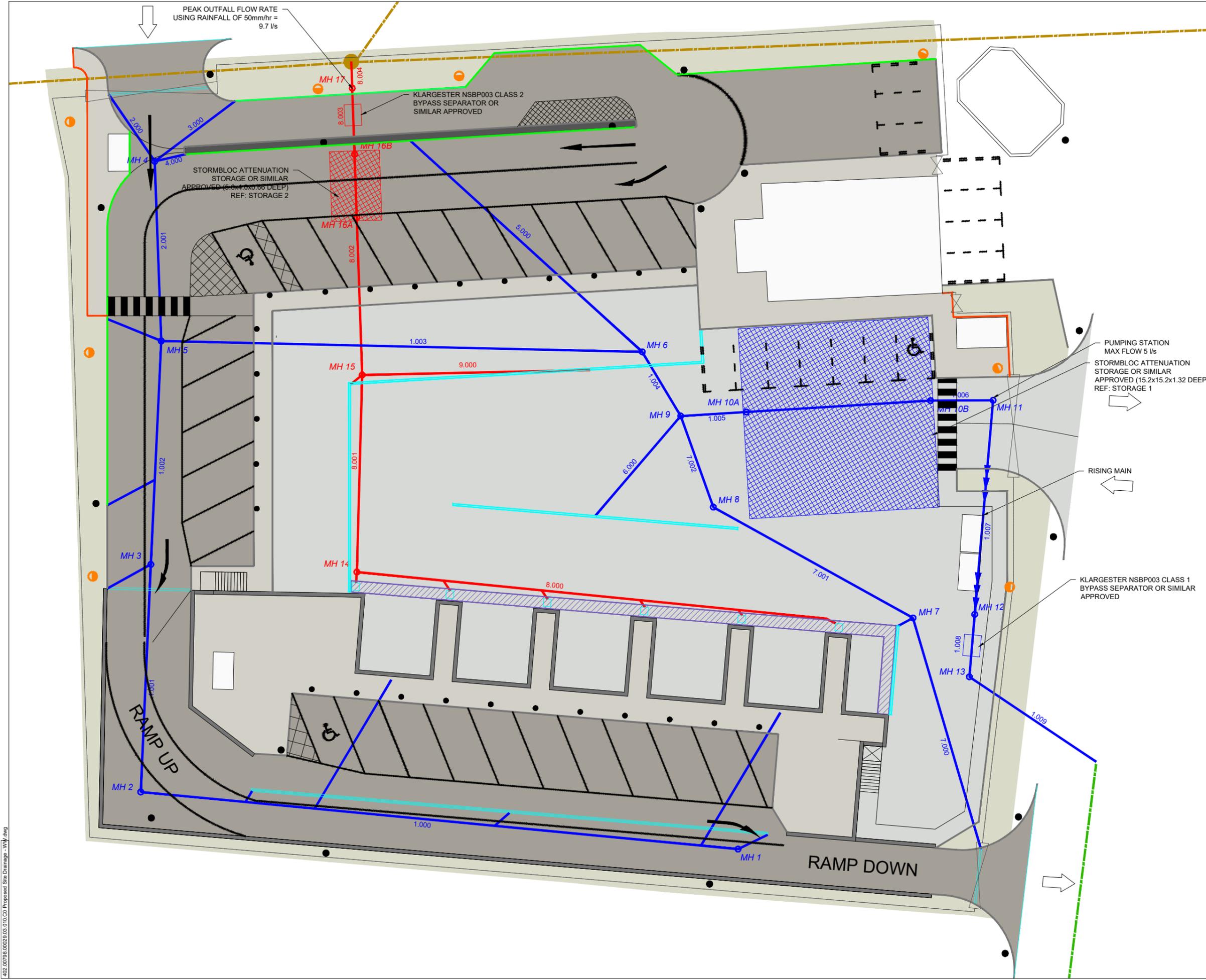
CONSTRUCTION

Appendix 2 - Site Photos



Appendix 3 – Drainage plan

PEAK OUTFALL FLOW RATE
USING RAINFALL OF 50mm/hr =
9.7 l/s



NOTES

- LEGEND**
- HB2 KERB DRAIN
 - ACO S150 CHANNEL DRAIN
 - 900mm WIDE CHANNEL IN CONCRETE HARD STANDING
 - SURFACE WATER DRAINAGE
 - FOUL WATER DRAINAGE
 - STORMWATER ATTENUATION TANK
 - EXISTING FOUL WATER DRAINAGE
 - EXISTING SURFACE DRAINAGE (RISING MAIN)

PUMPING STATION
MAX FLOW 5 l/s
STORMBLOC ATTENUATION
STORAGE OR SIMILAR
APPROVED (15.2x15.2x1.32 DEEP)
REF: STORAGE 1

RISING MAIN

KLARGESTER NSBP003 CLASS 1
BYPASS SEPARATOR OR SIMILAR
APPROVED

C0	TW	DP	22.08.18	CONSTRUCTION ISSUE
T0	IMR		MAR 14	
Revision	By	Chk'd By	Date	Comments



SLR
4 THE ROUNDAL
RODDINGLAW BUSINESS
PARK, GOGAR
EDINBURGH, EH12 9DB
T: 0131 335 6830
F: 0131 335 6831
www.slrconsulting.com

