FIRE PREVENTION & MITIGATION PLAN

Morris & Co (Handlers) Ltd

Neath Abbey Wharf

Skewen

Neath

Castell-nedd Port Talbot

SA10 6BL

Permit number: Application submitted October 2018

Issued: TBC

Grid Reference: SS 72769 95874

Revision History

Issue	Date	Comments	Author	Approved by
1.0	Oct 2018	First version submitted in draft to NRW during environmental permit application	Jo Mcanulty	Tom Morris
2.0	Feb 2019	External treatment and external storage bays removed, associated drawings updated. Section 3.4 – bay storage updated with processed or unprocessed, shredded yes or no. A1 rated block detail updated and wall detail added to appendix 11. Section 3.10 – updated with visual fire watch checks and section 4.5 with 1 hour mandatory fire watch after hot works Section 4.4 – Electrician qualifications added Section 4.6 – Fire Detection in Building added Section 5.11 - Potential Water Volume and Containment added Appendix 10 – Procedure updated to Version 5		
3.0	May 2019	Section 5.5 – Quarantine area size clarified Section 3.10 – 360º grab reduced to 2, FLT's removed. Operator checks clarified Section 4.6 – Cameras to be UKAS certified Section 4.8 – no treatment gas cylinders confirmed Section 5.11 – speed bump increased to 150mm to increase containment in building to 543,200 litres		

29/10/2018 – the FPMP has the following proposed provisions which will be implemented following approval of the Fire Prevention & Mitigation Plan (FPMP) from National Resources Wales. The decision to wait to implement the following measures until approval is received is due to the capital expenditure required:

- Purchasing of blocks for walls/bays
- Fire resistant sealant type to be agreed
- Sealing of A1 block walls

Emergency Procedure Contact Details

Emergency Services	Telephone Number	Emergency Number
Fire and Rescue	0370 6060699	999
Ambulance Service	111	999
Police	101	999
Emergency Response		
Wales Environmental (Water/Chemical Removal)	02920 456456	

Hospitals	Telephone Number
Morriston General Hospital	01792 702222
Neath Community Hospital (Minor injuries)	01639 862000

Utilities	Telephone Number
Electricity	0800 096 3080
Water	0800 052 0130
Piped Gas	0800 111 999
Diesel	01829 260900
Spillage Cleaning	02920 456456
Gas Cylinder Collection (WasteCare)	0800 091 0000

Health and Safety Executive	Telephone Number
General Enquiries	0300 003 1747
Local Office	Cardiff

Natural Resources Wales	Telephone Number
General Enquiries	0300 065 3000
Incident Hotline	0300 065 3000
24 Hour Emergency Floodline	0345 988 1188

Local Authority	Telephone Number
Neath Port Talbot BC Emergency Planning Team	01639 686 409
Public Health Wales	02920 227 744

Internal Emergency Contact Name	Telephone Number	Position
Martin George	07482 304185	Site Manager

Neighbour Contacts	Telephone Number
Arfon Jones (Steel Supply Co)	01792 472981
Richard Morgan (Sims Metals)	07774 896188
Llandarcy Academy of Sport	01639 648680

2 Introduction

As a waste recycling facility the site is required to operate under an Environmental Permit and one of the conditions of that permit is to have an environmental management system.

The site currently operates 3 core documents relating to mitigating environmental risks within the companies environmental management system:

- Summary of Management Systems - this document highlights the steps taken to control day to day environmental risks.
- Accident Management Plan – this document considers the company's response to accidents on site.
- Fire Prevention Plan – this document identifies the potential Environmental hazards with a review to meeting the 3 National Resources Wales[1] objectives:
    - 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

Please note that the 3 above documents should be read in conjunction with the procedures and controlled document list held within the environmental management system.

2.1 – Visit from NRW and FRS

A site visit was held on Wednesday 17th October 2018 between:

- Sam Morris - Morris & Co
- Gareth Davies – NRW
- Michael Edwards – NRW
- Simon Pearson - Mid and West Wales Fire and Rescue

The notes from the meeting are encompassed in the email below from Gareth Davies. The response to this meeting has shaped the response of the company to the content of the Fire Prevention & Mitigation Plan.

From: Davies, Gareth <Gareth.Davies@cyfoethnaturiolcymru.gov.uk>
Sent: 24 October 2018 13:52
To: vicki.cooper@360environmental.co.uk
Cc: Edwards, Michael <Michael.Edwards@cyfoethnaturiolcymru.gov.uk>; Pearson Simon Neath/PT Command <s.pearson@mawwfire.gov.uk>
Subject: FW: Pre application with FRS

Vicki

Further to the joint site visit that was undertaken with Mid & West Wales Fire and Rescue Service, please find below joint comments in relation to the questions raised and discussed on site.

If you have any questions then please let me or Mike Edwards know.

Regards

Gareth

Uwch-swyddog Amgylchedd /Senior Environment Officer
Cyfoeth Naturiol Cymru / Natural Resources Wales
03000 653226
Maes Newydd Llandarcy

Dysgwr Cymraeg

www.cyfoethnaturiolcymru.gov.uk / www.naturalresourceswales.gov.uk

Yn falch o arwain y ffordd at ddyfodol gwell i Gymru trwy reoli'r amgylchedd ac adnoddau naturiol yn gynaliadwy.

Proud to be leading the way to a better future for Wales by managing the environment and natural resources sustainably.

[1] National Resources Wales FPMP Guidance can be found here - https://naturalresources.wales/media/682159/eng-guidance-note-16-fire-prevention-mitigation-plan.pdf

1. **Combustibility of Material -** Steel or aluminium cans (150104) and ferrous materials removed from bottom ash (incinerator scrap only) (190102) has a low or very low combustibility level.

It was agreed that the incinerator scrap and steel cans are low combustibility, with incinerator scrap having even lower combustibility. In order for a fire to occur within either of these waste types then a sustained large amount heat would need to occur. It was agreed that the alternate storage of incinerator scrap and steel cans within the bays is a good mitigating measure that would prevent any fire from spreading, in particular through the steel cans in the event of a fire occurring. It was the view of the NRW and FRS that the incinerator scrap couldn't be considered and used in the same manner as an engineered fire break such as concrete walls with an appropriate sealant.

2. **Fire suppression system for building** – the guidance states there should be a suppression system in the building, however based on the low combustibility level of the material to be handled on site, Morris & Co do not believe it is proportionate to install one. Do FRS agree?

The FRS are of the opinion that while a suppression system would be considered as a gold standard, they do not consider there to be an absolute requirement for one in this scenario / operation. If a suppression system was to be installed, it wouldn't be beneficial for it to be charged with water for use on a metals fire. The use of water on a metals fires will excite the fires and make things worse by creating bright explosions and potentially hurling molten metal out of the fire. The operator is proposing to install a misting system that will be able to perform a number of functions. It's primary purpose will be for dust suppression, but will also aid cooling of the waste, albeit it is not expected that there will be any self heating.

To aid the early detection of any potential fire, the operator is proposing to install heat detection equipment that will monitor the waste for any increases in temperature.

The operator also confirmed that there were a number of storage bays that would be used for storage of the different waste types. These would be alternated between incoming and outgoing waste to ensure that the waste does not remain within the bays for prolonged periods and the first in first out principal of waste handling is maintained.

3. **Bay Wall length over 10 meters** – due to the width of the building the wall lengths could exceed 10m in places to optimise storage on site. Attached are 2 versions of a possible bay layout - longer than 10m bays in a couple of places and 10m max bay length. You will note in the shortened bay that the operator loses a lot of internal storage space. Again with the low combustibility of the material, we are wanting agreement that longer bays will not increase the risk and thus can be installed.

The mitigation measures, such as misting system, heat detection and waste rotation can be used to justify the increase in bay wall length. It is a decision for the operator/applicant whether they wish to go with the 10 or 17 metres as part of the application. The FPMP could be reviewed should a permit be issued and the bay wall lengths increased with the appropriate mitigation in place.

4. **Clear area around perimeter of site**
   a) we tried to explain that there is a man made mound around the perimeter of the site. We need to ask the FRS whether they feel the mound around the site may contribute to a fire spreading or whether it can stay in situ
   b) Access behind the building – what access does the FRS need around the rear of the building? There is a wide gap around the back of the building, it this sufficient?

The FRS do not consider the mound to pose any issues around the fire spreading or would it prevent a fire from being tackled.

Vehicle access is not required around the whole perimeter of the site. The main fire engine access will through the main access road. There is also provision (right of way) to enter the site via another route from the adjoining operator. Fire fighter access around the perimeter of the site shall be maintained in order to access the water storage tanks that are proposed.

5. **What method will FRS use to fight a fire** i.e controlled burn, foam, water? Depending on the answer to this question, if it is water where will they get the water source from?

Any fire occurring on site would be actively fought with a combination of water and foam. The initial water supply would be from the water storage tanks on site. Depending on the scale of the incident the FRS would look to obtain water from the Neath Canal. There is sufficient water supply from the canal to actively fight a fire at this site. A high volume pump would be used to supply the water.

6. **Fire fighting techniques** – the following techniques have been suggested, however this may change dependent on FRS view on how they would fight a fire:
   a) *Applying water – there is a 22,000 stored water tank available and 30,000 drainage tank where water can be recirculation from. This water is readily available to apply as necessary.*

b) *Separating unburned material – as detailed in section 5.8 the site has access to mobile plant to move unburned material*

Morris & Co confirmed that staff contact details will be made available so that they can be contacted out of hours as required.

c) *Separating burning material into quarantine area - the quarantine area is clear, available and larger than the largest bay*

There is plenty of space available to act as a quarantine area within the permitted boundary.

d) *Suffocating the fire – ash produced from treating the incinerator scrap could be used to suffocate a fire. As demonstrated in the Active Fire Management report, this material has very little or no combustibility as it has already been through an incinerator. Once shredded on site, the ash separated from the metal, is stored in the external bay next to the quarantine area. It is therefore well positioned to be used on any burning material in the quarantine area.*

It is unlikely that the suffocation of a fire would be used as a fire fighting tactic by the FRS on this site. Given the temperatures that would be sustained during a metal fire, suffocating the fire would likely lead to the fire burning for longer and it not being extinguished.

Does FRS agree with this? If they are going to recirculate from our tanks, do they need special couplings?

During the meeting the required couplings were confirmed in order for the FRS to obtain water from the storage tanks. Morris & Co will install these when the tanks are installed.

7. **Fire water containment** (summary of drains attached) **–**
   a) Building – Internal 1m dwarf walls + 150mm depth sleeping policeman on entrances to hold water within the building
   b) the proposal is for a 30,000 litre tank to be installed which could capture water run off from external storage area
   c) The lagoon would be protected where ever possible, however if fire water did enter the lagoon, it would be tankered away

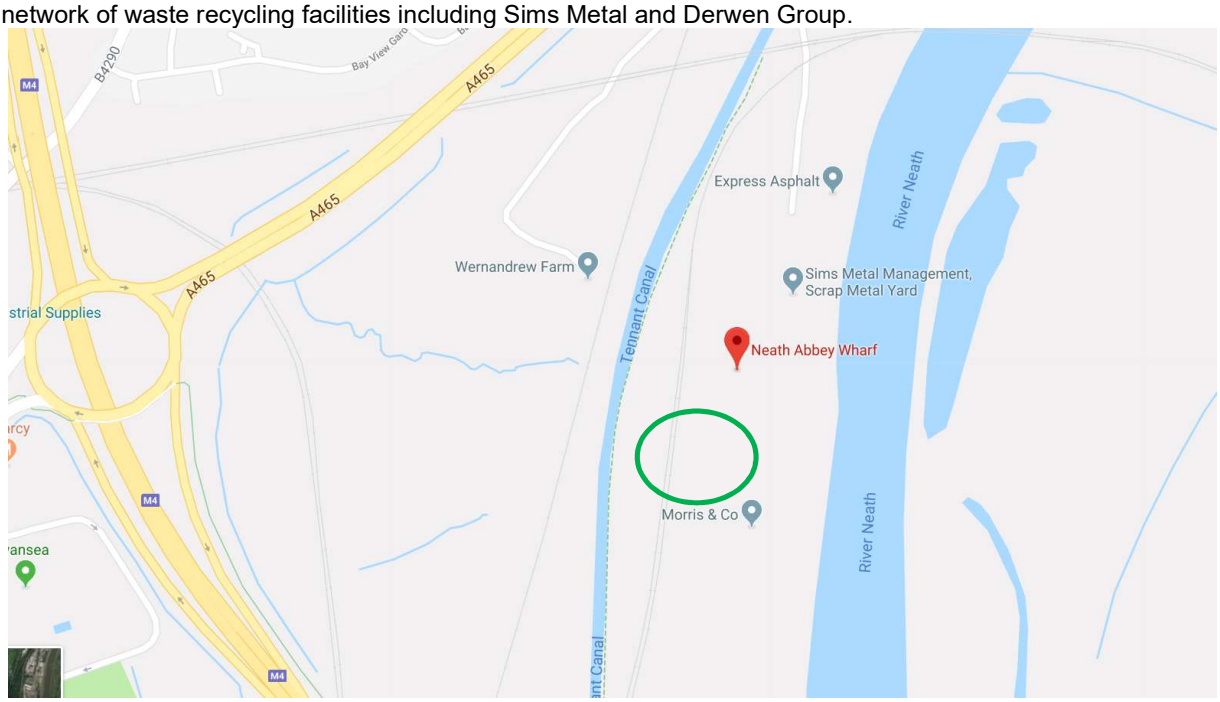
   Do FRS have any comments on this?

The FRS are satisfied that there is sufficient water containment given the infrastructure that is currently and will be installed.

2.2 - Overview of the Site

Site is located at Neath Abbey Wharf, Skewen, Neath, Castell-nedd Port Talbot, SA10 6BL.
Please see Site Location Plan (drawing no 02).

The site is located with easy access to the M4 and A465 road networks. The Neath Abbey Wharf area has a network of waste recycling facilities including Sims Metal and Derwen Group.



2.3 – Overview of the Operation
The site is regulated by National Resources Wales under Environmental Permit no. TBC

The Environmental Permit details the permitted waste types and quantities for the site and all staff should make themselves familiar with it.

The site receives incinerator scrap, steel UBCs and aluminium UBCs. The incinerator scrap goes through a treatment shredding operation to separate and extract different metal grades to increase the recycling rate. The steel and aluminium UBCs are baled for onward sale.

