

VALENCIA WASTE MANAGEMENT LTD

APPLICATION TO VARY PERMIT EPR/BW0991IX

FIRE PREVENTION PLAN

MAY 2023



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DRAWINGS

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Figure 1 - ERN176 Proposed MRF Location

Figure 2 Receptor Plan

ERN MRF2000 Site Safety and Induction Layout

ERN MRF2009 Site Safety Emergency Layout



1 INTRODUCTION

- 1.1.1 Wardell Armstrong LLP has been commissioned by Valencia Waste Management Ltd to prepare a Permit Application to vary the existing Environmental Permit, EPR/BW0991IX, at the Erin Landfill, Markham Lane.
- 1.1.2 The site is permitted to accept non-hazardous commercial, industrial and household waste as well as having a separate cell for asbestos and a transfer station for asbestos.
- 1.1.3 Valencia is seeking to move waste up the waste hierarchy by treating mixed non-hazardous waste arriving at the landfill to recover metals for recycling. The waste will be further treated to remove non-combustible material before it is sent off site for energy recovery. The residual waste will be placed in the landfill.
- 1.1.4 No asbestos will be treated. The measures in place for the asbestos waste transfer station will remain in place.
- 1.1.5 Valencia is seeking to move waste up the waste hierarchy by treating mixed non-hazardous waste arriving at the landfill to recover metals for recycling. The waste will be further treated to remove non-combustible material before it is sent off site for energy recovery. The non-combustible fraction may be used in engineering works on the landfill, the residual waste will be placed in the landfill.
- 1.1.6 No asbestos will be treated. The measures in place for the safe disposal of asbestos into a dedicated cell will continue.
- 1.1.7 This document applies only to the new Materials Recycling Facility (MRF). It provides details of the measures in place to minimise the risk of a fire occurring within the MRF. It also explains the firefighting measures in place, with the aim to extinguish any fire within 4 hours and minimise the spread of fire. Finally, it discusses the precautions to minimise the impact on the Environment should a fire occur.

2 WHO THIS PLAN IS FOR

- 2.1.1 This plan has been prepared for all site staff to ensure that they understand the steps to be taken to minimise the risk of fires and to minimise the impacts of a fire should it occur.
- 2.1.2 Staff will receive training regarding the contents of the plan as part of their induction on joining the Company or transferring to the Erin Site. Training will cover the risks



- (e.g. types of combustible waste stored), management systems to prevent fires, what to do in the event of a fire and managing clean up after a fire.
- 2.1.3 A copy of the plan will be kept in the site office and it will also be made available via Valencia's electronic management system, allowing staff to have access via their computer.
- 2.1.4 The plan will be shared with contractors working on site, where applicable, to enable them to understand the implications of their actions and to manage their work safely.
- 2.1.5 Contractors or other visitors to the site should be accompanied by a member of staff familiar with this plan or should receive an induction, including as a minimum:
 - confirmation that smoking not allowed in site, other than in the designated smoking area,
 - How the alarm is raised in the event of a fire
 - Location of fire alarms and fire assembly points
 - Any specific precautions relating to their particular work.
- 2.1.6 The plan will be shared with local Fire and Rescue Service to facilitate their understanding of site operations. The plan will be made available to them when they attend an incident on site. It may also be shared during any routine visits or discussions regarding fire prevention.

3 TESTING THE PLAN

- 3.1.1 Fire evacuation procedures will be tested by carrying out a fire drill twice a year.
- 3.1.2 A wider exercise will be carried out once a year, providing refresher training on preventing fires and ensuring staff know how to respond in the event of a fire.
- 3.1.3 For a number of staff this annual refresher will include training on proper use of fire extinguishers or other firefighting equipment.

4 WASTE TYPES

4.1 Combustible Wastes

4.1.1 The following combustible materials may be stored or treated inside the MRF:



- Mixed municipal waste and similar materials
- Refuse derived fuel (RDF)
- Wood for recycling
- Plastic for recycling

4.2 Persistent Organic Pollutants

4.2.1 The MRF will not accept wastes contaminated with persistent organic pollutants (POPs) at levels that would require them to managed as POPs waste.