Site
BRIDGEND CC

Project
HWRC FACILITY

Drawing Title
PROPOSED DRAINAGE LAYOUT

Scale
1:200 @ A2

Date
MARCH 14

Drawing Number
010 A

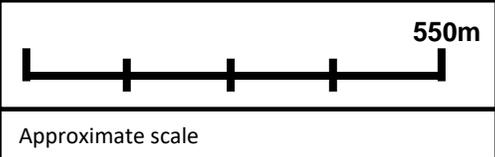
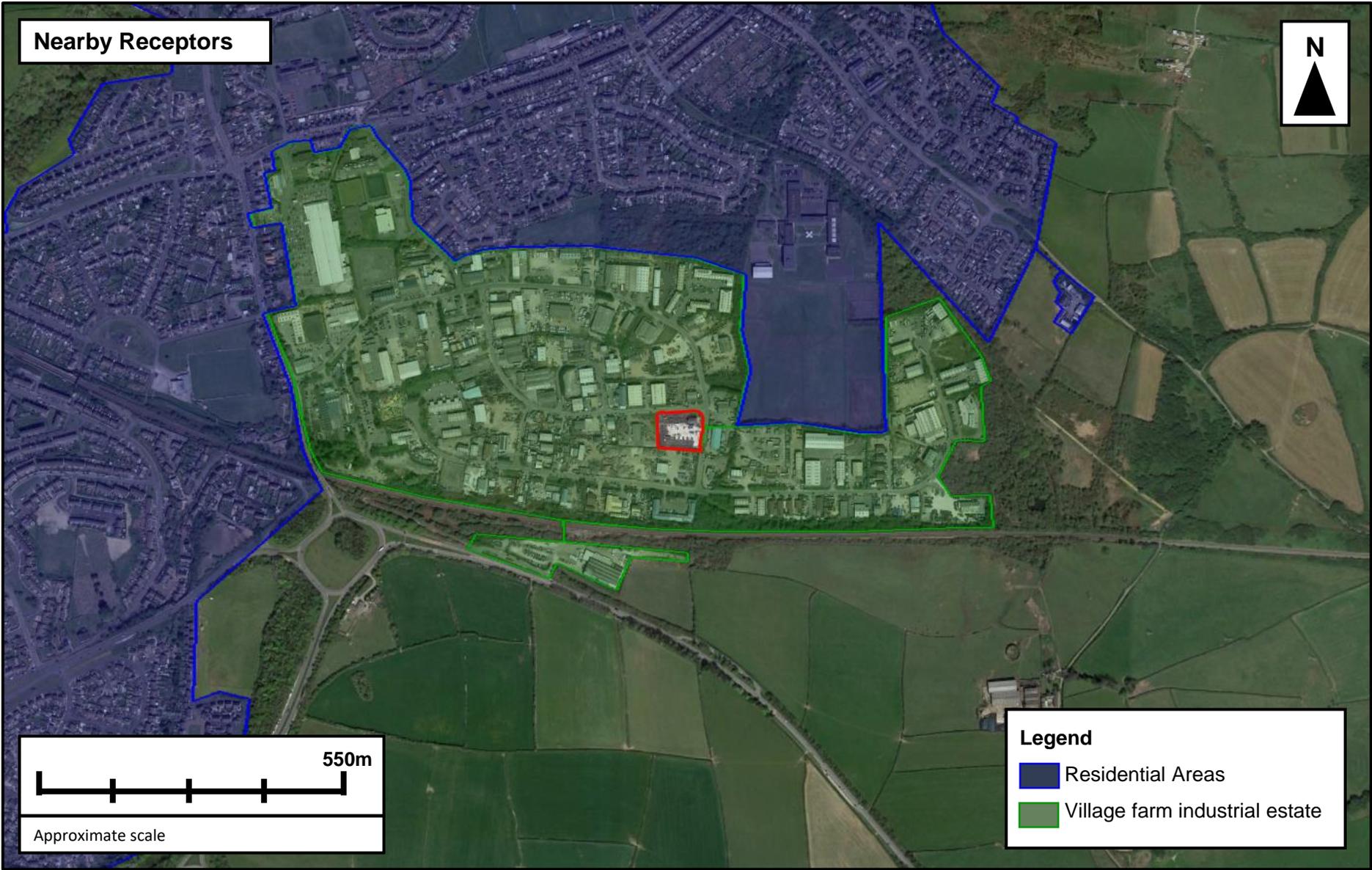
Revision
C0