Environmental Permit – EPR/ (TBC)
A copy of the environmental permit will be available in the site office and all staff should be familiar with it. The key points of the environmental permit and operation include:

- To permit the operation of a Metal Recycling Site
- To permit the acceptance of 150,000 tonnes per year.
- Metal recyclables will predominately be received loose on articulated or bulk carrier vehicles. Loose material, once checked and accepted upon delivery, will be stored inside the building.
- Material following treatment will be stored in the building
- Quarantined waste will be stored on the outside yard area in a dedicated sealed container.
- Treatment of metal waste including sorting, separation, grading, baling, shearing, compacting, shredding (less than 75t/day), crushing or cutting of waste into different components for recovery.
- Clean surface water from roofs, or from areas of the site where the water can not run off stored waste or from areas not connected with treating waste, will be discharged directly to groundwater by seepage through the soil via a lagoon and soakaway.
- All material is removed from site within 3 months (see Fire Prevention Plan for further details on material storage and rotation).

Operational hours

Day	Staff on site	Operational hours	Weighbridge hours
Mon – Fri	6.30 – 18.00	7.00 - 17.00	7.00 – 16.30
Sat	6.30 – 13.00	7.00 - 12.00	Closed
Sun / BH	Maintenance only as required	Closed	Closed

2.4 – FPMP Summary

- The environmental permit categorises the site as a metal recycling site, however the site only handles the following metal grades - incinerator scrap, steel UBCs and aluminium UBCs. This is confirmed in the EWC codes that the site can accept on site.
- These same grades are handled by Morris & Co's Rossington site and a material assessment for combustibility was completed on these grades on 06/04/2017 (please see Appendix 1). The assessment stated that for the incinerator scrap:
    - The state of this waste when delivered/received is cold aerated and is in a burnt state. It has all other materials removed from it to ensure it is only metal. The contents of these piles have very little or no combustibility and therefore may well act as a natural barrier between the piles of MBT and mixed cans. (page 5)
    - the very nature and make-up of the waste that has just been incinerated is non-combustible. (page 5)
    - With the incinerated waste, all other materials have been removed and for metal to burn from an external source is very, very unlikely to occur. (page 6)
- For the aluminium and steel UBCs:
    - The melting point of Aluminium is such that it weakens at 575 degrees centigrade and from then on its strength diminishes very quickly and it will then transfer from a solid state into a possible liquid state. For this transition from one state to another the heat generated is similar

to the heat of the furnaces that the finished products from this site will eventually end up at. It would be impossible for that amount of heat to be generated to assist with the spread of fire. (page 5)

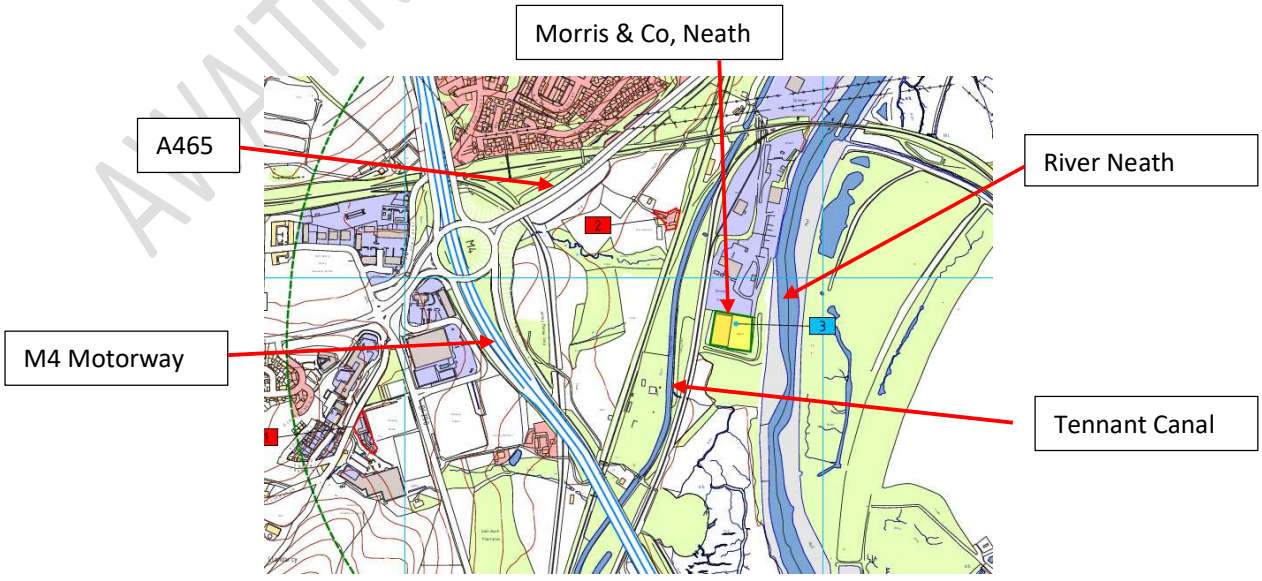
- The risk from the ferrous materials iron and steel is very similar, however it requires a higher temperature approaching 800 degrees centigrade before these materials undergo a loss of strength and shape. (page 5)

- The FRS has confirmed in the meeting on Weds 17th October that the material accepted on site has a low combustibility.
- Treatment is either via shredding of incinerator or mixed can scrap and baling of UBCs. Some of the UBC metals can be directly sold on and therefore no treatment is required.
- Whilst the material received has an extremely low or low combustibility level, Morris & Co still take fire prevention and fire management seriously and thus:
- All material is removed from site within 3 months (see Table 1 in section 3 for detail).
- Incinerator material received is aimed to be zero piled every 6 weeks.
- Separation distances are managed by the use of A1 rated blocked walled bays
- Incinerator scrap material is stored between other grades, as it was confirmed in the Active Fire Management report that this material can act as a natural barrier due to its extremely low combustibility
- All bay lengths are 10m or less. Mitigation measures, such as heat detection and waste rotation will be installed and once these measures are implemented it could justify the increase in bay wall length. Any increase in bay length will be discussed with NRW.
- The site operates a first in – first out principle and documents evidence of zero piling of bays
- No waste is stored over 4 metres.
- The building has been constructed with a central dish shape and 1m high dwarf walls to hold any fire water inside (see section 5.11)
- Quarantine area is available and hold at least 50% of the largest pile
- 30,000 litres of stored water held on site

2.5 - Receptors

The Fire Prevention Guidance stipulates that a site with an Environmental Permit must have a plan showing all sensitive receptors within a 1km radius of the site that could be effected by a fire. Please see Receptor Plan drawing no: 10

The site is located in Neath Abbey Wharf, an industrial area with a number of waste facilities. As illustrated on the Receptor Plan the nearest residential property is over 250m north west of the site and the only key receptor is the Llandarcy Academy of Sport which is over 600m south west of the site. The site is adjacent to the River Neath and Tennant Canal. It is also covered by the M4 motorway and A465 road network. There are no mainline public train lines within 1km of the site, there are train lines for the docks and industrial areas. This is illustrated below and can be seen in further detail on the Receptor Plan drawing no: 10.



2.6 – Drawings
All Morris & Co sites have the same numbering on the drawings, however some sites may not require the full suite of drawings as the sites are slightly different i.e owned or rented. The drawing numbers are maintained across the different sites for referencing purposes.

Copies of the drawings for the site are displayed in the weighbridge office and copies are included in separate appendices below. All site plans are 1:5,000 size and able to be printed to A1 size. All new staffs are shown the site drawings during induction training to make them familiar with the site.

The drawings for the site are:

Drawing Title	Drawing Number	Relevant to Neath
Site Planning Permission Boundary Plan	01	N/A
Site Location Plan	02	Yes
Site Ownership Boundary Plan	03	N/A as rented land
Environmental Permit Boundary	04	Yes
Fire Hydrant Locations	05	N/A as not available
Fire Protection Plan	06	Yes
Site Infrastructure Plan	07	Yes
Material Storage Plan	08	Yes
Site Drainage Plan	09	Yes
Receptor Plan 1km	10	Yes
Odour Plan	11	N/A
Habitat Plan	12	Yes

2.7 – Regular Exercises
The site perform regular exercises to test the FPP including complete site evacuation and spill management.

Records of the exercises are documented in the fire drill record or in the environmental site checklist.

3 Management and Storage of Waste (Table 1)

Table 1 below summarising the management and storage on inbound and outbound waste

INBOUND

Internal Storage

Material	Form	Combustibility Risk	Separation between materials	Storage out of hours	Maximum storage time	Stock rotation evidence
Incinerator Scrap	Been through incinerator, awaiting further processing by Morris & Co which is performed inside the building	Extremely low	Non-combustible, natural fire barrier. Block walls inside building.	In bay	3 months – usually zero piled every 6 weeks.	Photographed as per stock rotation procedure
Steel Cans	Loose and baled awaiting rebaling by Morris & Co	Low	Block walls inside building	In bay	3 months	Photographed as per stock rotation procedure
Aluminium Cans	Loose and baled awaiting rebaling by Morris & Co	Low	Block walls inside building	In bay	3 months	Photographed as per stock rotation procedure

External Storage

No inbound waste material shall be stored outside prior to treatment.

OUTBOUND

Internal Storage

Material	Combustibility Risk	Form	Where stored	Separation	Storage out of hours	Maximum storage time	Stock rotation evidence
Incinerator Scrap	Extremely low	Loose	Bay	Block walls inside building	In bay	3 months	Operator Daily Checksheet
Inert Aggregate	Extremely low	Loose	Bay	Block walled external bay and 6m gap to other material inside building	In bay	3 months	Operator Daily Checksheet
Steel Cans	Low	Baled and Loose	Bay	Block walls inside building	In bay	3 months	Photographed as per stock rotation procedure
Aluminium Cans	Low	Baled and Loose	Bay	Block walls inside building	In bay	3 months	Photographed as per stock rotation procedure

External Storage

Material	Combustibility Risk	Form	Where stored	Separation	Storage out of hours	Maximum storage time	Stock rotation evidence
Quarantined waste including degassed cylinders*, batteries	Varies Medium - High	Loose	Sealed open topped bulk container	Stands on its own	External area on impermeable pavement	3 months	Weighbridge tickets and waste collection paperwork

* Please note, orphaned gas cylinders are infrequently[2] removed from delivered waste during inspection

[2] As of May 2019 the site quarantines approximately 1 orphaned gas cylinder every 2 months

3.1 – Combustible / Non-Combustible Waste Materials

Active Fire Management Ltd completed an assessment of the combustibility of the materials on Morris & Co's Rossington site in Jan 2017 and the material received at Neath is the same waste material. The latest version of the report is version 2 amended, a copy of the full report can be found at Appendix 1. The summary of the report is the following combustibility levels:

Material Combustibility	Inbound Material	Outbound Material
Incinerator Scrap	Extremely Low	Extremely Low
Steel Cans	Low	Low
Aluminium Cans	Low	Low
Inert Aggregate		Extremely Low

The assessment above was confirmed by Mid and West Wales Fire Service on Wednesday 17th October 2018, see notes in section 2 above.

For the incinerator scrap:

- The state of this waste when delivered/received is cold aerated and is in a burnt state. It has all other materials removed from it to ensure it is only metal. The contents of these piles have very little or no combustibility and therefore may well act as a natural barrier between the piles of MBT and mixed cans. (page 5)
- the very nature and make-up of the waste that has just been incinerated is non-combustible. (page 5)
- With the incinerated waste, all other materials have been removed and for metal to burn from an external source is very, very unlikely to occur. (page 6)

For the aluminium and steel UBCs:

- The melting point of Aluminium is such that it weakens at 575 degrees centigrade and from then on its strength diminishes very quickly and it will then transfer from a solid state into a possible liquid state. For this transition from one state to another the heat generated is similar to the heat of the furnaces that the finished products from this site will eventually end up at. It would be impossible for that amount of heat to be generated to assist with the spread of fire. (page 5)
- The risk from the ferrous materials iron and steel is very similar, however it requires a higher temperature approaching 800 degrees centigrade before these materials undergo a loss of strength and shape. (page 5)

The FPP and management of material on site have been designed in response to this report.

3.2 – Amount & Type of Waste Received

Metal waste received as follows:

Material	Form	Combustibility Risk	Storage
Incinerator Scrap	Been through incinerator, delivered loose	Extremely low	In bay in building
Steel Cans	Delivered loose and baled	Low	In bay in building
Aluminium Cans	Delivered loose and baled	Low	In bay in building

530t/day

Average daily volume received is 530t/day across the grades.

3.3 - Storage times

Storage times are dependent on the combustibility risk that both inbound and outbound material has. Please see Table 1 above for the breakdown of maximum storage times per material/grade. No material will be on site longer than 3 months. Maximum 3 month storage times are implemented on site as the material arrives from another waste facility and therefore this allows for storage of the material up and down the waste chain.

The correct storage of material is to ensure a regular turn around of material.

3.4 – Bay Storage and Separation Distances

Bay Storage

Please see Material Storage Plan (drawing no. 08) for internal storage layout.

Bay maximum storage levels - Building:

Bay no	Length	Width	Height	Max m^3	Material	State	Shredded?	Format
1	9.6	8.8	4	337.92	Finished Steel cans outbound	Processed	No	Baled
2	9.6	9.6	4	368.64	Incinerator scrap	Unprocessed	No	Loose
3	9.6	9.6	4	368.64	Aluminium cans inbound	Unprocessed	No	Loose
4	9.6	9.6	4	368.64	Steel cans inbound	Unprocessed	No	Loose
5	6.9	5.6	4	154.56	Non ferrous from incinerator	Processed	Yes	Loose
6	9.6	4	4	153.6	Finished steel incinerator	Processed	Yes	Loose
7	9.6	4	4	153.6	Finished steel incinerator	Processed	Yes	Loose
8	6.4	5.2	4	133.12	Non ferrous from incinerator	Unprocessed	No	Baled
9	9.2	6.4	4	235.52	Ash	Processed	No	loose
10	9.6	7.2	4	276.48	Steel cans inbound	Unprocessed	No	Baled
11	9.6/6.4	9.6	4	307	Steel cans inbound	Unprocessed	No	loose

The length of all bays does not exceed NRW FPMP guidance, the material is low or extremely low combustibility and the material rotates at least every 3 months. The site manager is fully conversant with the material storage plan and stock rotation procedure.

Bay separation:

There is insufficient space on site to have 6m gaps between bays inside the building and therefore the material separation is via the use of blocks to reduce fire spread.