4.3 Other Combustible Materials

- 4.3.1 Small quantities of hydraulic oil or lubricating oil will be stored on site to be used in maintenance of site plant. These will be stored in suitable drums or containers in a designated storage area provided with appropriate bunding.
- 4.3.2 There is an existing fully bunded diesel tank near the main site offices. Plant will normally be refuelled at this location.

5 ACTIVITIES AT THE SITE

- 5.1.1 The activities within the MRF will include the elements described in the following paragraphs.
- 5.1.2 Household commercial and industrial waste which is suitable for treatment will be unloaded inside the MRF building into the waste reception bay. Mixed wastes may be stored in the bay for short periods but the aim will be to treat waste on the day of receipt. Combustible waste will not be stored on site for more than 72 hours before treatment. RDF and residual waste will be removed from site within 72 hours.
- 5.1.3 Waste will be treated via overband magnets, eddy current separators, combi-screen, optical separator, fan blower and a 3-way separator.to separate it into five discrete outputs ready for recycling, recovery, or disposal.
- 5.1.4 Outputs from waste treatment will be as follows:
 - Ferrous metal



- non-ferrous metal
- "heavies" which will be generally inert material including stone, glass etc,
- trommel fines
- plastics
- wood
- refuse derived fuel (RDF) and
- residual waste
- 5.1.5 Outputs will be stored in dedicated containers or bays pending loading and removal to a permitted recycling site, energy from waste site or the landfill.
- 5.1.6 The site layout is shown in plan Figure 1 ERN176 Proposed MRF LocationFigure 1 -

6 SENSITIVE RECEPTORS

- 6.1.1 The main landfill lies to the east of the new transfer station building. The site is located between two villages, with Poolsbrook to the North-West of the site and Duckmanton to the South-West. There are also two industrial areas to the South and North of the site. To the west is mainly fields and agricultural land.
- 6.1.2 The closest residential receptors are Cottage Close, Poolsbrook, approximately 540m to the northwest, and Oaks Farm, approximately 560m to the south.
- 6.1.3 Receptors are shown on Figure 2 Receptor Plan.

7 MANAGE COMMON CAUSES OF FIRE

7.1 Arson

- 7.1.1 The site has suitable security measures in place to prevent access by unauthorised persons. This includes fencing to the landfill.
- 7.1.2 The MRF is located inside a building, which will be manned during the day and locked shut outside of operational hours.
- 7.1.3 All security measures will be routinely inspected and maintained to deter access to the site.



7.1.4 Fire detection and suppression measures will be in place, see later in this document.

7.2 Plant and Equipment

- 7.2.1 Plant and equipment will include conveyors, overband magnets, eddy current separators, combi-screen, optical separator, fan blower and a 3-way separator and a loading shovel to move waste around the site.
- 7.2.2 All plant will be inspected and maintained in accordance with the manufacturers' recommendations. Damaged plant will be taken out of use until it has been repaired by a competent person.
- 7.2.3 Plant will be cleaned as necessary, to prevent parts jamming and to avoid any build-up of dust or waste on hot surfaces.

7.3 Electrical Faults

- 7.3.1 All electrical work will be carried out by a qualified electrician. All electrical installations will be certified to demonstrate that were installed correctly by a competent person. This will also apply to repairs and alterations.
- 7.3.2 Copies of the certificates will be maintained in the site office.
- 7.3.3 Plant will be maintained in accordance with the manufacturer's recommendations with the frequency set out in the Preventative Maintenance Programme for the site. Electrical installations such as wiring will be subject to safety checks every five years portable appliances will be checked annually.
- 7.3.4 Staff trained to use the equipment will make a visual inspection at the start of the working day. Where there are lose or damaged wires or other indications that the plant may be unsafe the site manager will be advised and an electrician will be asked to attend site and check the equipment before it is turned on.

7.4 Discarded Smoking Materials

7.4.1 A strict no smoking policy will be applied to the site. Smoking will only be permitted in the designated smoking area. Within this area adequate ash trays will be provided to ensure that materials can be extinguished safely and litter will be prevented.



7.4.2 There must be no smoking in any other part of the site.

7.5 Hot Works

- 7.5.1 Hot works will include activities such as cutting and welding which may occur on an occasional basis as part of the maintenance of the plant and building. Hot works are not expected to be required on a regular basis but where they are needed a safe system will be in place.
- 7.5.2 A permit to work will be required for all hot works. Before this is issued a safe system of work must be prepared and provided to the site manager. This should include ensuring that all waste is cleared from the area where the work is required. Works should not take place within 2m of any stored waste. Where appropriate the distance may need to be increased or appropriate screens may be required to contain sparks.
- 7.5.3 During and following the works a fire watch should be in place to ensure that no wastes or other materials have ignited. This should take place as a minimum at the end of the works and following one hour.