CONSTRUCTION

402_007918_00219_05_010_C0_Proposed Site Drainage - HW.dwg

Appendix 4 - Sensitive receptors

Nearby Receptors



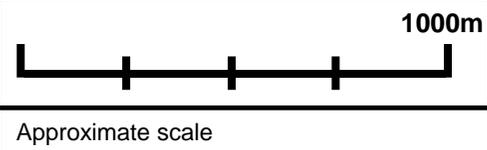
Legend

-  Residential Areas
-  Village farm industrial estate

1km Site Buffer Zone



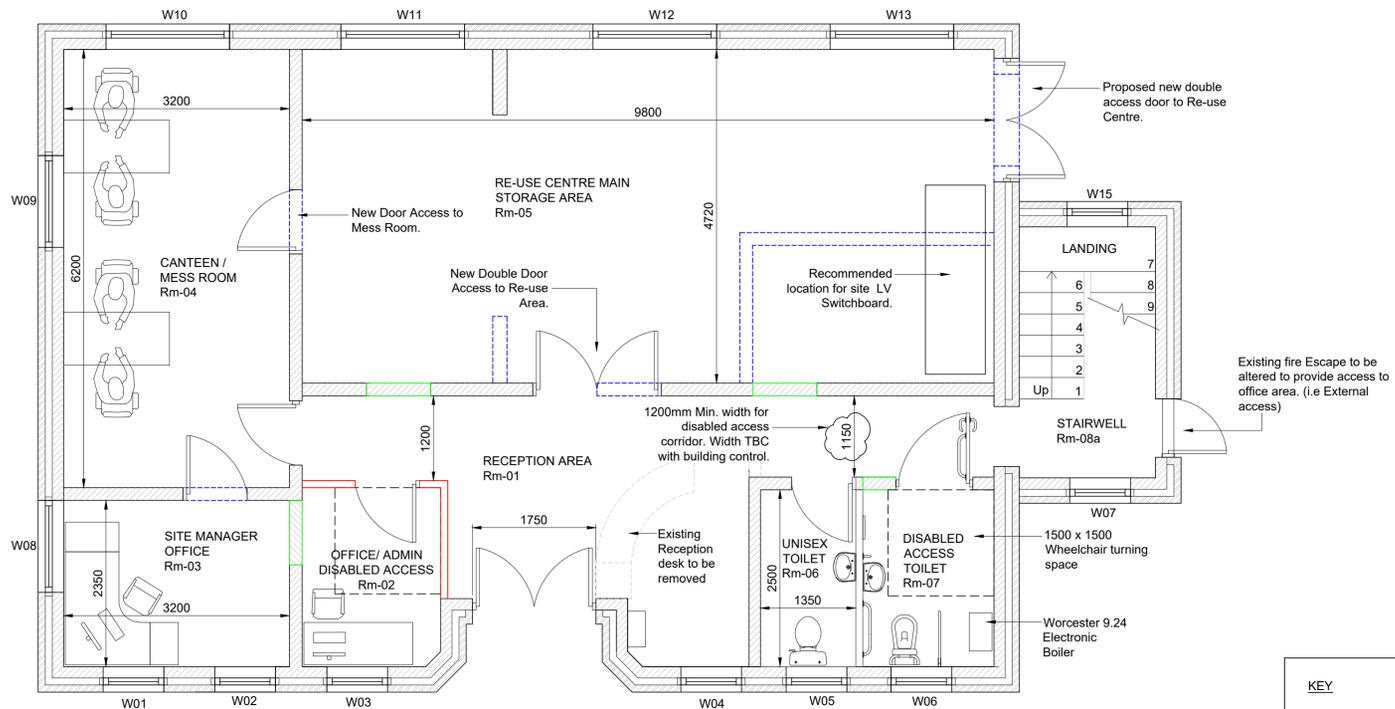
1km



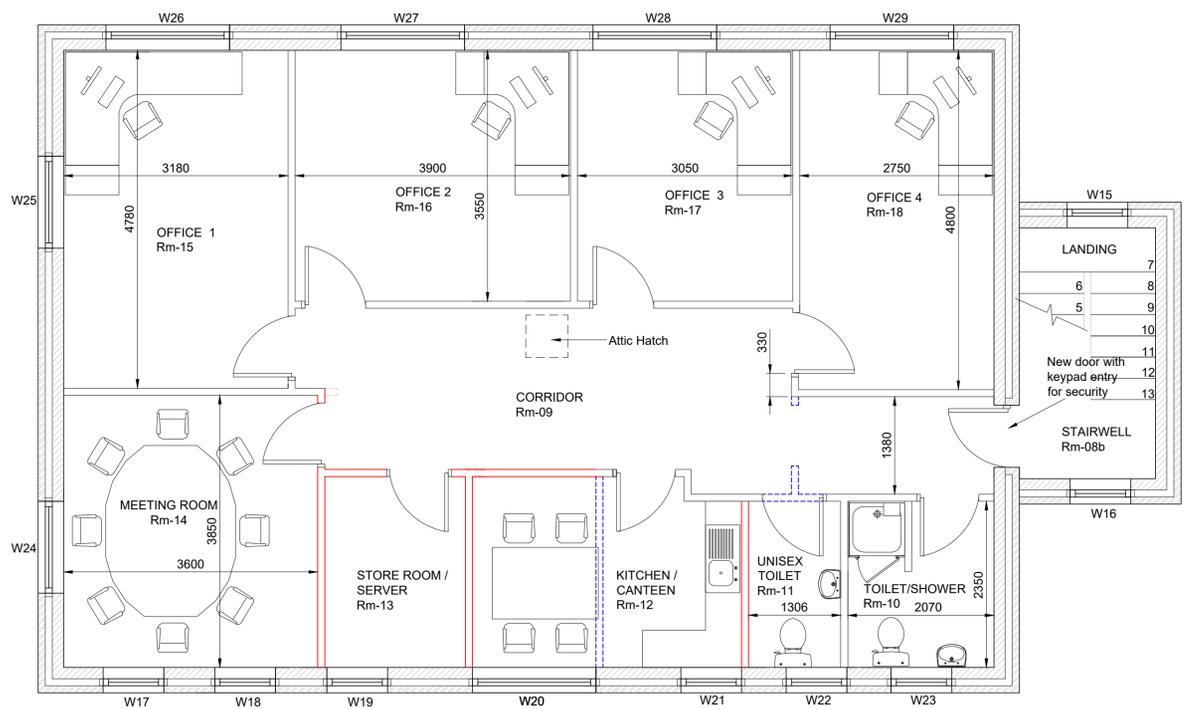
Legend

-  1km site buffer
-  Permit boundary

Appendix 5 – Building layout



EXISTING GROUND FLOOR PLAN
1:50



EXISTING FIRST FLOOR PLAN
1:50

KEY

- = Existing wall to be removed
- = Proposed new 100mm thk Studwall
- = Proposed new 140mm blockwork wall

Scope of Works:
Please refer to room data sheets and the Architectural Specification for details of alterations and refurbishment works.

NOTES

LEGEND

C0	TW	DP	23.08.18	CONSTRUCTION ISSUE
TO	TM	DP	24.03.13	
Revision	By	Chk'd By	Date	Comments



TREEMOOD HOUSE
ROWDEN LANE
BRADFORD-ON-AVON
WILTS. BA15 2AU
T: 01225 309400
F: 01225 309401
www.slrcconsulting.com

Site
BRIDGEND CC

Project
HWRC FACILITY

Drawing Title
PROPOSED BUILDING LAYOUT

Scale
1:200 @ A2

Date
JAN 2014

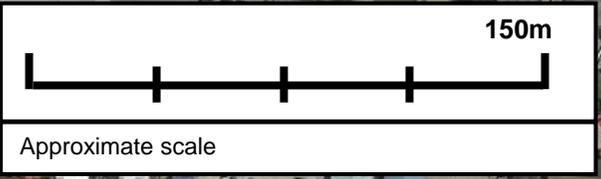
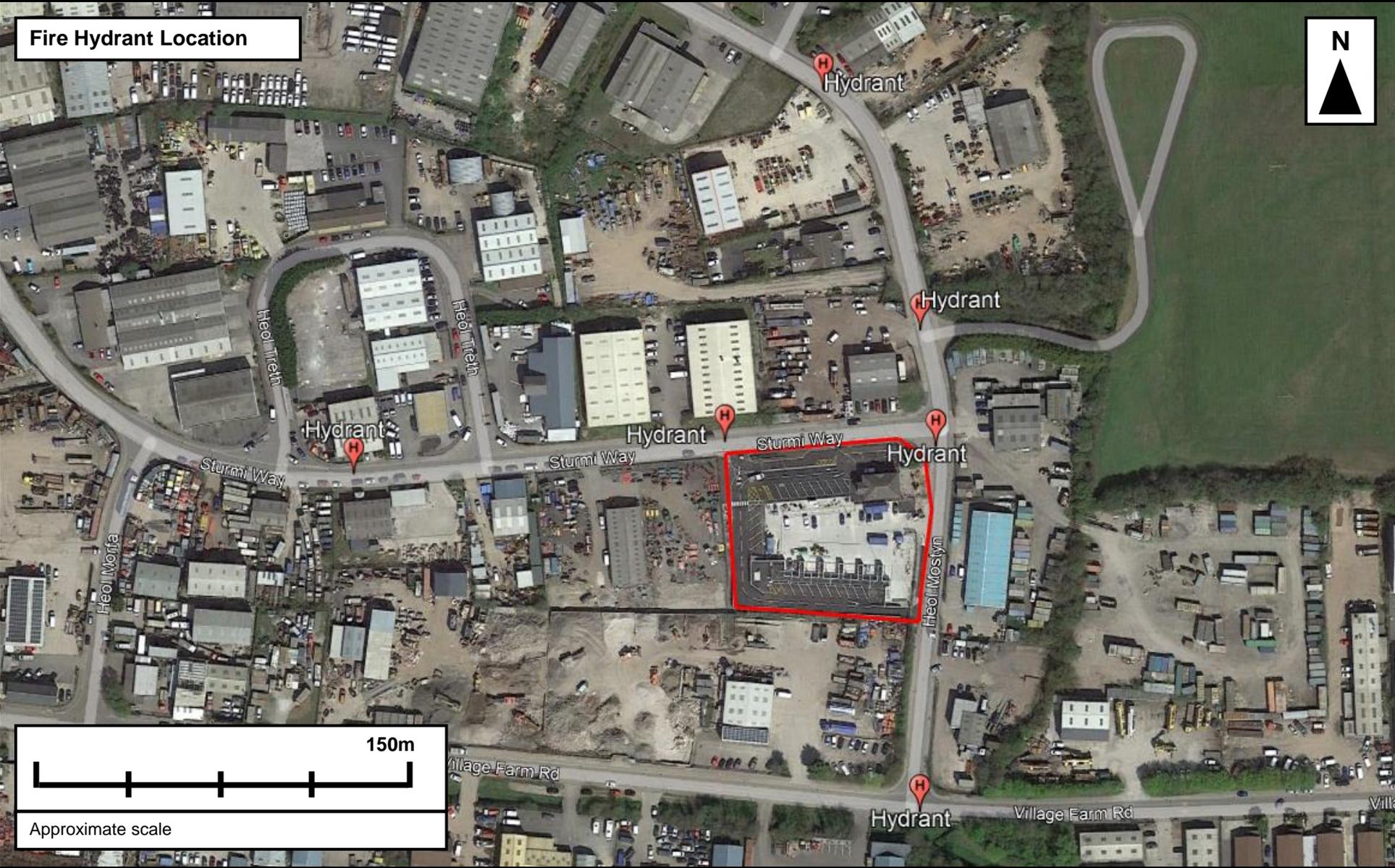
Drawing Number
028