The blocks used for the bays will be supplied by Elite Precast Concrete[3]. The blocks are A1 fire resistant, reinforced and have a design working life of 100 years as defined in BS EN1990:2002 +A1:2005. The blocks fall within Class A1 of the Fire Classification EN 13501. A full quality statement and EN13501 can be found at Appendix 11. Elite Precast Concrete have also confirmed that the thickness of the blocks will be sufficient height thickness and construction to offer a fire resistance period of at least 120 minutes. At the time of writing this FPP the blocks are not in place, when they are installed, the installation method used will be in line with the manufacturers recommended installation requirements.

The bay height will be 5m, with material stored to a maximum of 4m they will be designed to provide a suitable 1m freeboard and separation to prevent bridging across or around walls.

The blocks will not burn, crack or give off noxious fumes regardless of the intensity of the fire or time spent being exposed to the fire. All quality concrete is inherently fire resistant but only if it is made to long recognised and established UK industry standards (concerning strength, provenance and traceability of raw materials, durability etc etc). Elite Precast concrete blocks have a very high strength (50N/mm2). Built to resist fire and construction of firewalls will be sufficient to stop a fire spreading and minimise radiant heat.

The bays are segregated by material grade and therefore it is clear to see where the material is stored and the volume stored. The site manager or site supervisor is on site every day and therefore the storage areas are regularly monitored throughout the day.

The blocks are also installed at the back of the bays and thus separate the internally stored wastes and building walls.

The company have a stock management system (Recy) which enables key personnel to monitor the correct storage levels on site.

[3] www.eliteprecast.co.uk

3.5 – Waste Stored in Containers
Empty or degassed gas cylinder or batteries arising from maintenance activities on site or removed from delivered waste and quarantined are stored in a sealed skip on the external impermeable pavement, as least 6m away from any waste on site, see Drawing No.8. The Safe Storage of Gas Cylinder Procedure (PROGAS) is followed at all times (see appendix 13).

The skip is stored on the external yard away from other wastes, access can be gained to all sides of the skip and due to its positioning, it can be moved as soon as reasonably practicable in a safe manner by one of the 360º grab equipment already on site. Sealed skips are used to hold water until it can be safely tankered out or collected.

3.6 – Baled waste
Steel UBCs and process non-ferrous from incinerator scrap will be stored in a baled format on site. The breakdown by material is shown in Section 3.4 above. Any baled UBC waste received will be UBC only, there will be no contamination in the bale as this grade is purchased as 100% UBC grade only. Even mixed can grades are steel and aluminium UBCs mixed, there is no contamination from other metal grades or other waste types.

The baled material is stored in separated block walled bays and the baled stock is stock rotated to ensure all waste is moved at least every 3 months. Evidence of stock rotation is detailed in section 3.7.

3.7 - Storage Rotation
All material is held for a maximum of 3 months, please see Table 1 above for specific storage times by material grade. Morris & Co follow the 'first in, first out' principle for stock rotation.

The process on site is such that there are always higher volumes of inbound stock than outbound stock, the company keep the material in its largest form wherever possible. In the event of no outgoings, the company would continue to keep the material in its largest form wherever possible and would implement the Business Continuity Plan stopping material coming to the site and moving material to other Morris & Co sites to ensure material was not held on site over 3 months.

Stock rotation/management of storage times on site are monitored in the following ways depending on material (see Table 1 for detail):

- Stock Rotation Procedure (PROStock) – Photographs taken with date, as confirmation of separation breaks in place and stock rotation. Photographs saved on the Compliance Drive
- Operator checksheet (Machine Checklist 11) – sign off by operator for the following materials:
  - ✓ ticked by the operator the day(s) the incinerator outbound material is zero piled
  - ✓ ticked when internal bays are zero piled
- Outbound records

Please see Table 1 above to illustrate which rotation evidence method is used for which material.

3.8 – Management of Hotspots
The site shall not handle any combustible waste or waste containing potential hot waste. A visual check is made of all received waste as detailed in section 3.12 below.

Detection and control of hotspots within the stored waste is done via the thermal detection cameras which alert a change in temperature within the bays. The site manager or deputy is constantly walking the site during the working day and he is instructed to visually monitor the stored material for steam or heat. Also staff who work within the building all day are trained to visually monitor the bays for steam or heat and to alert Management.

3.9 – Season variations
Seasonal variations do not impact the site. The site processes material based on availability and price. Waste stockpiling due to seasonal variations in the demand of incoming or outgoing wastes is therefore not an issue for the site. The site purchases material to meet an outgoing order and thus back to back tonnage relationship are in place. If the end user outlet failed, the material could be transferred to the other Morris & Co site in Doncaster and the material could be supplied to their end users. So there are controls and flexibility in the system to ensure material does not remain on site for more than 3 months.

3.10 – Waste Treatment / Use of Mobile Plant
The treatment on site is:

- Trommel
- Baler
- Small shredder

The following mobile plant is used on site is:

- 360º grab x 2
- JCB Telehandler x 1
- Loading shovel x 1

Mobile plant is parked away from stored waste overnight, where possible the exhausts are pointed away from the stored waste, please see Drawing No 08.

Operators are required to complete daily checks and the checks are recorded on the Operators Daily Checksheet for the relevant equipment listed above. Included in the daily checks is a check of the level of dust settling on the exhaust and engine parts (n.b 360º grab exhaust is enclosed within the engine compartment and thus the visual check is performed of the level of dust on the engine compartment and not the exhaust). For safety reasons only a visual on ground height check of the mobile plant is performed. The following frequency of checks are completed:

- Pre start check
- 9am-11am check
- 2pm-4pm check
- End of working day check

3.11 – Separation between Waste and Plant
As shown on Drawing No.8 Material Storage Plan, block walls (as per section 3.4 above) separate internal storage of material and fixed plant. Out of hours mobile plant is parked away from stored waste overnight.

3.12 – Waste Acceptance and Rejection
All articulated loads are pre-booked approximately 5-10 days in advance, the roro jobs are booked the day before and therefore the weighbridge know what is arriving at the site. Only booked loads will be accepted including external deliveries.

All waste that does not meet the specification or grade purchased or the material doesn't comply with the environmental permit will be rejected. The Rejection Procedure (PROLoadAcc/Rej – See Appendix 10) is followed and records logged in the site diary.

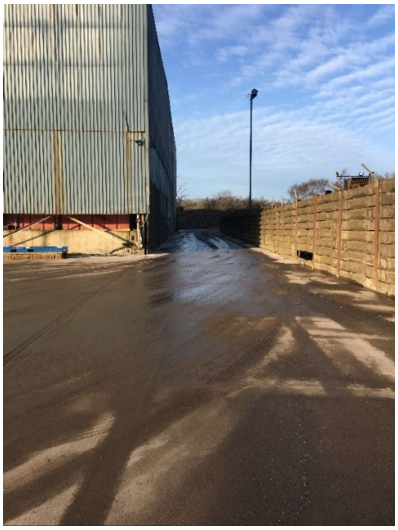
Load Acceptance procedure – (PROLoadAcc/Rej) is followed for all material received. The metal waste arrives in articulated vehicles either walking floors or curtainsiders or in bulk containers. The material will predominately arise direct from the incinerator or from waste recycling facilities.

Material predominately arrives loose, only a small volume of cans are received baled.
Only permitted wastes as specified in the Environmental Permit are accepted on site. The total quantity of waste shall be less than 150,000 tonnes per annum. The wastes will conform to the description and documentation supplied by the producer and holder.

If Management is notified of a hot load upon arrival, it may not be safe to reject the load and send it back to the producer. The quarantine area (shown on drawing No.8) in the centre of the building would be used to remove the hot load from the vehicle. The material would be isolated, left to cool down and doused with water if necessary. The material would be supervised until agreed that the material had suitably cooled for the material to be transferred to the normal storage bays. If water was used to douse the material, the water would remain within the building. Tanker companies would be called to remove the water if necessary.

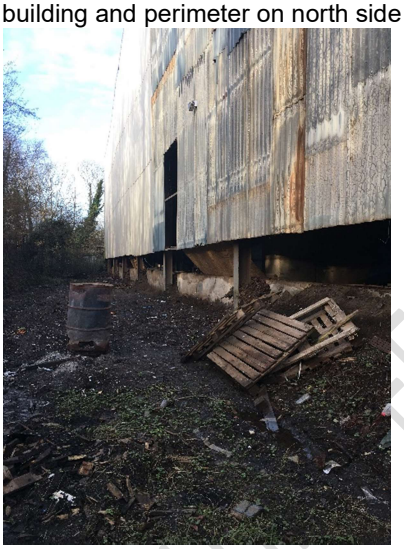
3.13 – Clear Area Around Perimeter
Please see Drawing No.7 Site Infrastructure Plan which shows that there is a clear area around the perimeter.

Building
There is a clear gap around all 3 sides of the building as shown below:



Entrance and weighbridge – clear gap between building and perimeter on north side of site

Back of building – clear gap between building perimeter on west side of site



Side of building – clear gap between building perimeter on south side of site

There is a natural bank around the east, west and southern side of the site, as shown on Drawing No.7 Site Infrastructure Plan

3.14 – Contingency Plan / Site Closure
Morris & Co has a Business Contingency Plan. In summary material would be taken to another Morris & Co site until the Neath site is back up and running.

4 Preventing Fires

4.1 – Site Security
CCTV - The site has CCTV which records 24/7. Multiple camera images from the CCTV are displayed in the office and the images are recorded to a hard drive in the office.

The CCTV on site is owned by the landlord and monitored by ADT. CCTV is situated on external areas on the site and is used to monitor both H&S and security aspects. When the cameras are being monitored at night, the cameras are triggered on movement and the monitoring company call persons via mobiles as per their response list. The monitoring company is also required to view the whole site at least every 30 minutes out of hours and to raise any concern i.e steam or change in conditions in the building. The monitoring company are required to call persons on their response list or to call the Fire and Rescue Service as necessary.

This is checked daily as part of our environmental monitoring regime and recorded on the Environmental Site Checksheet.

Arson – the gate at the side of the building is locked out of hours.

Boundaries are made up as follows:
- East - 3m high palisade security fencing on the top of 4m high earth bank, backs onto river.
- South - 3m high palisade security fencing on the top of 4m high earth bank, backs onto marsh land.
- West - 3m high palisade security fencing and steel clad building.
- North – mixture 3m high palisade security fencing and concrete block panels topped with barbed wire, backs onto Sims Yard.

All visitors and contractors have to obtain permission to enter the site via the weighbridge office upon arrival at site.

4.2 – Plant maintenance
The site follows the Plant Maintenance Procedure (ProMaintenance) for all maintenance on site.

In high level detail, plant is maintained by:
- Regular servicing in accordance with manufacturers recommendations
- Issues highlighted in daily pre-operational checksheets .
  There are daily pre-operational checksheets for all fixed and mobile plant (when in use) and a job sheet is completed for each specific machine which covers ongoing repairs and hours. It is recognised that regular servicing and maintenance of the plant minimises the risk of overheating. The sheets are handed into the weighbridge where a summary report is collated for mechanics. The report is given back when the items completed.

4.3 – Site Inspections
Material treatment and storage activities are always carried out on an impermeable surface. Regular checks of site surfacing, drainage and interceptors are carried out, logged on the Environmental Site Checksheet and repaired as necessary, to ensure that they retain their integrity.

There are hard standing areas either side of the weighbridge, infront of the office building where staff park their cars and on the perimeter behind key equipment on site, however this is away from areas where waste is stored.

4.4 – Electrical Safety
The following tests are completed:
- PAT tests - annually across the operation and office building
- Electrical Installation inspections and report - every 3 years

All electrical checks are completed by electrical contractors Mechwind Ltd, Neath Abbey Business Park, Skewen. Listed below are the qualification that Mechwind electricians hold:

City + Guilds Level 3 Electrical Installation
City + Guilds Level 3 Inspection + Testing
EAL Level 3 NVQ Diploma in Installing Electrotechnical Systems and Equipment

Mechwind is a member of NICEIC (National Inspection Council for Electrical Installation Contracting) since 2001.

Only electrical company's who employ qualified electricians are permitted on site.

Records and certificates are held in the office on site.

The Environmental Site Checksheet includes housekeeping checks of debris around equipment and fire extinguishers checks.

4.5 – Ignition Sources (heat & spark prevention)
Smoking is only permitted in an area near the office, shown on drawing No.6 and this safety rule is enforced by management. Drivers are reminded of the non-smoking rule on site with a large sign in the weighbridge cabin window. The cabin has 2 wall mounted electric heat lamps which are PAT tested annually.

There are no heat sources in the outside storage areas. The welfare area for operatives has no heating at all.

Any hot work is subject to work permit conditions, this includes any works by contractors and/or their sub-contractors. The hot work permit includes a mandatory 1 hour fire watch after any hot works. Any major works undertaken by contractors are subject to a safety assessment, risk and method statements

4.6 – Fire Detection in Building
Radiometric thermal imaging cameras are to be installed inside the building. The thermal imaging cameras monitor the surface temperature of all objects in the cameras field of view and trigger a pre-warning alarm or warning alarm at set temperature levels to allow investigation (see full details at Appendix 12).

The system can send text messages or emails to alert of a change in temperature and access to the cameras can be provided via a smart phone. It is also proposed that the thermal cameras will be monitored by an external monitoring company out of hours, the detail of this service will be confirmed upon installation.

Once installed, the fire detection system will be designed, installed and maintained by a certified organisation. The certification scheme will be appropriate for the design, installation and maintenance of this type of fixed fire detection system and the certification body will be UKAS accredited.

4.7 – Material Storage Building - No Heating
The material storage building has no heating and therefore self heating of waste is not a risk.

4.8 – Flammable liquids & Gas Cylinders
There is a small workshop area in the corner of the building where oxyacetylene, propane and argon gas is stored for maintenance use. All storage of gas bottles are at least 6m away from any waste on site. Gas cylinders either from the maintenance area or that have been quarantined from the waste received are stored in a sealed skip on the external impermeable pavement, as least 6m away from any waste on site, see Drawing No.8. There is no waste treatment performed on gas cylinders.

Oil is stored in IBCs on a bund. Diesel is stored in a bunded tank in the building as shown on the Site Infrastructure Plan drawing No.8.

In the event of a spillage on site either inside buildings or on the outside storage areas, pallets of spill dry are available. The spill dry is used to contain any oil or contaminated waters. The contaminated granules are put in the yellow allocated spill bin and disposed of to a hazardous waste disposal site. Cleaning chemicals are locked in the cleaning cupboard. In the event of a spillage inside the building, spill dry granules would be used to contain the spill.