7.6 Industrial Heaters

- 7.6.1 If it is necessary to use heaters, to maintain the welfare of staff, these will be used with care.
- 7.6.2 The heaters will be located at least 6m away from waste storage areas.
- 7.6.3 Heaters will be maintained in line with the manufacturer's recommendations.
- 7.6.4 Litter will be removed from on around the heater during the working day as required and dust will not be allowed to build up on any hot surfaces.
- 7.6.5 The heaters will be included in the fire watch at the end of the day.

7.7 Hot Exhausts

7.7.1 Plant and equipment will be monitored during the working day to ensure there is no fire risk from dust or litter building up on hot surfaces. Where necessary machinery will be switched off and allowed to cool before removing dust and debris.



- 7.7.2 As far as possible, plant employed on site will be fitted with angled exhausts to minimise the opportunity for dust or litter to gather on or in the exhaust.
- 7.7.3 When not in used plant will be switched off and mobile plant will be parked at least 6m away from waste storage areas.
- 7.7.4 Plant will be cleaned and maintained as appropriate to minimise the risk of fire.
- 7.7.5 At the end of the working day a fire watch will be carried out. Plant will be inspected when it is switched off for the night and then again before the building is locked for the night.

7.8 Batteries and Small WEEE

- 7.8.1 Batteries and small WEEE are not to be accepted into the MRF. However, batteries and small appliances containing batteries can be disposed of incorrectly in mixed municipal waste.
- 7.8.2 Loads consisting wholly or mainly of batteries will be rejected. At the pre-acceptance stage waste producers will be advised not to place batteries or WEEE in their general waste but to collect them separately for recycling.
- 7.8.3 Wastes are inspected during unloading and any loads containing large numbers of batteries or WEEE will be rejected.
- 7.8.4 Where a load contains a small number of batteries or WEEE and these can be easily identified and removed by hand, they will be picked out and placed in a container in the quarantine bay.
- 7.8.5 Customers who regularly supply waste contaminated with batteries and /or WEEE will be sent a reminder that these should be collected separately and not placed in general waste.
- 7.8.6 It will be impossible to detect and prevent all batteries or WEEE entering the treatment plant due to their small size. However, fire detection and fire suppression measures are in place should a fire occur as the result of short-circuiting battery. See below.

7.9 Leaks and Spills of Oils and Fuels



- 7.9.1 Oils and fuels will be stored in appropriate containers with bunding provided. Oils for plant maintenance will be stored in a dedicated area. Diesel will be stored in a bunded tank separate from the building.
- 7.9.2 Plant will be properly maintained to avoid any leaks or spills. Plant will be subject to a daily visual inspection at the start of the working day. Any leaks identified will be investigated and appropriate repairs will be made as soon as possible.
- 7.9.3 Should a spill or leak of a flammable liquid occur, this will be cleared using a suitable absorbent material as soon as possible. The used absorbent will be placed in a suitable container and sent off site for disposal.

7.10 Reactions Between Wastes

7.10.1 Only non-hazardous waste will be stored and treated at the MRF. In addition, checks will be made at the pre-acceptance stage to ensure that wastes are suitable for treatment. Waste acceptance procedures are in place to ensure only permitted wastes are received. As such no incompatible wastes will be accepted on site and no reactions between wastes are expected.

7.11 Hot Loads

- 7.11.1 Waste will be inspected on arrival at site, to ensure that they are in line with permit conditions and can be stored safely.
- 7.11.2 Should there be any sign that a hot load has been received, e.g. visible smoke or steam or the waste feels hot, then it will be directed to the quarantine area. Waste will be spread within the quarantine area to allow it to cool. It will then be moved to the reception bay if it is safe and appropriate to do so.
- 7.11.3 If a fire has taken hold fire, the fire will be extinguished within the quarantine bay and arrangements will be taken to dispose of the residues at a permitted site.