Revision
C0

CONSTRUCTION

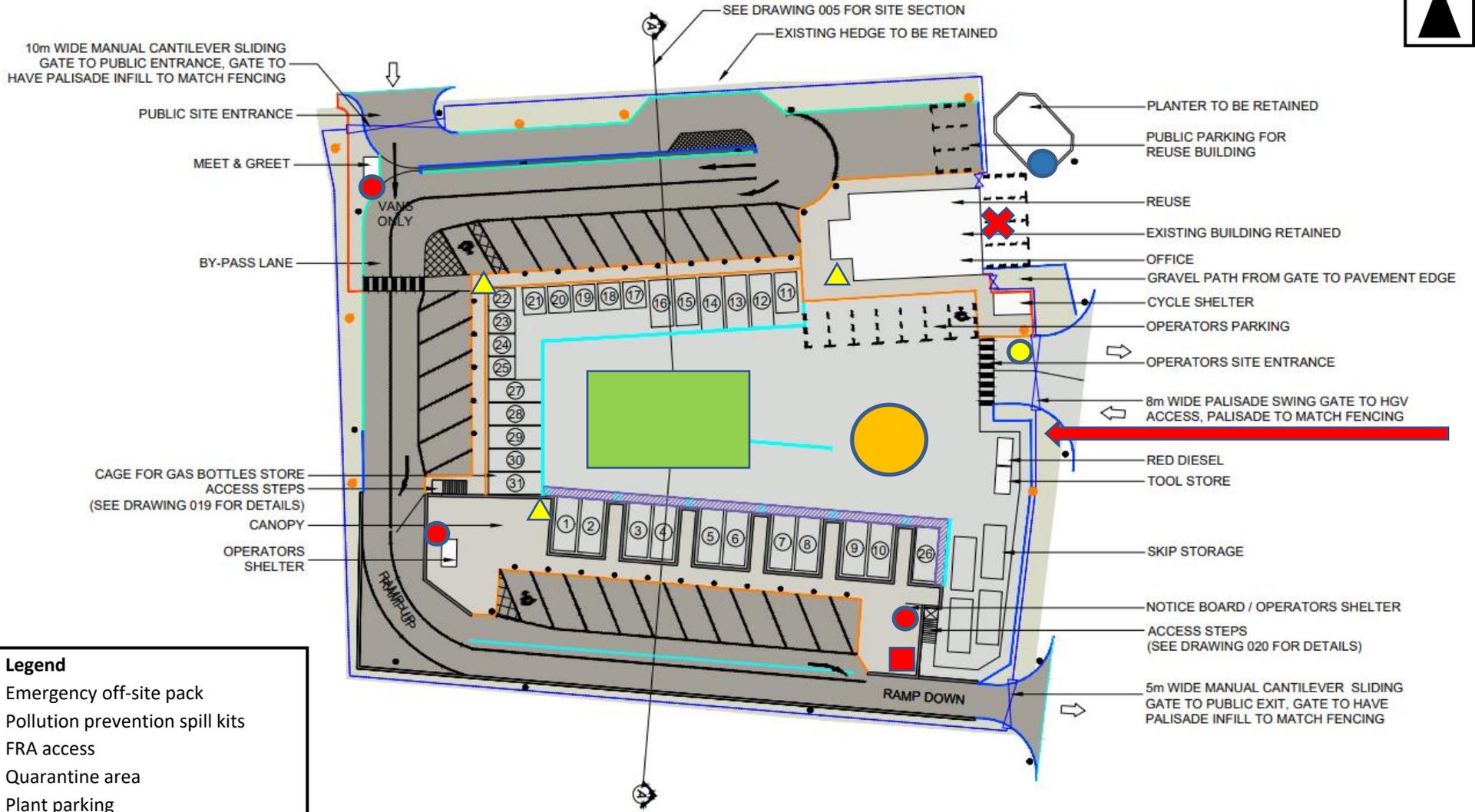
Appendix 6 – Fire hydrant location

Fire Hydrant Location



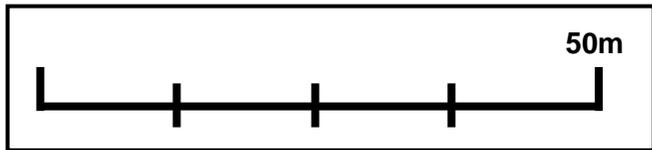
Appendix 8 – Key site features

Safety Measures Map



Legend

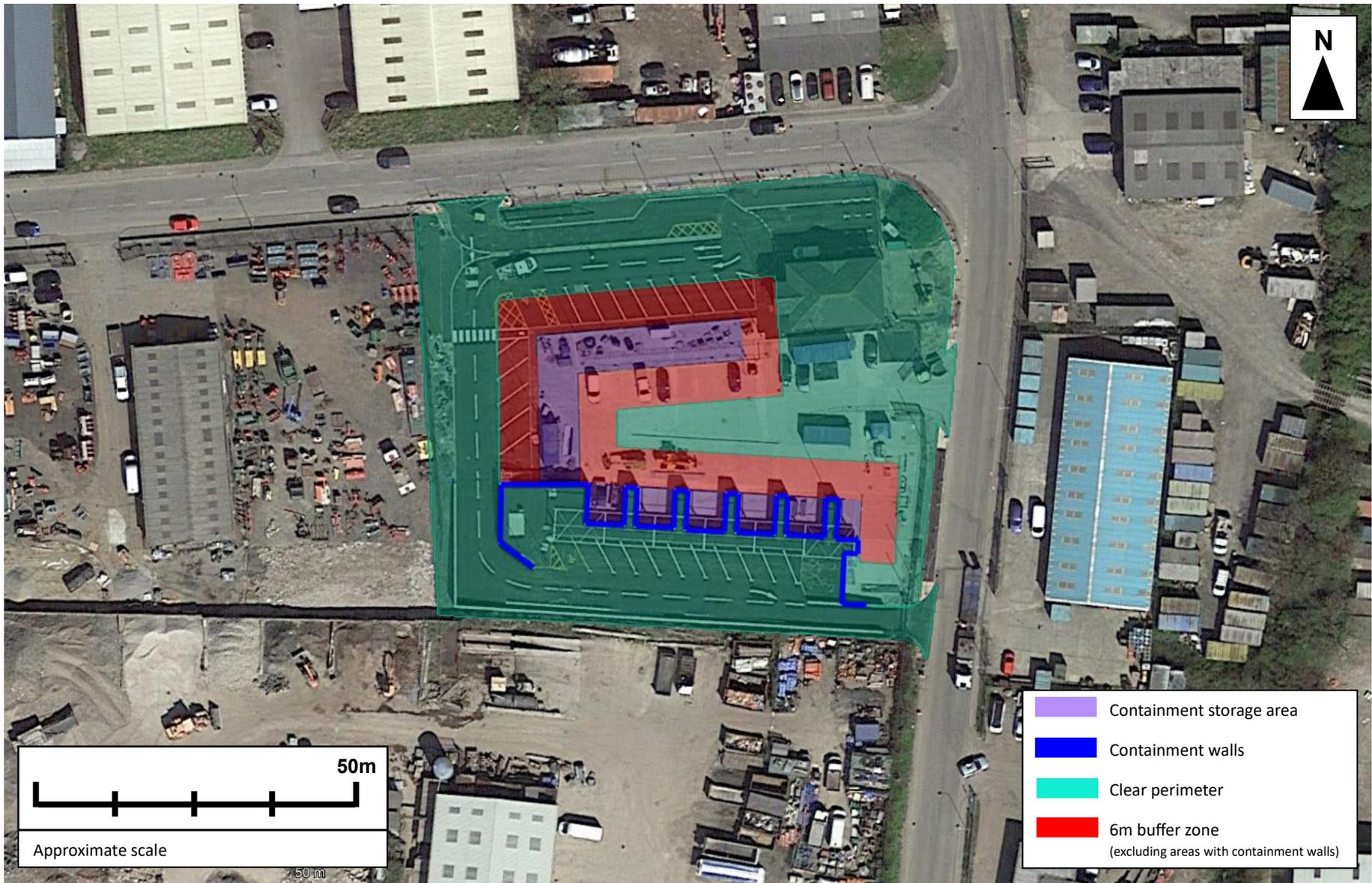
- Emergency off-site pack