4.9 – Housekeeping

It is the responsibility of the Site Manager to complete the weekly Environmental Site Checklist as per the Housekeeping Procedure (ProHousekeeping). Checks include (but not exhaustive) ensuring litter picks are deployed, waste build ups are cleaned and build up on conveyors are cleaned etc.. The Site Manager will take the appropriate action to resolve any issues identified. The Site Manager will also complete the Monthly Overview Site Checklist to ensure that all checks have been completed and works undertaken. A record of works will be retained in the Weighbridge Office.

4.10 – Training

Training of new employees is undertaken as per the Training Procedure (ProTrain) and is the responsibility of the Site Manager.

All new employees are inducted. There is an induction program which includes (but not limited too):

- Company awareness including no smoking policy
- Health and Safety
- Environmental permit awareness
- Emergency evacuation procedure

Following induction the employee is added to the company Training Matrix, where key training requirements are added dependent on role. The Training Matrix provides the full list of training available, trained, in progress or requiring training, all staff should make themselves familiar with this document, it is a live document and updated on an ongoing basis. The Training Matrix includes details of internal training, external training, SSOW[4]/RA[5]/COSHH training one to one mentoring, toolbox talks or practice drills completed.

An illustration of the Training Matrix is below, further training is carried out than listed below, this is just an illustration. Also the names of the site staff are completed in the live document and a copy of the Training Matrix for the Neath site is readily available on the Compliance Drive.

With regards the FPMP there is key training including:

- Env Permit Awareness (internal)
- Fire Prevention Plan (internal)
- Fire Marshalling and Fire Extinguishers (external provider)
- Load Acceptance and Rejection (internal)
- Waste Receipt, Separation and Storage (internal)
- Plant Maintenance and Daily Checks (internal)

Visitors are supervised whilst on site. At the visitors sign in area, there is an instruction sheet to the site that makes them aware of the correct safety and fire prevention procedures whilst on site.

Illustration only – Training Matrix:

[4] Safe System of Work

[5] Risk Assessment

STAFF TRAINING MATRIX

Name / Skill	Induction inc H&S	Manual Handling	EA Technical Comp	WamitabContinuing Competence Certificate Transfer/Treatment of HW	Load Accetance and Rejection Procedure	Waste Receipt, Separation and Storage	Env Permit Awareness	Fire Prevention Plan	Fire Marshall & Extinguisher Users	Evacuation and emergency response	Spill Response	Daily Checks and Maintenance - Baler	Daily Checks and Maintenance - shredder	Daily Checks and maintenance -360	Daily Checks and Maintenance - Wheeled Loading Shovel	Daily Checks and maintenance - Counter Balance Forktruck	Plant re-fueling	Loading / Unloading
Site Manager																		
Site Supervisor																		
Operator 1																		
Operator 2																		
Operator 3																		

Trained

Training in Progress

Able to Train Others

Training Required

4.11 – Office

The main head office for Morris & Co is based in Doncaster, the Neath site only have a small portacabin to administer weighbridge and associated site compliance paperwork. As shown on Drawing No 7 – Site Infrastructure Plan the office is compartmented away from the waste storage areas as it is sited away from the storage building and external waste storage area.

5 Fire Fighting Strategy

5.1 – Management of Material Out of Hours

Material is stored inside the building in bays or externally in a sealed skip only. The Site Manager ensures that material is stored in the correct bay location at the end of every day.

5.2 – Fire Extinguishers

The building operational area is internally alarmed. Fire alarms are checked every Monday and a record made in the fire log book in the weighbridge office.

Fire extinguishers are strategically placed around the site, the location of fire extinguishers are shown on Fire Protection Plan drawing no.6 and the external contractor provides a legend card which shows where each fire extinguisher is located and what type of extinguisher it is. Site personnel are made aware of their location and have been trained in their correct use.

All fire equipment is subject to contracts for their maintenance, testing and up keep. Fire equipment is checked monthly and records are kept on the legend card, this is located in the fire log book in the weighbridge office.

Fire Marshall training is completed by Emergency Response Training (ERT) to key personnel and renewed in line with their requirements.

3rd party company performs Fire Risk Assessments annually as per the Fire Safety Order requirement, any recommendations raised in the assessments are address speedily by the company. All staffs are trained on the sites evacuation procedures and the procedure is regularly tested and a record made.

All Morris & Co vehicles that deliver and collect from the site are fitted with a fire extinguisher. All mobile plant is fitted with fire extinguishers.

5.3 – In building suppression system
It is disproportionate to install suppression systems in the building. This decision has been made because of the low combustibility nature of the material stored in the building and the fire prevention measures implemented by the site to minimise fire spread. This decision was also agreed by Mid and West Wales Fire Service following the meeting on Wednesday 17 October 2018, who agreed that adding water to metal fire would only excite the fire.

5.4 - Stored Water
The site has the following stored water or access to water during an emergency:

- 30,000 litre above ground mains water feed tank
- River Neath and Tennant Canal runs east and west of the site, this could be accessed by the Fire Service in an emergency. A recent fire at a neighbouring waste facility, saw this approach adopted by the emergency services.

Please note there are no fire hydrants within 1km of the site, when there was a fire in 2018 at the neighbouring property Sims, the fire service used water from the River Neath and Tennant Canal.

Mid and West Wales Fire Service following the meeting on Wednesday 17 October 2018 confirmed that there was sufficient water supply to the facility and that if necessary they would use the water from the River Neath.

5.5 – Quarantine Area
The quarantine area is shown on Drawing No.8 Material Storage. The quarantine area is located in the centre of the building, this area is used because:

- it is at least 6m from any material stored on site
- it is always kept clear
- the size of the quarantine area is at least 50% of the largest pile (largest bay 9.6m length x 9.6m width = 92.16m^2, quarantine area 47m^2)
- if the material in the quarantine area had to be doused, any water used would stay within the dish shaped, walled and sleeping policemen area of the building.
- area can be easily accessed by material moving equipment

5.6 – Firefighting Techniques
The site has the following firefighting options available which may support the Fire and Rescue Service. These would only be deployed with the supervision and approval of the Fire and Rescue Service:

- Applying water – there is a 30,000 stored water tank available. This water is readily available to apply as necessary and constantly topped up with mains water.
- Separating unburned material – as detailed in section 5.8 the site has access to mobile plant to move unburned material
- Separating burning material into quarantine area - the quarantine area is clear, available and larger than the largest bay

5.7 – Minimising the risk of fire spreading
Material is stored within the bays with extremely low combustible material separating the low combustible material, thus minimising the risk of fire spreading. The incinerator scrap has been through an incinerator at high temperatures and thus any combustible component within this waste has already been burnt. This material is therefore stored between the UBC material to minimise the risk of fire spreading. All material is stored in bays constructed from A1 blocks with a freeboard which would also provide resistance from fire spreading.

With supervision of the fire service, material could be moved to the quarantine area or to other bays to minimise the risk of fire spreading and to separate unburned material from the fire using material moving equipment on site.

5.8 – Access to Mobile Plant
The site use material handlers on site including 360^o grab, loading shovel and fork lift trucks which with the supervision of the Fire and Rescue Service would be available to move waste around the site as necessary.

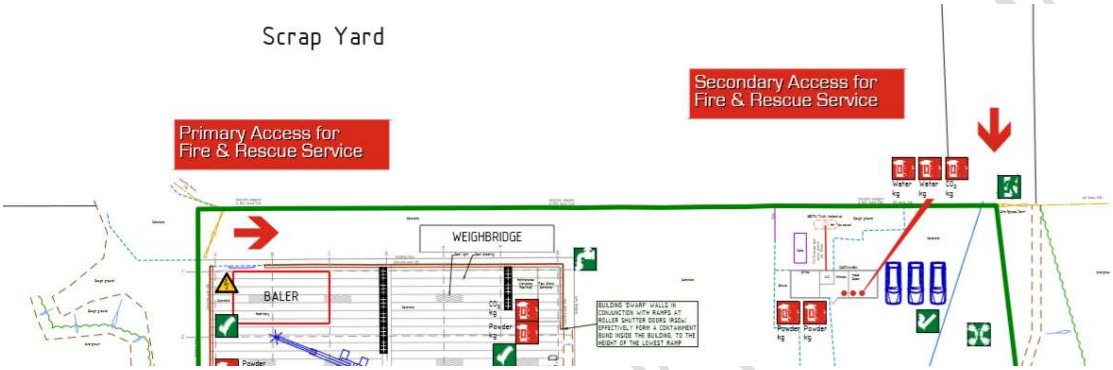
5.9 – Out of Hours Monitoring

The CCTV cameras are monitored at night. The monitoring company is required to view the whole site at least every 30 minutes out of hours and to raise any concern i.e steam or change in conditions in the building. The monitoring company are required to call persons on their response list or to call the Fire and Rescue Service as necessary.

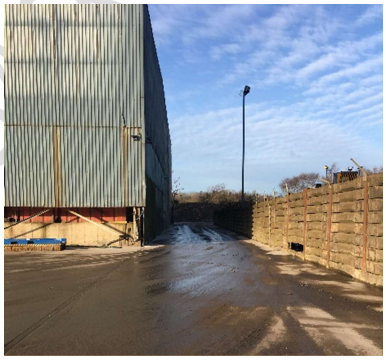
The intention is the newly installed thermal cameras will also be monitored out of hours by a 3rd party monitoring company. The details of this are yet to be agreed.

5.10 – Safe Access for Fire and Rescue Services

Safe access for the fire and rescue service is detailed in Drawing No.6 Fire Plan. The main access is via the roadway into the site with a second access over the fence line from the neighbouring business Sims.



Main entrance and access



Access over perimeter with Sims

5.11 – Potential Water Volume and Containment

NRW FPMP guidance states "A 300m^3 stack of combustible material will normally require an average water supply of at least 2,000 litres a minute for a minimum of 3 hours"

The largest bay is 368.64m^3 so based on the calculations above, this could result in 442,368 litres being produced for the 3 hours.

The total containment area within the existing building which was built with an internal dish shape to contain water is area=2,852m^2. The waste types accepted would soak up water, however the calculations below assume that the waste would not soak up water and thus removing the area taken up by waste in bays 1 to 11, the containment area = 2,122.16m^2.

With a rising ramp of 0.106m and a speed bump of 0.15m, the containment volume is 543,000 litres assuming uniform depth.
2122 x (0.106+0.15) = 543,200 litres which exceeds the FPMP figure by 100,000 litres

The 3 hour period would allow Morris & Co to get a tanker in to remove the contaminated waters. The tanker company on the emergency response list is available for 24 hour call out and could be called in an emergency to continually empty the building and take the fire water for separate disposal. The fire

service confirmed in the meeting on Wednesday 17th October 2018 that they would refrain from using water on the fire as water on metal fires can excite it, this may therefore reduce the volume of water created, however provisions are in place for the worse case scenario.

5.12 – Clearing Smoke from the Building
The material storage building has 4 full height roller shutter doors which will aid with smoke clearing from the building. The position of the roller shutter doors are shown on Drawing No.7 Site Infrastructure Plan.

6 During and After an Incident

6.1 – Diversion of Incoming Metal
As the site only accepts pre-booked material, the site is able to contact the hauliers who are delivery to the site to divert all incoming material. The hauliers contact numbers are stored in key personnel's mobiles so immediately available externally from the site.

6.2 – Notifying nearby residents or businesses
Due to the location, there are only a small number of residents and businesses, it is therefore possible to keep in direct contact with all of the immediate residents or businesses. The site manager has the contact numbers for immediate residents and businesses on his mobile phone and a copy of the emergency contact list is included in the Girda Box.

6.3 – Disposal of Fire Water
The company has a tanker company on the emergency response list that could be called in an emergency to continually empty the lagoon and take the fire water for separate disposal. The tanker companies would be deployed until all fire water on site was managed.

6.4 – Disposal of burnt material
Material will be held on site (if safe to do so) until cooled and thus safe to be taken to an authorised facility.

7 Reviewing Fire Prevention & Mitigation Plan

7.1 – Keeping FPMP up to date
The FPMP is a live document and any of the following circumstances may warrant a review of the FPMP:

- Experience from a fire and learnings where the FPMP can be improved
- Change in metal types accepted on site
- Development of site infrastructure i.e increased external storage area
- Installation of new equipment
- Recommendations received from external parties or highlighted during ongoing risk assessments

Appendix 1 – Active Fire Management Material Assessment 06/04/2017

www.activefiremanagement.co.uk

Fire Safety Management Plan

Material Assessment

Morris & Co Handlers Limited

Morris & Co Handlers Limited
Bankwood Lane
Rossington
Doncaster
South Yorkshire DN11 0PS

26th January 2017 V1
11th February 2017 V2
4th April 2017 V2 Amended

THIS DOCUMENT:

This document has been prepared to support Morris & Co (Handlers) Ltd in preparation with the Environment Agency (EA) requirements for a Fire Prevention Plan (also known as The Fire Safety Management Plan (FSMP). This plan incorporates ALL aspects of Fire Safety and the Management there of. It is highly recommended to be read in conjunction with both the Fire Safety measures, as recommended or determined by the most current suitable and sufficient Fire Risk Assessment (FRA), as required under the Regulatory Reform (Fire Safety) Order 2005 (RRO), and the Company's previously completed Fire Prevention Plan. Both documents have been seen and their content is deemed relevant to the contents of this amended document ***V2 Amended.***

All sections are completed to adhere to the latest guidance as issued by the EA dated 29th July 2016.

A suitable and sufficient Fire Risk Assessment (FRA) has been completed for this site on the 31st January 2017 by T Broadhead Health & Safety Services Ltd. The significant findings of this FRA have been completed by Morris & Co (Handlers) Ltd and signed off as suitable and sufficient by T Broadhead Health & Safety Services Ltd.

FURTHER INFORMATION

The following amendments to this report are to be read in conjunction with the above site's existing fire plan where many aspects are being reconfirmed; but also necessary to be included to give a full and operational picture to explain the combustible nature of all materials stored and recycled on this site at any one time.

This version of the report, **V2 Amended**, has not included any overlapping information currently contained in the Company's Fire Prevention Plan. This plan is a live and dynamic document within their Environmental Management System.

The report, with the amendments, will show a full explanation of the necessary information to be made aware of to carry out this proposed practice/fire break procedure. All other operational factors must be taken into account so that the incinerated metal can easily, simply and effectively be used safely as an inert fire break and/or stored, where necessary, in excess of the Environment Agency's recommended storage piles of 4 metres in height as found in the Fire Prevention Plan Guidance.

There are plans in place at this time for the separating walls to be increased in height and with a freeboard that will accommodate the increase in the height of the piles as requested. These plans are currently in the consultation process with all affected agencies and parties.