- Pollution prevention spill kits
- FRA access
- Quarantine area
- Plant parking
- Fire assembly point
- Extinguisher points
- On-site water bowser 2,000l
- Pumping station (drainage shut-off)



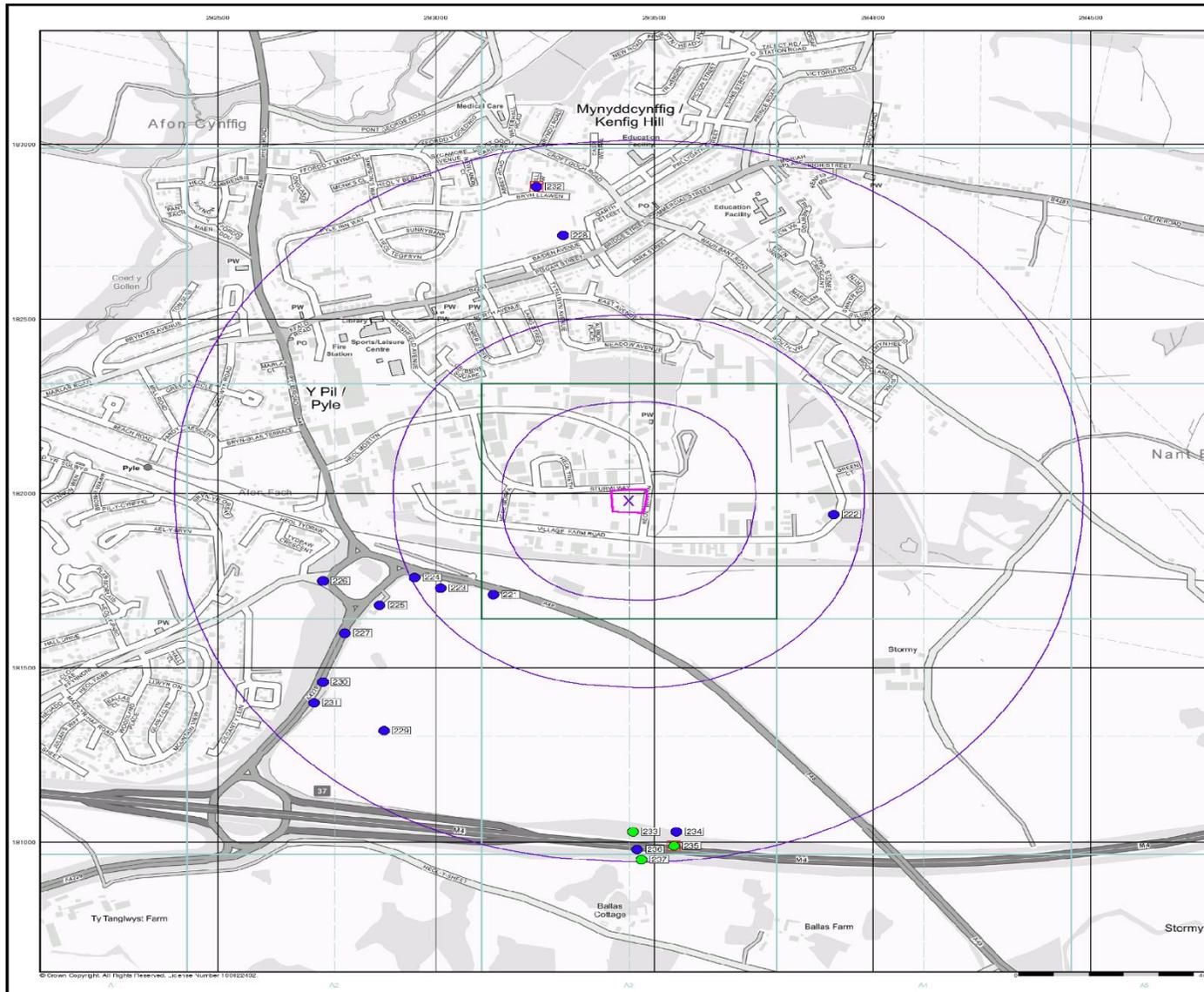
Appendix 9 – Areas of made/unmade ground