All aspects of the report must be read together to explain the necessary understanding behind the decision to accept and store the incinerated waste/inert burnt cold metal in volume piles which may exceed the current limit of 4 metres high as stated in the current Environment Agency FPP Guidance, and not be solely as a statement that it is suitable and sufficient. All piles are constantly monitored to ensure compliance.

In addition, at the discretion of the Company, and with all above taken into consideration, the incinerated metal pile may be used safely as a separation only, this being carried out with all the plans and procedures being strictly adhered to thus giving the required inert barrier between the Mechanical Biological Treated waste (MBT) and the inert metal cans.

It is considered with all the above in place that it is a safe practice that can be carried out as an everyday procedure using the inert pile as a fire barrier, as explained above, or storing the inert materials over the recommended height of 4 metres as currently indicated in the EA's FPPP Guidance, but at a new height that will not exceed 6 metres.

However, should any processes change then the current Fire Risk Assessment (FRA) must be reviewed as soon as possible and any of the findings/recommendations from that FRA should be put into practice without any delay.

All sections of the report bare relevance to this practice being successful. See section 2, waste storage/separation distances for further details.

SECTION ONE - THE SITE

ACTIVITIES

Daily activities carried out on-site are the collection, sorting and baling for onwards transport for further recycling of all types of metal waste/cans and MBT that are type sorted (aluminium or steel).

The site does not accept combustible liquids or gasses, dangerous substances, or hazardous material. In the event that any of these items are found whilst sorting, there is a quarantine area away from the building where these items will be placed and dealt with accordingly. The permitted waste types are metal cans/tins of non-hazardous household, commercial and industrial waste only. The majority of this waste material is incinerated and bare metal only, also MBT content which is shredded and recycled further.

LOCATION & LAYOUT OF SITE

Address of site:

Morris & Co Handlers Limited, Bankwood Lane, Rossington, Doncaster, South Yorkshire. DN11 0PS

Areas on the site are allocated for types of waste: ferrous and non-ferrous and incinerated metals and MBT waste.

There are a series of site plans within the Company's Environment Management System. The plans include (but are not limited to) Site Location Plan, Site Infrastructure Plan, Material Storage Plan, Receptor Plan and Drainage Plan. All of these plans should be referred to as and when required.

SECTION TWO – MATERIAL MANAGEMENT

WASTE COMBUSTIBILITY

The waste storage bays are separated by air gaps of at least 6 metres in width and/or by A1 approved concrete walls/blocks. These gaps are constantly monitored.

The inert pile is made up of non-ferrous and ferrous metals, aluminium and iron/steel. The state of this waste when delivered/received is cold aerated and is in a burnt state. It has all other materials removed from it to ensure it is only metal. The contents of these piles have very little or no combustibility and therefore may well act as a natural barrier between the piles of MBT and mixed cans.

If the incinerator inert waste is used as a separating fire break between the MBT and aluminium cans, the incinerated pile of inert metal waste acts very effectively as a fire barrier by having an air gap between the piles; also, that the very nature and make-up of the waste that has just been incinerated is non-combustible.

The melting point of Aluminium is such that it weakens at 575 degrees centigrade and from then on its strength diminishes very quickly and it will then transfer from a solid state into a possible liquid state. For this transition from one state to another the heat generated is similar to the heat of the furnaces that the finished products from this site will eventually end up at. It would be impossible for that amount of heat to be generated to assist with the spread of fire.

The risk from the ferrous materials iron and steel is very similar, however it requires a higher temperature approaching 800 degrees centigrade before these materials undergo a loss of strength and shape. In most building fires you see bent steel girders after the fire, these steel beams lose their integrity at 800 degrees; this temperature is reached quickly in a confined compartment such as a room in a house where a possible 1000 degrees centigrade can be reached, with all the fire loading and combustible materials that are within. The example of the house and an enclosed room with a very large fire loading is the total opposite to what we have here on-site with very little fire loading and in the open air with the surrounding atmosphere to cool down all sides of the potential fire.

The situation with the MBT is that it has, by its very nature, been processed and results in having a low combustibility rate mainly because of the content of the waste. The ignition sources are very minimal for the process here on this site and the risk of spontaneous combustion in this pile is very low; the movement of the piles as with regular turnover and movement reduces greatly the risk of any spontaneous combustion. The waste has been biologically treated to reduce this risk on initial processing.

With the incinerated waste, all other materials have been removed and for metal to burn from an external source is very, very unlikely to occur. To achieve any sort of ignition source here is very unlikely and minimal; even if a blow torch was put to the metal for a considerable time you may get a small amount of heat transfer, but for this heat to go through the pile of hundreds of tonnes is a very highly unlikely scenario. The thermal capacity of the metal would very quickly absorb and disperse the heat.

All aspects of the non-combustibility of the incinerated waste lends itself to a natural barrier to inhibit heat transfer/fire growth from the MBT pile through the inert metal incinerated waste to other areas. The thermal capacity of the burnt metal has been reduced drastically by the process by which it has just been put though. To say that this barrier is an effective fire barrier with all the above in place and all the procedures being carried out correctly and diligently, as they are on a daily basis, then the inert incinerated pile of waste must be considered a natural fire barrier between the MBT waste and the aluminium cans approximately 20 metres distance away.

With all the above in place this is a good use of resources available and with careful monitoring it can be considered a safe practice at this time.

The 4 metre high bay perimeter concrete walls are solid walls for the containment of the waste materials in the 3 bays. The bay that is in 3 sections measures 74 metres wide and a maximum of 20 metres in depth. This extent of space also acts a natural barrier, fresh air between any different piles of waste.

The maximum storage of waste in each bay is 4 metres high at this time and the bay is segregated into 4 sections to keep all combustible materials separate from the non-combustible waste in the other area of the bay (see Material Storage Plan drawing No. 8 Rev A). The segregation is the pile of inert incinerated metal waste that acts as the fireproof barrier between the two piles at either end of this large bay. This barrier is considered sufficient to segregate the 4-metre-high piles currently in use. The perimeter is to have a new 6-metre-high fence constructed to cover the whole length of the site perimeter.

The concrete walls and the inert incinerated metal pile will form a barrier around any possible combustible materials so that in the event of a fire, if no persons are on-site, the fire should burn itself out without spreading. However, with the above detection measures and surveillance/safety systems in place, and if any persons are on-site, a fire will be very quickly detected and there is fire extinguishing media available to deal with the fire. This media also includes 10 x IBC 1m^3 containers made of plastic that are filled with water and stored on-site and can be lifted over the fire and crushed so the one tonne of water inside will rapidly cascade over the fire and very quickly extinguish it. This measure can also be used for a fire in any plant/machinery on-site. Within the buildings on-site there is a fully functional manual call point fire alarm system in place.

SITE BUILDINGS

The construction of the site buildings is traditional construction and the fire resistance to elements of structure are maintained at all times. Further construction is proposed to enclose the shredding machine within a structure. At this time there is no further concern noted on this construction and materials to be used.

The remainder of the structures comprises of a rigid steel portal type framework with a pitched roof with a covering of sheeting and light panels made of cement based products and plastic respectively. The walls are predominantly of box profile metal sheeting.

FIRE WALLS

The holding/sorting bays are made up using concrete panel type blocks and the inert incinerated pile of burnt metals, this will help keep the piles cool and adequately prevent any heat transfer to adjoining bays. Bays will be accessed from the central part of the site and to the front of each bay.

QUARANTINE AREA / STORAGE WITHIN BUILDINGS & SUPPRESSION SYSTEMS

Due to the size of the site, and the piles of combustible waste, the bays where the materials are stored are considered to be sufficient to contain a fire within each bay without it spreading to any adjoining bays. An attempt could then be made to extinguish a fire safely with the use of other materials, extinguishers and/or our on-site water supply.

If a fire should occur whilst the site is unattended, the existing measures as described above will be triggered and an alert sent to the responsible persons, wherever they may be, and then the appropriate action will be taken immediately.

ACTIVE FIRE FIGHTING/WATER SUPPLIES

In the event of a fire there are on-site fire extinguishers and a pressure fed water tank supply of 20,000 litres of water to assist in any firefighting operations to help extinguish/contain the fire. In addition, and as per this fire safety plan, the Fire and Rescue Service would be immediately called to attend this site. We also have the use of plant to assist in the suppression of any fire/flames from burning waste materials with the water IBC containers or other non-combustible materials on-site.

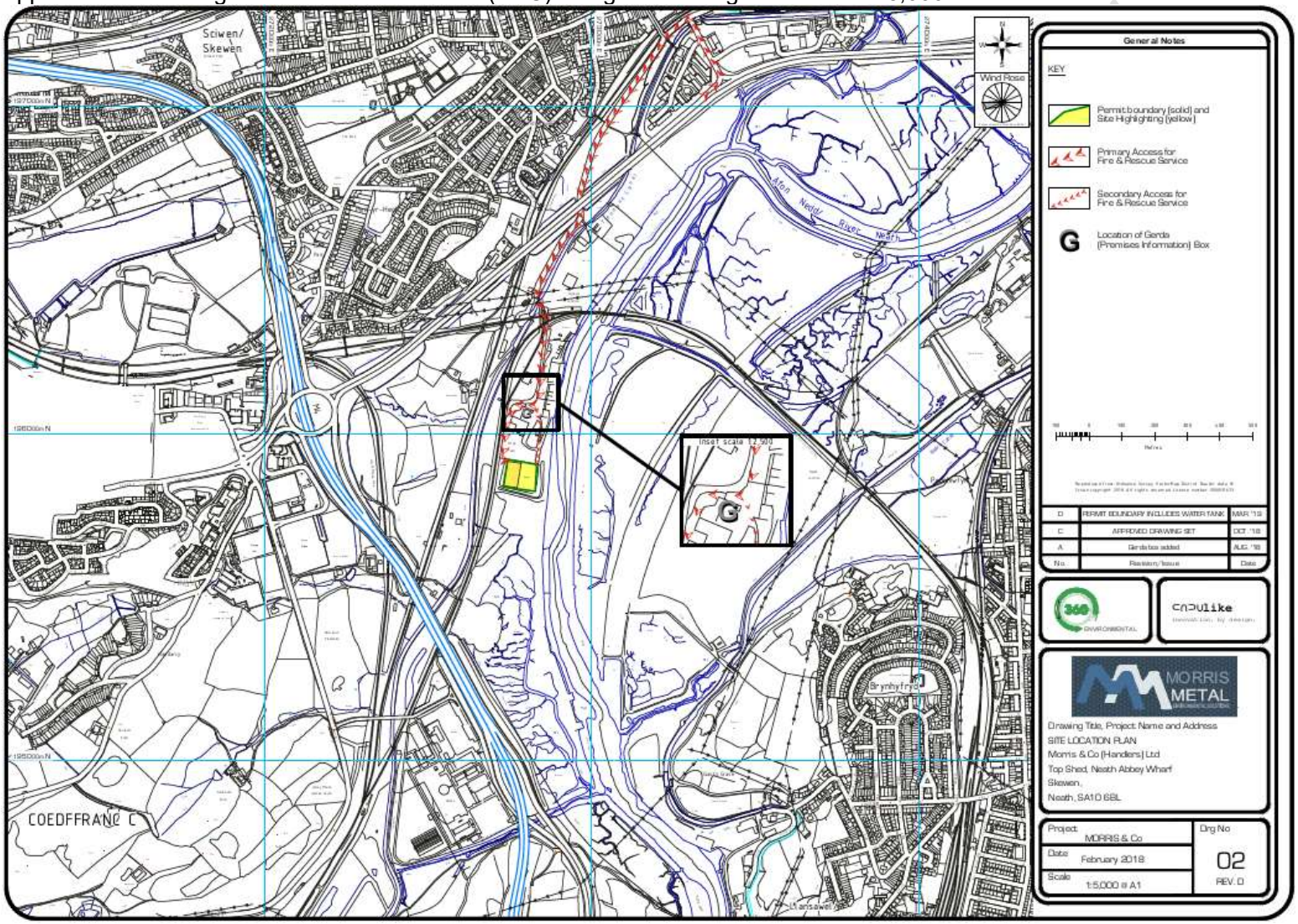
Adjacent to the site there is a street hydrant supplied from towns mains. This hydrant can be easily accessed by the Fire and Rescue Service to assist with copious amounts of firefighting water if required.

The piles can be separated with the use of plant equipment to allow any extinguishing media to be used to penetrate deep into the pile and allow it to extinguish and cool the fire. Once the fire is suitably under control we have a quarantine area on-site where the material can be taken and sorted.

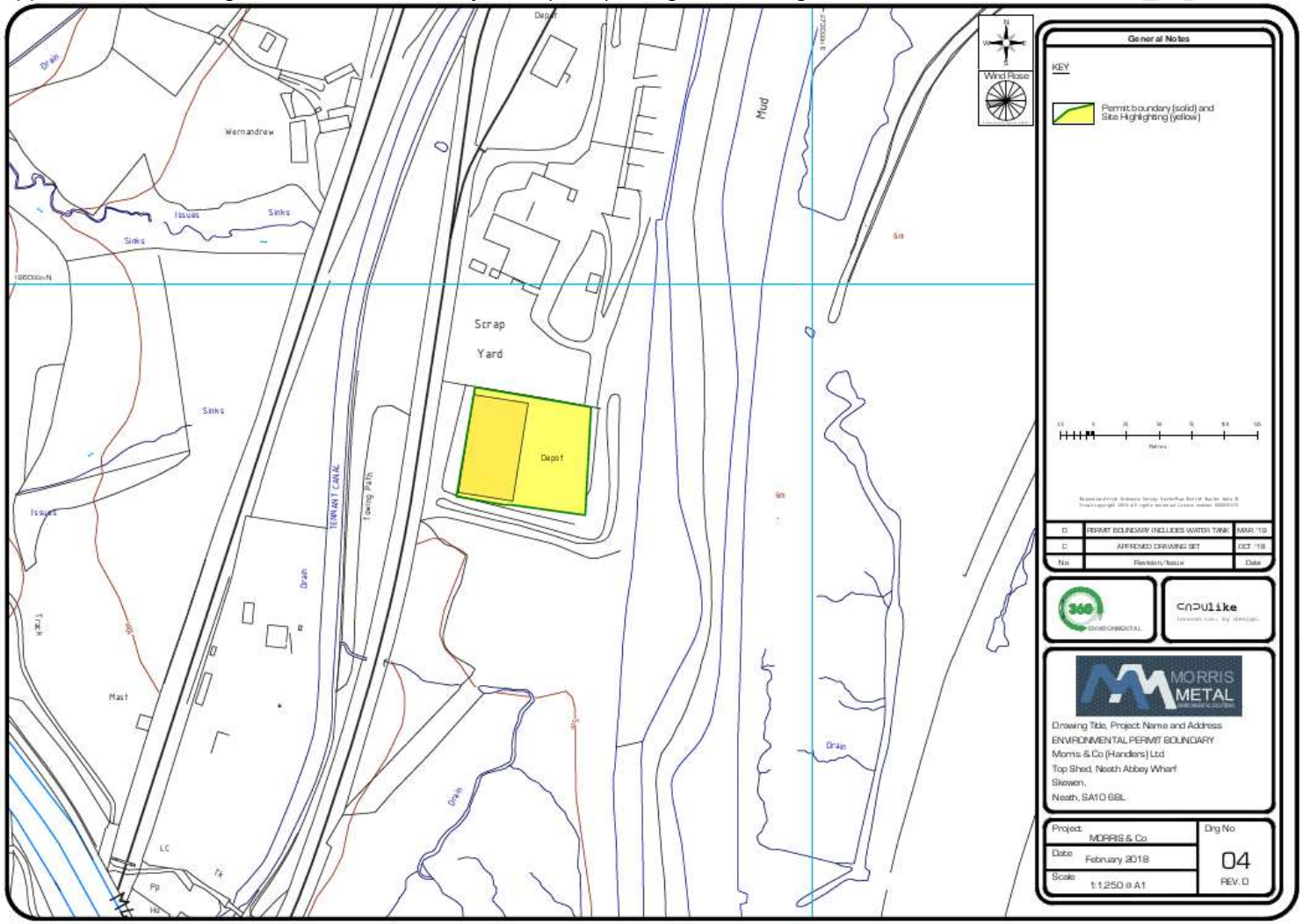
Any water run-off from extinguishing the fire will be immediately collected into our underground holding tank drainage system. This holding tank, located on-site, has a very large capacity of approx. 40,000 litres. This tank, and its levels, are monitored regularly and pumped out by a specialist company when required.

With reference to any persons undertaking any firefighting actions, it is highly recommended that a suitable and sufficient training session is held for all staff likely to be on-site at any one time. Please see any recommendations in the Fire Risk Assessment regarding training.

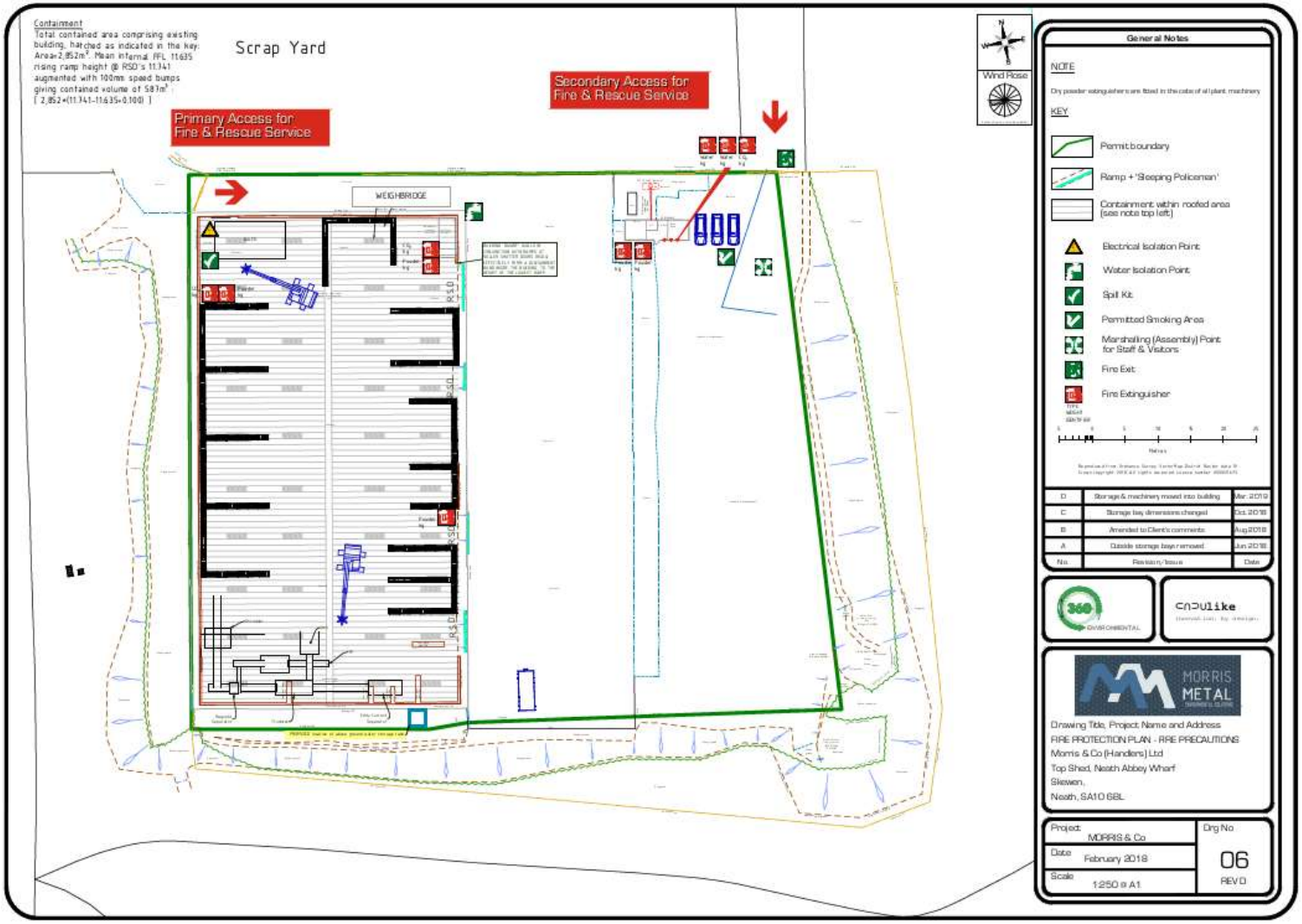
Appendix 2 – Drawing No. 2 Site Location Plan (revC) – original drawing available in 1:5,000 A1 size



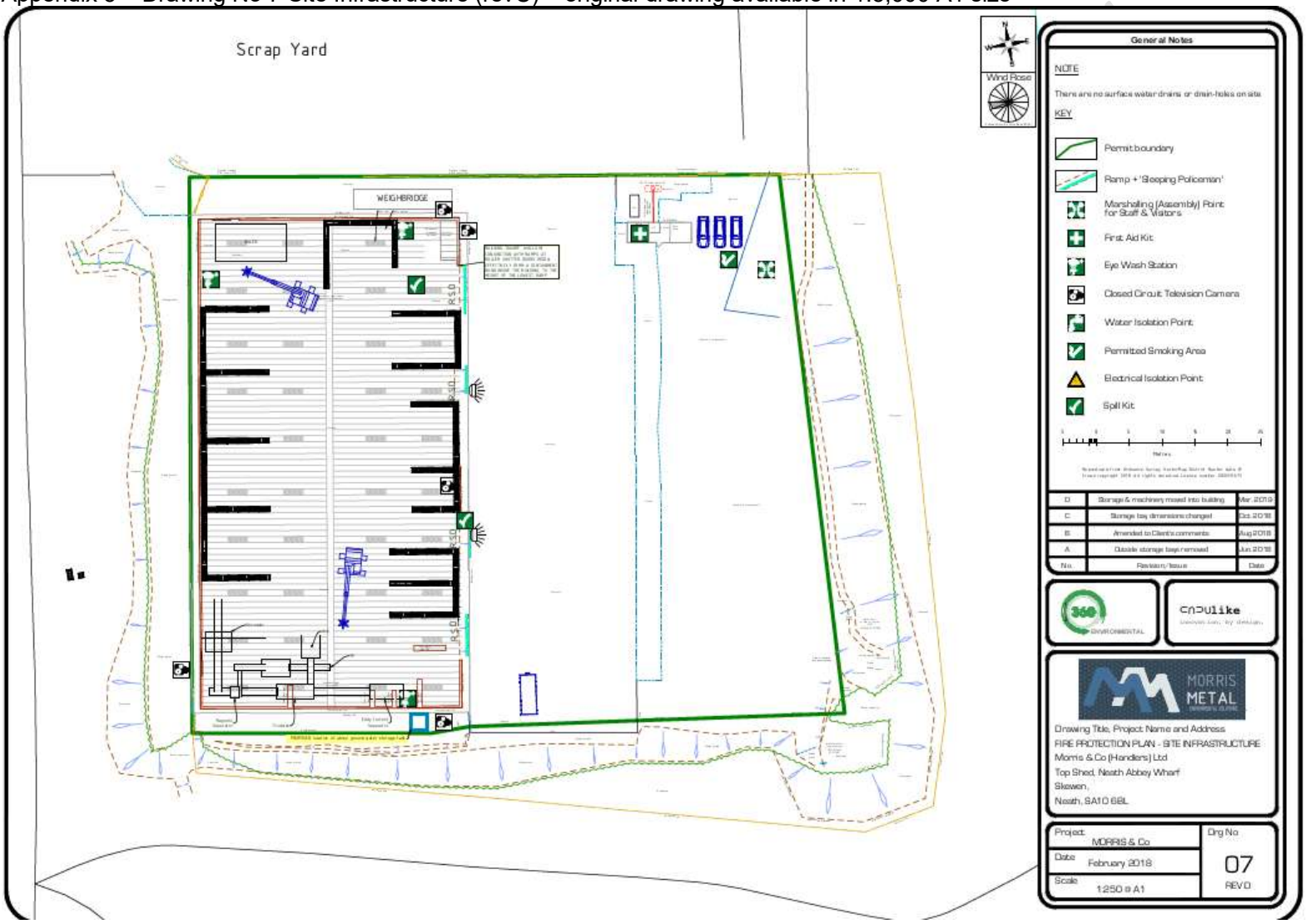
Appendix 3 – Drawing No 4 Permit Boundary Plan (revC) – original drawing available in 1:5,000 A1 size



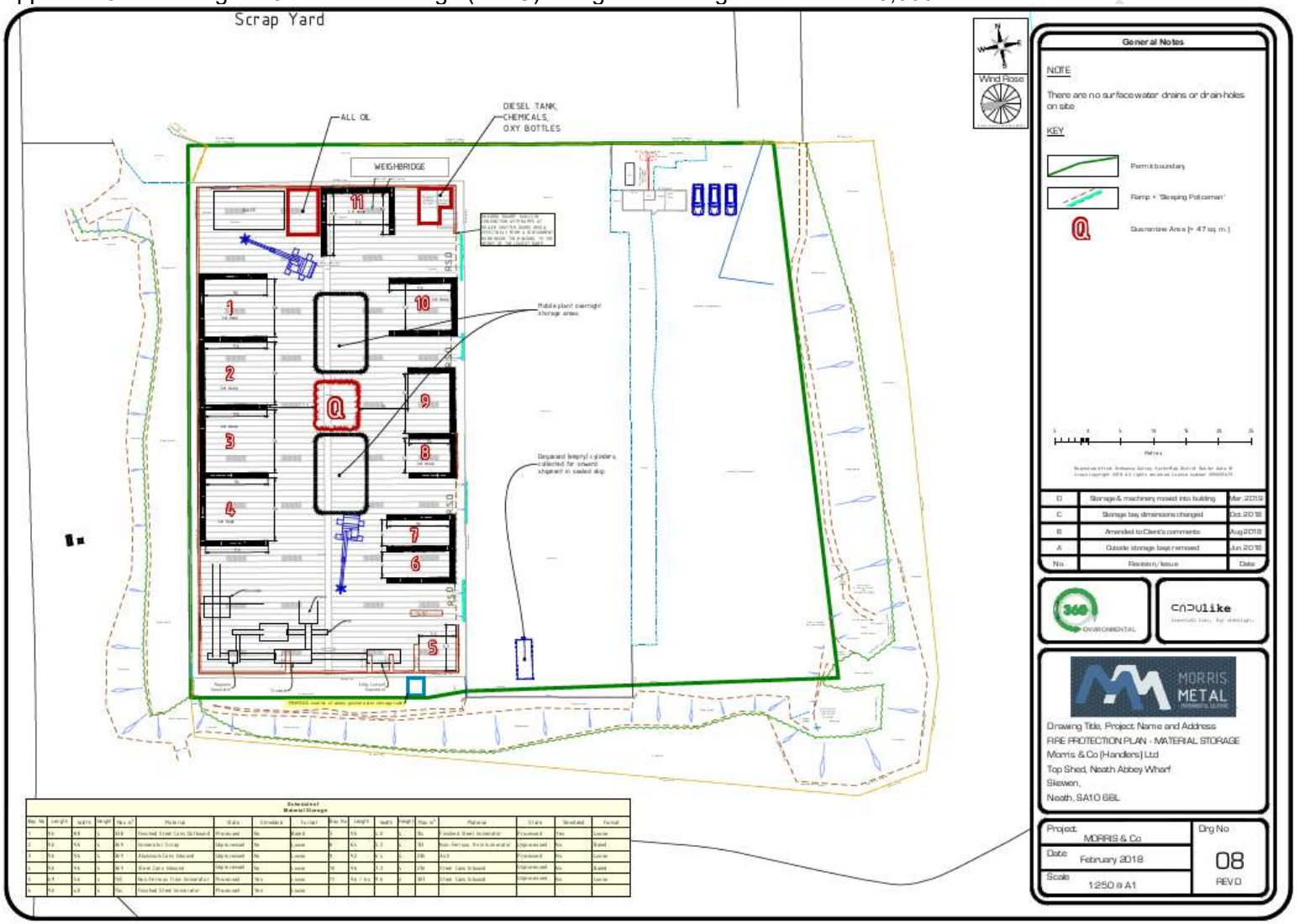
Appendix 4 – Drawing No 6 Fire Protection Plan (revC) – original drawing available in 1:5,000 A1 size