Appendix 10 – waste containment buffer zone

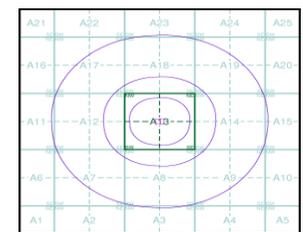


Appendix 11 - Borehole map



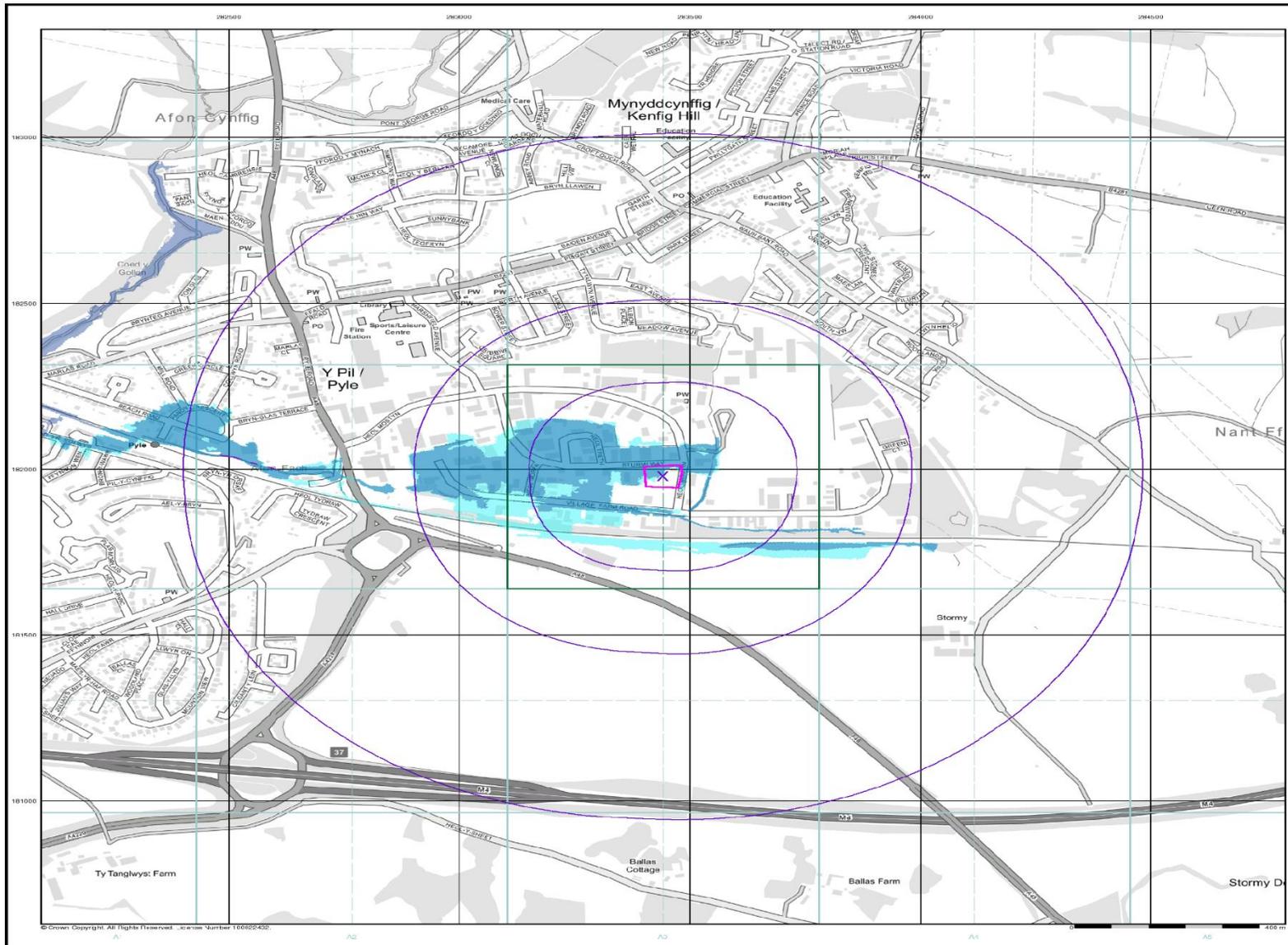
Envirocheck[®]
 LANDMARK INFORMATION GROUP[®]

- General**
- Specified Site
 - Specified Buffer(s)
 - X Bearing Reference Point
 - Map ID
 - Several of Type at Location
- Agency and Hydrological (Boreholes)**
- BGS Borehole Depth 0 - 10m
 - BGS Borehole Depth 10 - 30m
 - BGS Borehole Depth 30m +
 - Confidential
 - Other



Landmark[®]
 INFORMATION GROUP

Appendix 12 – Hydrogeological map



Envirocheck

LANDMARK INFORMATION GROUP

General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

Agency and Hydrological (Flood)