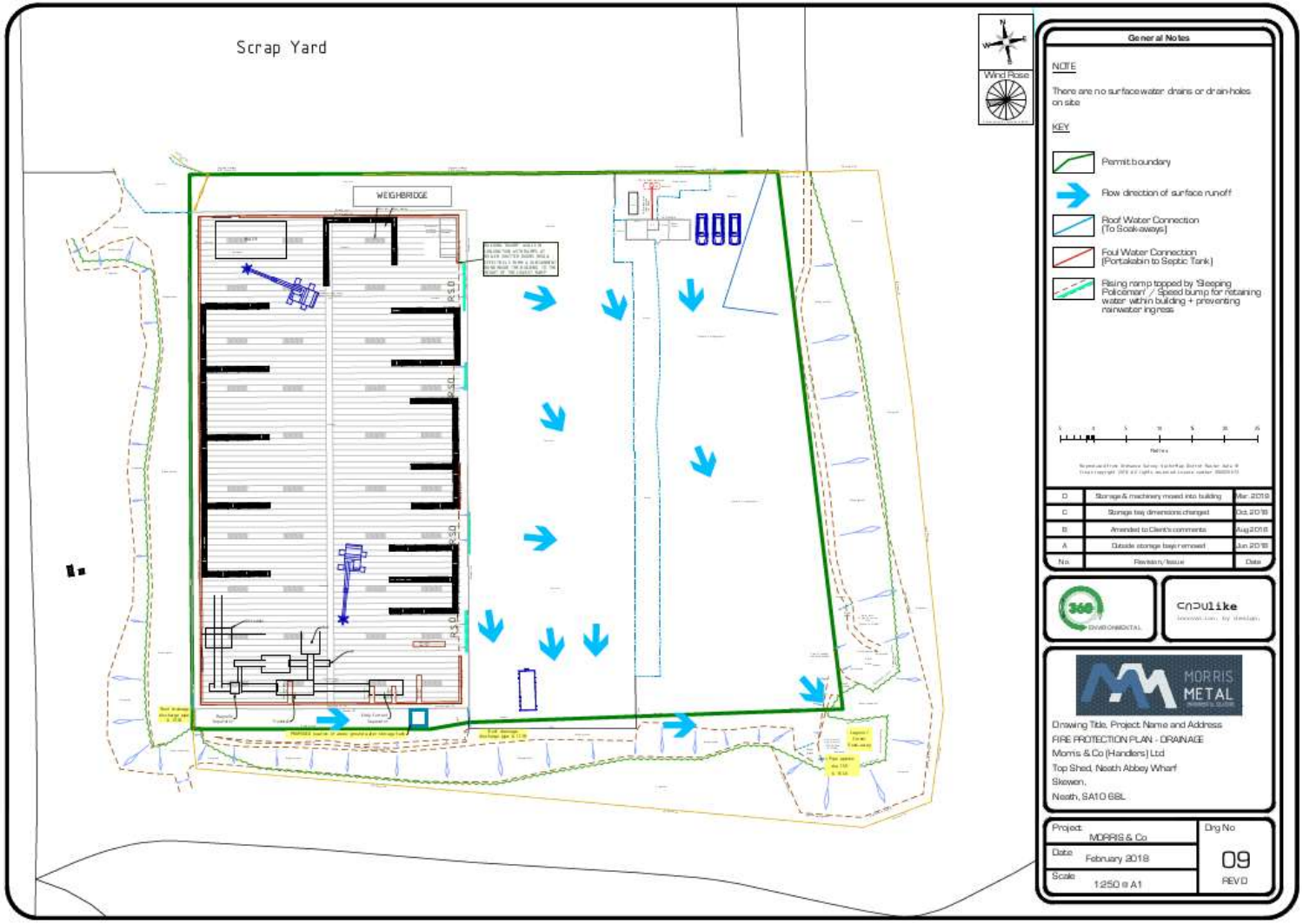
Appendix 5 – Drawing No 7 Site Infrastructure (revC) – original drawing available in 1:5,000 A1 size



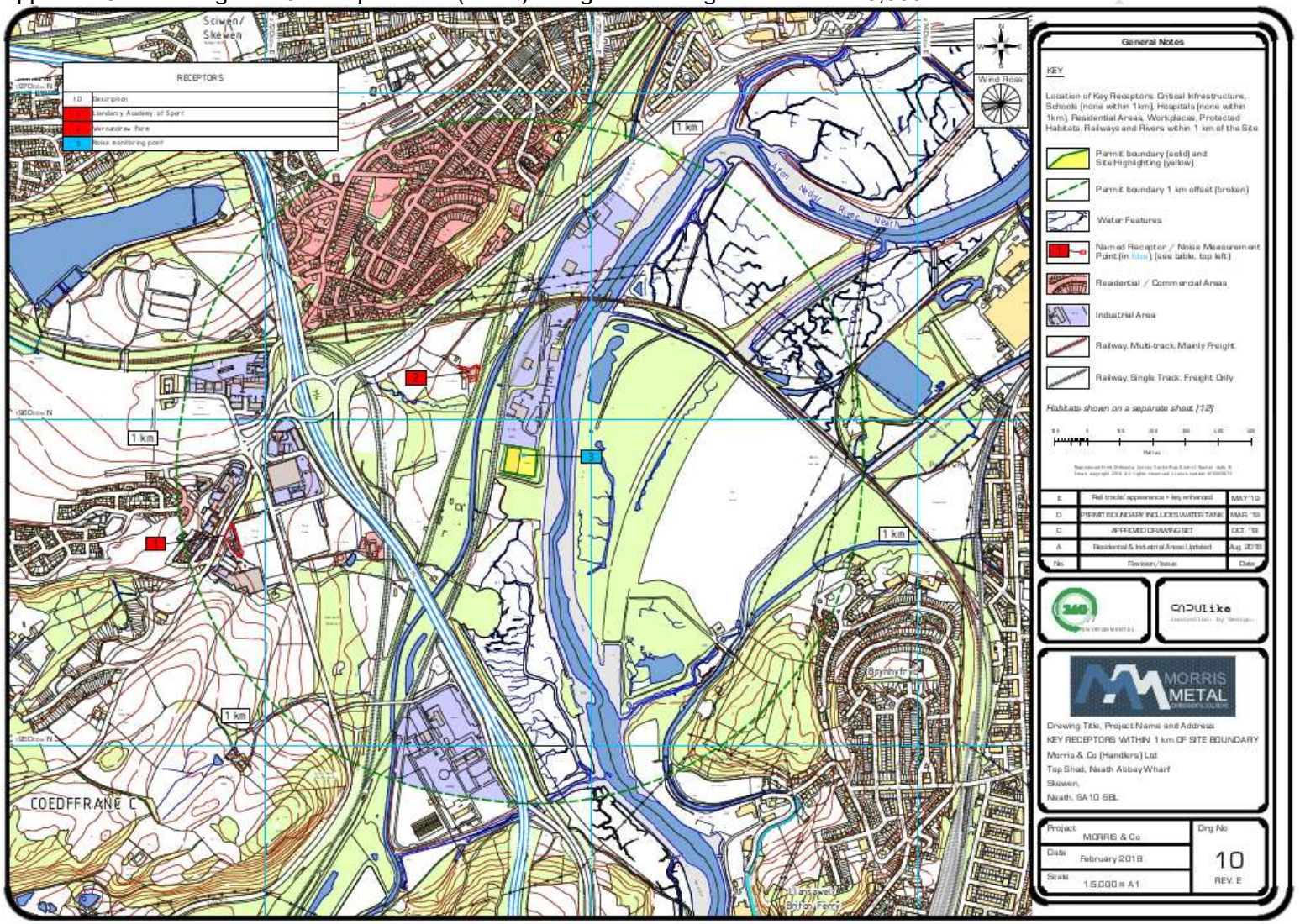
Appendix 6 – Drawing No 8 Material Storage (RevC) – original drawing available in 1:5,000 A1 size



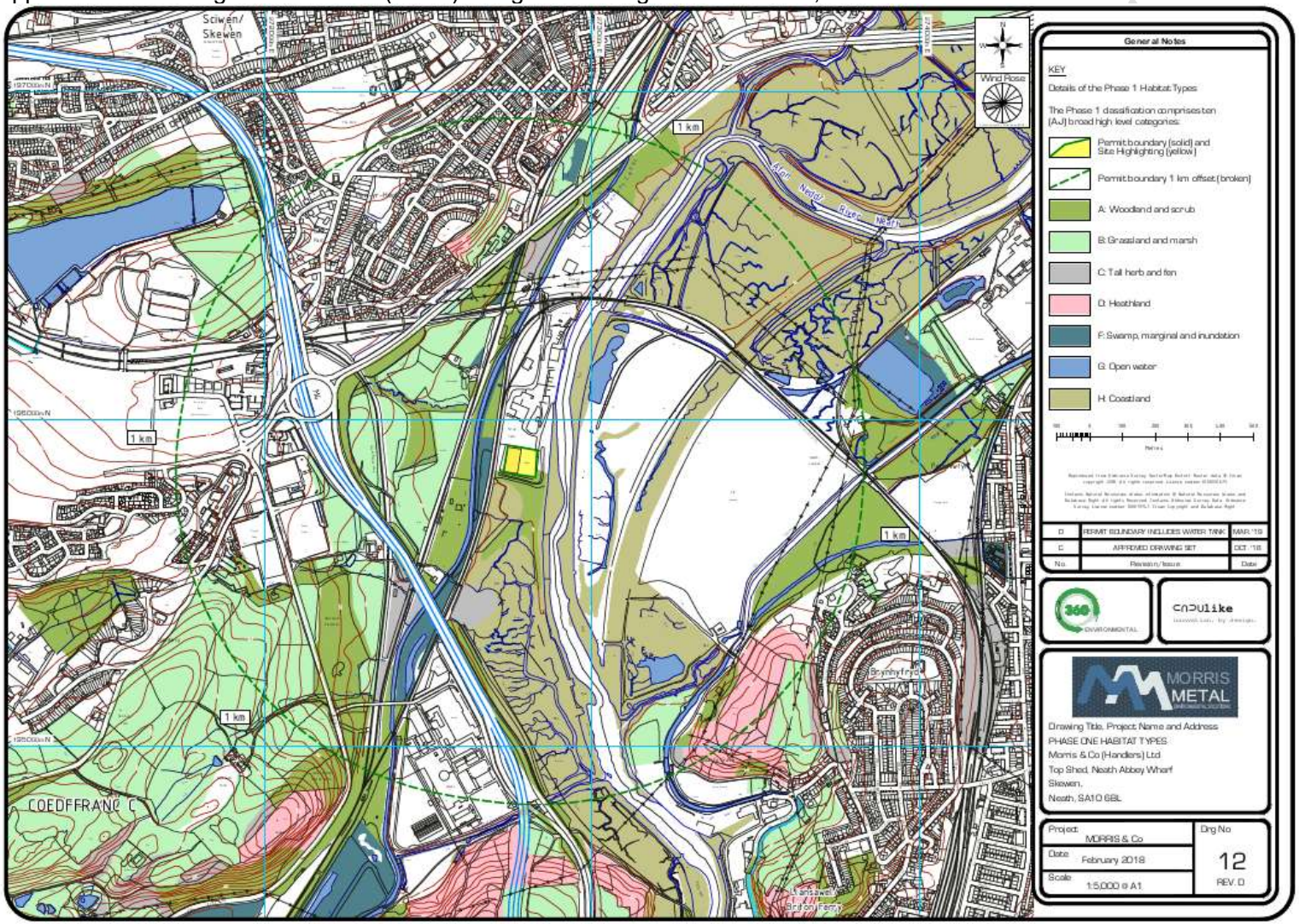
Appendix 7 – Drawing No 9 Drainage (RevC) – original drawing available in 1:5,000 A1 size



Appendix 8 – Drawing No 10 Receptor Plan (RevE) – original drawing available in 1:5,000 A1 size



Appendix 9 – Drawing No 12 Habitat (RevC) – original drawing available in 1:5,000 A1 size

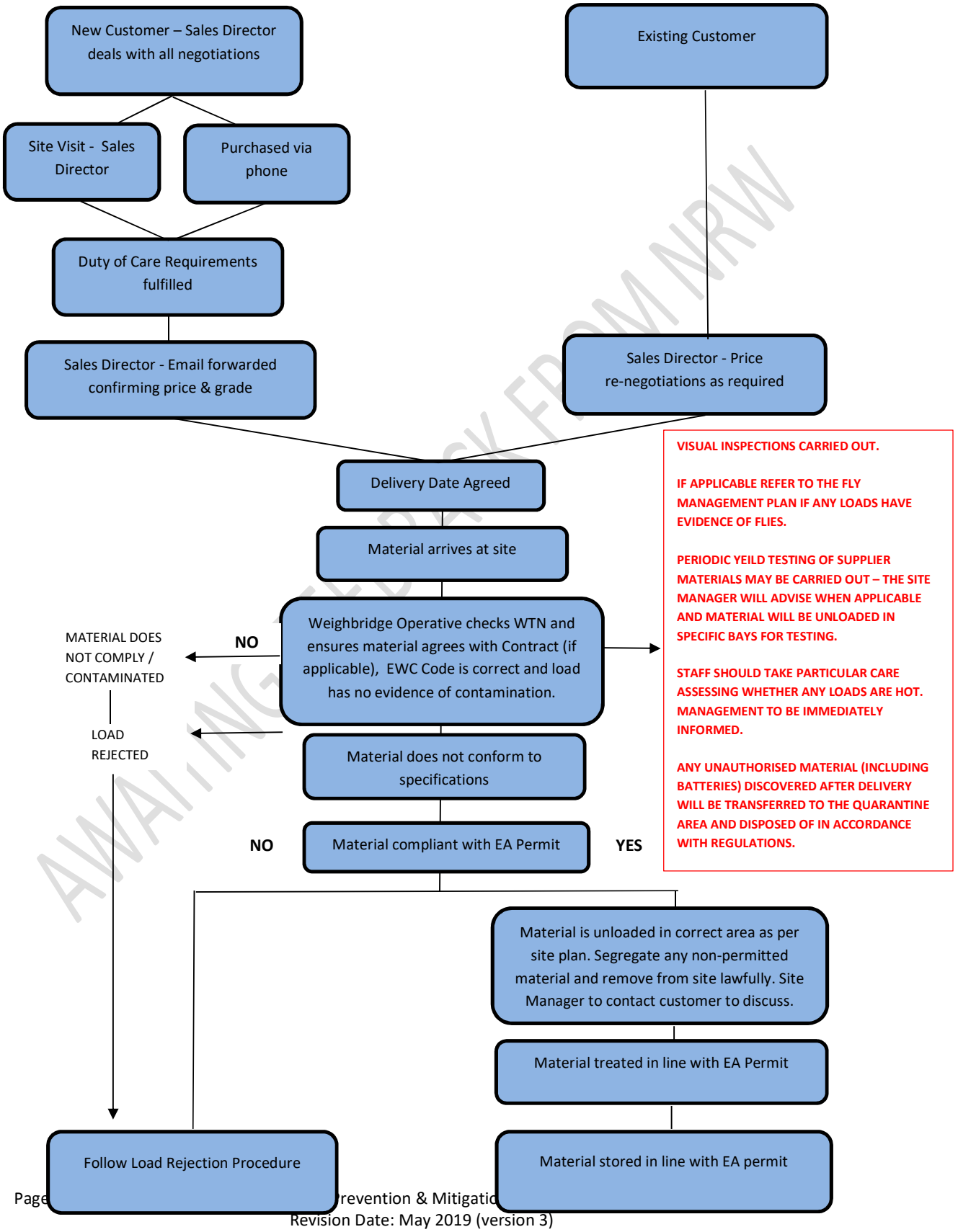


Appendix 10 - ProLoadAcc/Rej (version 5)