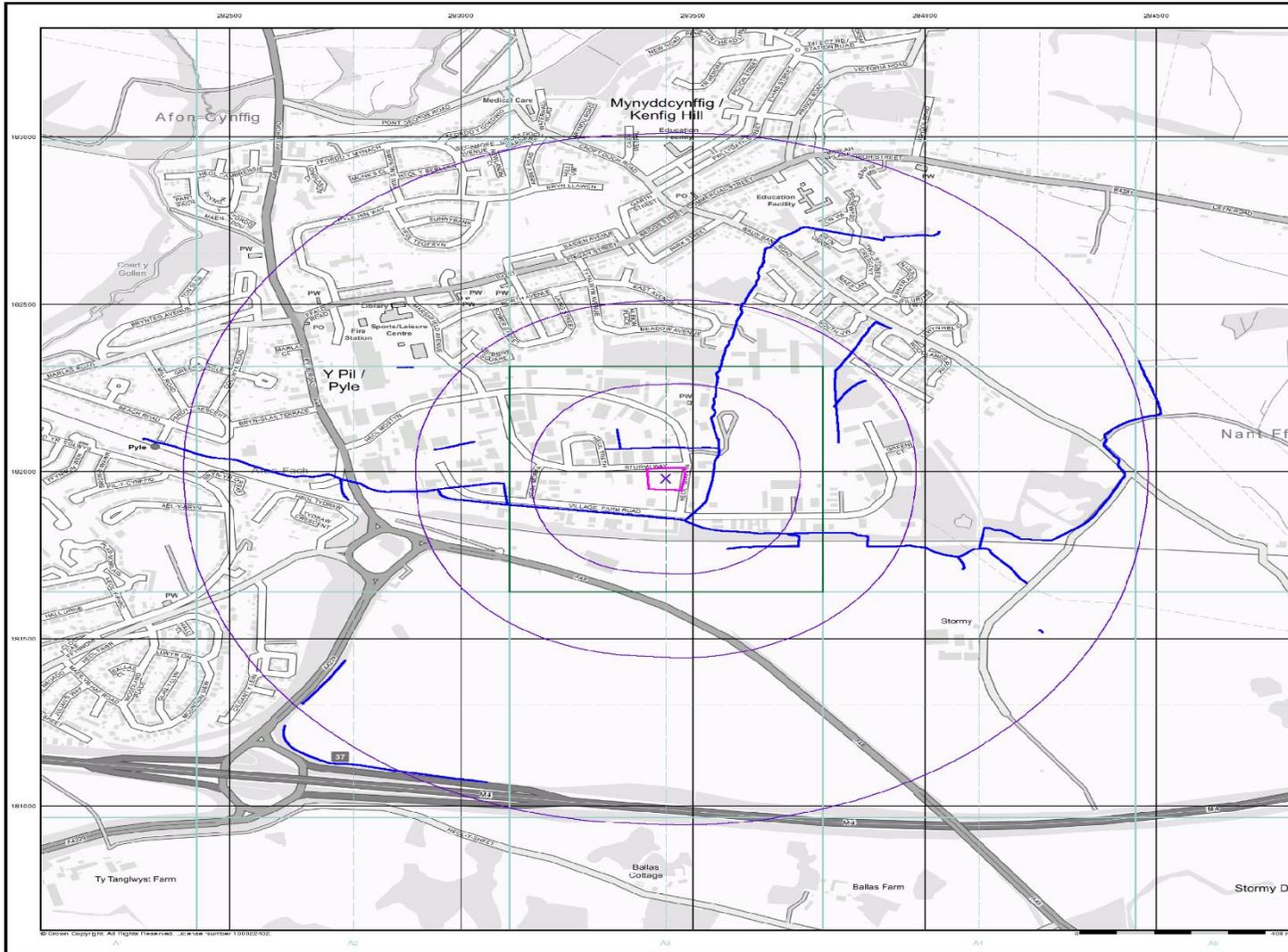
- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Landmark

INFORMATION GROUP

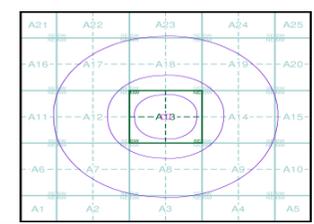
© Crown Copyright. All Rights Reserved. License Number 100022402.

Appendix 13 – watercourse map



Envirocheck[®]
 LANDMARK INFORMATION GROUP[®]

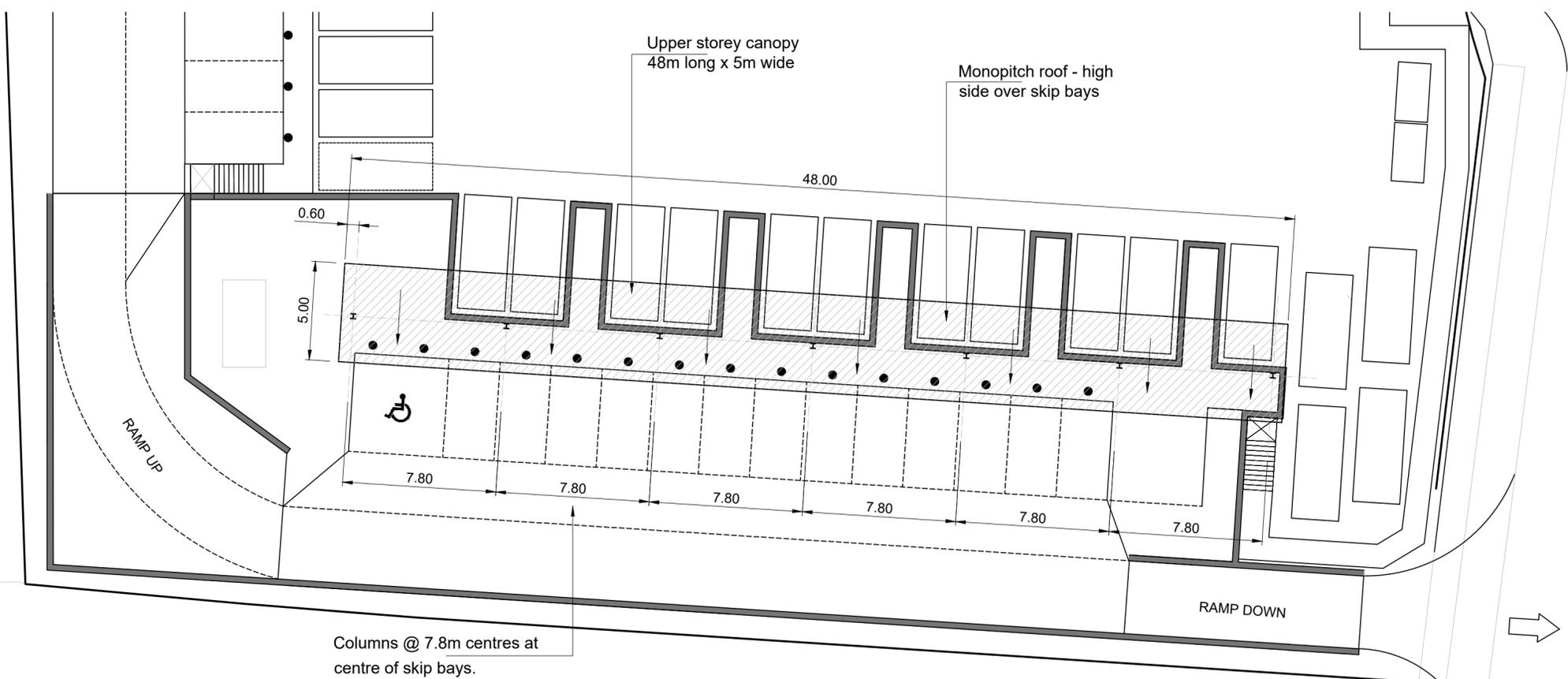
- General**
- △ Specified Site
 - Specified Buffer(s)
 - X Bearing Reference Point
- OS Water Network Data**
- Canal
 - Reservoir
 - Foreshore
 - Marsh
 - Tidal River
 - Inland River
 - Drain
 - Other
 - Lake
 - Transfer
 - Lock Or Flight Of Locks
 - Sea



Envirocheck[®]
 LANDMARK INFORMATION GROUP

Landmark[®]
 INFORMATION GROUP

Appendix 14 – Canopy Plan



FOR CANOPY DETAILS
PLEASE REFER TO DWG 22.

Columns @ 7.8m centres at
centre of skip bays.

PROPOSED CANOPY LAYOUT
(1:200)

NOTES

LEGEND

C0	TW	DP	23.08.18	CONSTRUCTION ISSUE
T0	JD	DP	07.03.13	
Revision	By	Chk'd By	Date	Comments

SLR  GREENWOOD HOUSE
ROWDEN LANE
BRADFORD-ON-AVON
WILTS. BA15 2AU
T: 01225 309400
F: 01225 309401
www.slrc consulting.com

Site
BRIDGEND CC

Project
HWRC FACILITY

Drawing Title
PROPOSED CANOPY LAYOUT

Scale
1:200 @ A2

Date
JAN 2014

Drawing Number
021

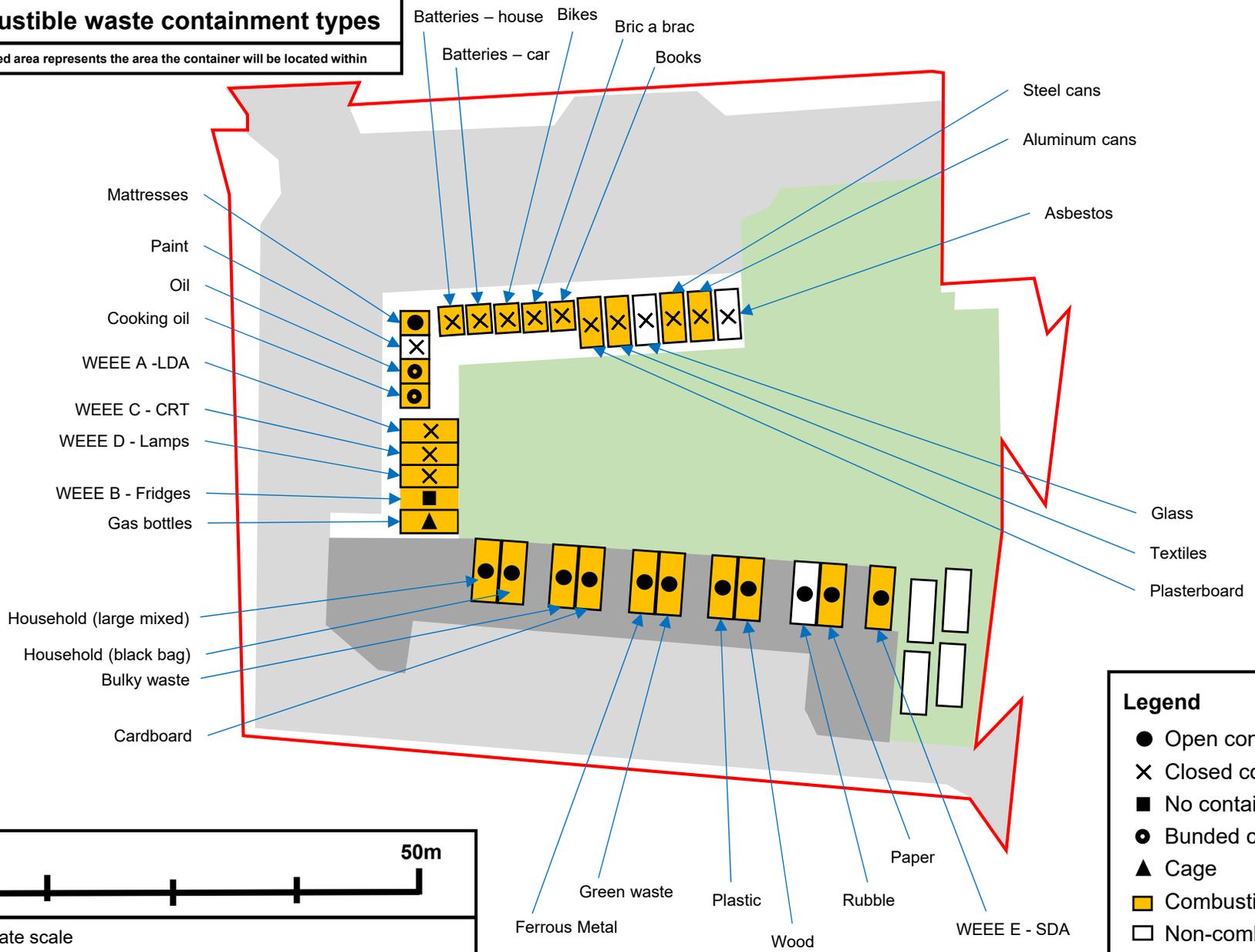
Revision
C0

CONSTRUCTION

Appendix 15 – Combustible Waste containment types

Combustible waste containment types

Highlighted area represents the area the container will be located within



Legend

- Open container
- × Closed container
- No container
- Bunded container
- ▲ Cage
- Combustible
- Non-combustible