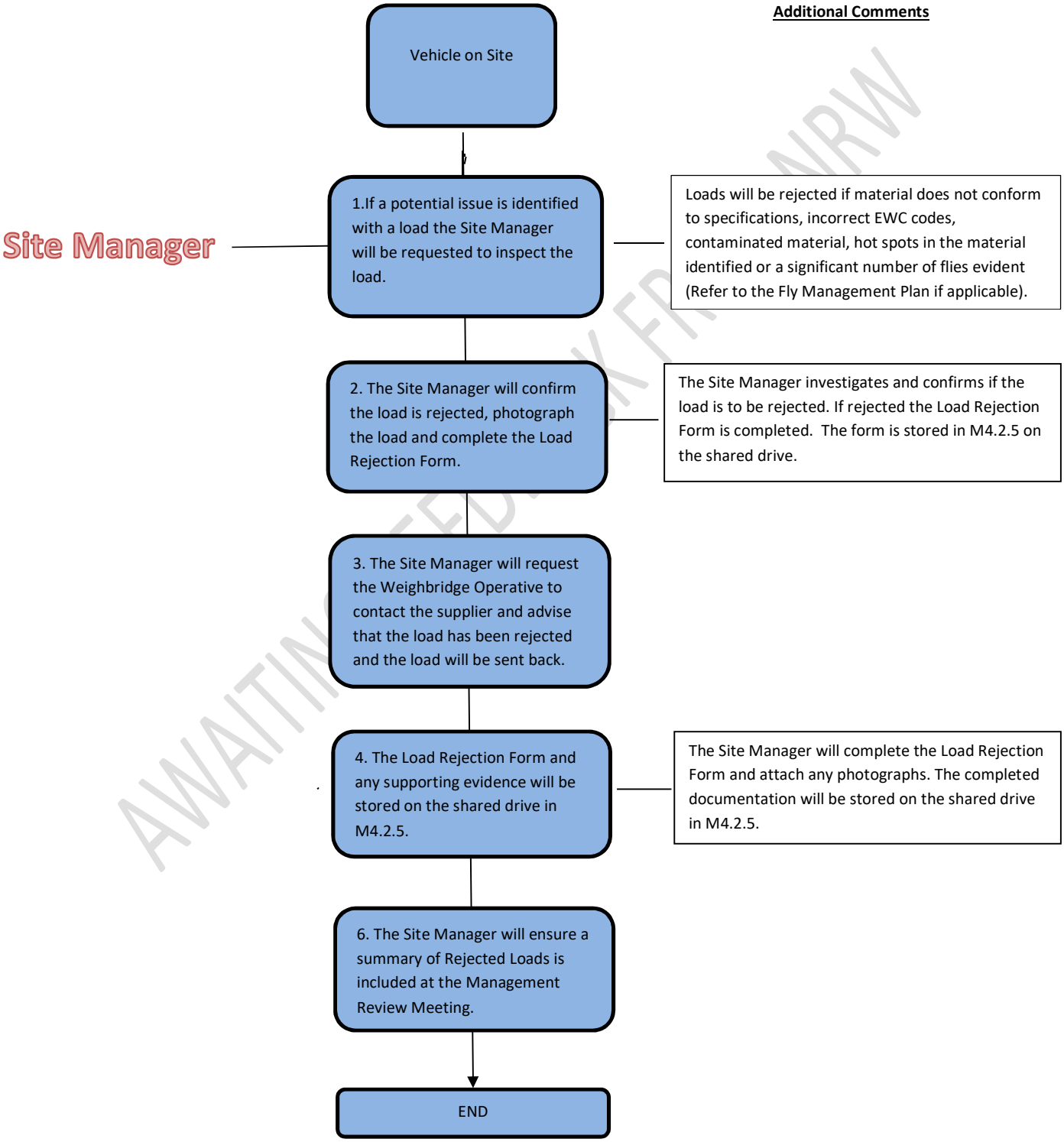
Load Acceptance and Rejection Procedure

No.	Procedure
1.1	**Definition** The operations performed by Morris & Co (Handlers) Ltd requires the Company to have a procedure in place for waste acceptance and rejected loads.
1.2	**Responsibilities** The scope of these procedures are the responsibility of the Site Manager and Directors. The Directors deal with all new customers and price negotiations. The Directors will ensure that any new customers are operating within required legislation and the necessary licences are held and valid. The Site Manager is responsible for the investigation and recording of any rejected loads.
1.3	**Procedure** Refer to the procedures below for acceptance and rejection of waste.
1.4	**Review** This procedure will be reviewed at Management Review Meetings and only amended if required.

Acceptance Procedure



Load **Rejection**



Appendix 11 – Elite Precast Block Wall Quality Statement and EN 13501-1

Elite Concrete techical specifications

Quality statement

If in doubt after reading this guide contact 01952 588885 for technical advice.

Concrete specification

RC40/50XF Equivalent
Minimum Cement Content = 360kg/m³
Maximum w:c ratio = 0.45
Cement type = CEM1 52.5N
Coarse Aggregate = Aggregate Industries
Fine Aggregate = Cemex

Durability

The use of an RC40/50XF equivalent concrete ensures suitability for use in XF4 conditions as defined in BS 8500-1:2013

Freeze-thaw attack (XF classes – where concrete is exposed to significant attack from freeze-thaw cycles whilst wet)

Class designation	Class description	Informative examples applicable in the United Kingdom
XF4	High water saturation with de-icing agent or sea water (G)	Horizontal concrete surfaces, such as roads and pavements, exposed to freezing and to de-icing salts either directly or as spray or run-off. Concrete surfaces subjected to frequent splashing with water containing de-icing agents and exposed to freezing.

The units are unreinforced and have a design working life of 100 years as defined in BS EN1990:2002+A1:2005

ASR – the total alkali content of the concrete is calculated as:
380 x 0.75/100 = 2.7kg/m³ Na^2O equivalent

Limiting value 3.5kg/m³ for normal reactivity aggregates (BS EN 8500-2 Annex B)

Lifting points

All units are provided with a central galvanized TERWA Spherical Head Lifting Anchor recessed into the concrete surface

Quality Management

All products are manufactured under a Factory Production Control System equivalent to that required by EN1917, BS5911-3 and BS5911-6

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EUROPEAN STANDARD

European Standard EN 13501-1 provides the reaction to fire classification procedure for all products and building elements.
According to this Standard, reaction to fire is the response of a product in contributing by its own decomposition to a fire to which it is exposed, under specified conditions (not to be confused with the fire resistance).

Products are considered in relation to their end use application are divided into three main categories:

- construction products;
- flooring;
- linear pipe thermal insulation products (not considered here).

Construction products are classified according to harmonized test methods in Euroclasses A1, A2, B, C, D, E and F.
Products classified in a given class are deemed to satisfy all the requirements of any lower class.
Products classified in A1 and A2 classes are non-combustible (cement, concrete, minerals, glass, fiberglass, rock wool, ceramic, etc.), materials certified from B to F are combustible in ascending order.
Flooring materials are classified according to the same classes A1, A2, B, C, D, E and F followed by the abbreviation "fl" flooring.

	Classification according to European Standard EN 13501-1				
Definition	Construction products			Floorings	
non-combustile materials	A1			$A1_{fl}$	
	A2 - s1 d0 A2 - s2 d0 A2 - s3 d0	A2 - s1 d1 A2 - s2 d1 A2 - s3 d1	A2 - s1 d2 A2 - s2 d2 A2 - s3 d2	$A2_{fl}$ - s1	$A2_{fl}$ - s2
combustible materials - very limited contribution to fire	B - s1 d0 B - s2 d0	B - s1 d1 B - s2 d1	B - s1 d2 B - s2 d2	B_{fl} - s1	B_{fl} - s2
	B - s3 d0	B - s3 d1	B - s3 d2		
combustible materials - limited contribution to fire	C - s1 d0 C - s2 d0 C - s3 d0	C - s1 d1 C - s2 d1 C - s3 d1	C - s1 d2 C - s2 d2 C - s3 d2	C_{fl} - s1	C_{fl} - s1
combustible materials - medium contribution to fire	D - s1 d0 D - s2 d0 D - s3 d0	D - s1 d1 D - s2 d1 D - s3 d1	D - s1 d2 D - s2 d2 D - s3 d2	D_{fl} - s1	D_{fl} - s1
combustible materials - highly contribution to fire	E		E - d2	E_{fl}	
combustible materials - easily flammable	F			F_{fl}	

Additional classifications

All the materials classified A2, B, C, D obtain an additional classification regarding the emission of smoke and the production of flaming droplets and/or particles.

- "**s**" Smoke emission level:
  values range from 1 (absent/weak) to 3 (high)

- "**d**" flaming Droplets and/or particles production:
  values range from 0 (absent) to 2 (high)

Additional class			Level definition
smoke emission during combustion	s	1	quantity/speed of emission absent or weak
		2	quantity/speed of emission of average intensity
		3	quantity/speed of emission of high intensity
production of flaming droplets/particles during combusiont	d	0	no dripping
		1	slow dripping
		2	high dripping

For the E class is provided one single subclass d2.
For flooring products is provided the additional classification "s" for smoke emission only.

NOTE: the text above is a simplification of the current national and European Standards. It exclusively has an informative value and it has the only purpose to facilitate the understanding on the use of flameproof materials for scenography produced by Peroni S.p.a. which is in no case responsible for the accuracy of the information and/or for a misinterpretation.

Appendix 12 – Fire Spotting CCTV Fire Camera System

https://argosfire.co.uk/spotfire-fire-spotting-camera/

Argos Fire Protection Ltd offer a range of F-Cam Fire Cameras from Spotfire Ltd which can be linked directly to fire alarm panels and/or used with a central F-DVR and control suite. They can also be used as part of a remotely monitored CCTV system.

The F-Cam Fire Spotting CCTV Camera is ideal for use in Factories, Recycling Plants, Commercial Laundries, Transport Depots, Oil Refineries, Warehouses, Building Sites, Marinas, plus numerous other applications. The F-Cam is now being specified by insurance companies for these types of risk – many in which fire detection has previously been impossible.

The F-Cam Fire Camera can detect a small flaming fire at up to 100 metres distance, as well as providing large area coverage from a single point. The cameras can detect smoke as well as flame, and can be set up to match the particular environment. The F-Cam can detect most fires within 4-20 seconds, which is potentially significantly quicker than the response from traditional large area detection systems – especially where there are high ceilings. Long before the smoke has reached the ceiling and formed a plume dense enough to trigger an optical beam detector, the F-Cam has raised the alarm – saving lives, saving property and saving money.

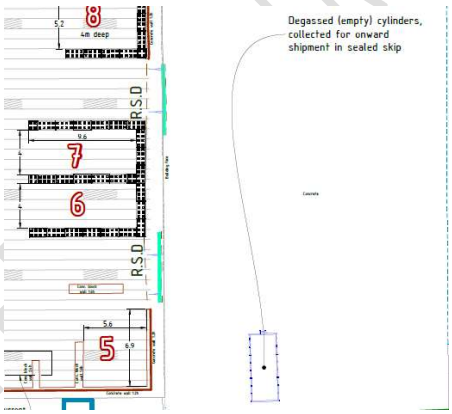
The F-Cam flame detection is immune to false alarms from ovens, sunlight, hot processes etc – it needs a live flickering flame to generate an alarm. The smoke detection module can be tuned for each individual environment to help eliminate false alarms from dust, fog and mist, and has market-leading pseudo-steam rejection. Unlike optical beam detectors, the F-Cam is immune from items blocking the beam (birds, bats, fork-lifts, racking etc).

As well as providing a live CCTV camera feed, each fire camera can trigger a fire alarm panel via volt-free contacts (using an I/O module), or if used with the F-DVR Digital Recorder / Controller, can also trigger a centralised alarm – as well as showing a visual indication of the detected phenomena on a suitable display screen. As well as providing early detection of fires to minimise damage and risk, recorded footage of a fire starting is invaluable after any fire event – to establish the cause and prevent recurrence.

Each fire camera can cover the same area as numerous beam detectors – or countless point detectors – and can be used in hostile environments as well as outdoors.

Appendix 13 - ProGas (version 1)

Safe Storage of Gas Cylinders Procedure

No.	Procedure Details
1.1	**Definition** The operations performed by Morris & Co (Handlers) Ltd, HSE Guidance and the WISH Forum Guidance requires the Company to have a procedure in place for safe storage of gas cylinders that arrive on site, often hidden in waste.
1.2	**Responsibilities** The scope of these procedures are the responsibility of the Site Manager and Directors. The Directors ensure there are the designated storage facilities and appropriate training in place to ensure the safe storage of gas cylinders prior to collection. The Site Manager is responsible for the regular collection of gas cylinders, safe storage and daily checks to ensure the WISH Forum guidance is adhered to.
1.3	**Procedure** **Location of storage** "Orphaned" gas cylinders will be stored in the open topped sealed skip located as indicated on the diagram below (see Drawing No 8 for full plan):  The skip has no lid and provides good ventilation, to avoid saturation of air in a confined area. The skip is at least 3m away from a building and vegetation as per HSE Waste 03 Guidance. The skip is checked daily to ensure it remains clean and free from contaminants including pests, and away from any sources of ignition or combustible material. The sealed skip has the warning sign "Gas cylinders may contain highly flammable LPG or toxic gasses" and "No smoking. No naked lights" attached to it. Cylinders to be collected every three months. Storage instructions will be clearly signed near the facility. **Manual handling of gas cylinders** Guidance has been provided from the British Compressed Gases Association on the manual handling of gas cylinders http://www.bcga.co.uk/assets/publications/GN3.pdf Training is given in accordance with this guidance. Refer to the onsite procedures below for safe storage of gas cylinders procedure.
1.4	**Review** This procedure will be reviewed at Management Review Meetings and only amended if required.

Safe Storage of Gas Cylinders Procedure