7.12 Hot and Dry Weather

7.12.1 Hot and dry weather is not expected to cause an issue regarding fire risk. All waste is unloaded stored and treated inside the building providing some shelter from the sun.



7.12.2 It is the intention that waste will be treated and removed from site within 72 hours limiting the extent to which it will dry out and become more flammable.

8 PREVENT SELF-COMBUSTION

- 8.1.1 The main mechanism for preventing self-combustion will be the management of storage times. The intention will be to treat waste as quickly as possible and to remove combustible wastes from site within 72 hours.
- 8.1.2 The maximum waste quantities and storage times will be as set out in Table 8.1, below.

Table 8.1: Waste Storage Capacities								
Waste stream	How it is stored	Max. length (m)	Max. width (m)	Max. height (m)	Volume/ m³	Max. Storage Time		
Mixed waste	Internal Bay x 3	9.1	7.3	4.0	450	72 hours		
RDF	Internal Bay	18.2	9.1	4.0	450	72 hours		
Hardcore	MRF Bay	7.0	3.5	2.8	450	1 month		
Lights +50mm	MRF Bay	6.0	2.5	2.8	300	72 hours		
Lights 10-50mm	MRF Bay	4.5	3.2	2.8	300	72 hours		
Lights 10-50 mm from waterbath	Skip	N/A	N/A	N/A	N/A	72 hours		
Wood	MRF Bay	7.0	3.5	2.8	450	72 hours		
Residue	MRF Bay	7.0	3.5	2.8	450	72 hours		
Plastic	MRF Bay	7.0	3.5	2.8	450	72 hours		
Long Parts	MRF Bay	6.0	3.5	2.5	450	72 hours		
Heavies and Ferrous metals	Skip x 3	N/A	N/A	N/A	N/A	1 month		

- 8.1.3 All bays will be completely cleared on a regular basis to ensure that there is no build-up of older residual waste.
- 8.1.4 A stock rotation policy is not required as no combustible waste will be store on site for long periods. The intention will be to clear combustible waste from site within three days of its receipt.
- 8.1.5 It is not necessary to monitor the temperature of stockpiles, reduce the metals or fines content or control the temperature as no waste will be stored for more than 3 months. The intention is for combustible waste to be treated and removed from site within 72 hours.



8.1.6 Because there will be a quick turn round, with RDF sent to the EfW as soon as possible there will be no need to bale waste. Waste will be stored loose in appropriate bays or containers.

9 MANAGE WASTE STOCKPILES

- 9.1.1 The stockpiles on site will be managed as follows.
- 9.1.2 Combustible waste will be stored in bays that 10m long by 10m wide and 5m high. Waste will be stored to a maximum height of 4m and this height will be marked on the bay wall to ensure it can be easily monitored.
- 9.1.3 This will ensure that a 1m freeboard is maintained to prevent fire spreading from one bay to the next.
- 9.1.4 No individual stockpile will be more than 450 cubic metres in size. Stored wastes will be checked regularly throughout the day, to ensure waste is stored fully within the bay walls to minimise the risk of any fire spreading.
- 9.1.5 The bay walls are designed to have a fire resistance of 3 hours. This is in excess of the 2 hours fire resistance required by the Environment Agency guidance.
- 9.1.6 In the event of a fire wastes may be moved from the bay to the quarantine area where this can be achieved safely and will allow the fire to be extinguished more quickly and/or prevent the fire spreading more effectively than if it was contained in the bay.
- 9.1.7 The shredder does not produce a fine material but is used to ensure materials measure less than 300mm in order to move through the plant most effectively. Waste will be stored in its largest form with fines removed within 72 hours. Risks will be minimised by having a quick turn round.

10 PREVENTING FIRE SPREADING

- 10.1.1 The risk of fire spreading will be minimised by limiting the size of waste stockpiles. As all waste is to be stored inside a building, to control odour, litter, pests and noise, it is not possible to keep stockpiles 6m apart. Instead, they will be separated by robust bay walls as described in section 9.
- 10.1.2 Fuel will be stored at least 6m away from the MRF. When not in use, mobile plant will be parked at least 6m away from any stored wastes.



11 THE PROPOSED QUARANTINE AREA

- 11.1.1 The proposed quarantine area is shown on drawing ERN176.
- 11.1.2 The quarantine area will have a dual purpose. Firstly, it will be used to segregate any hot loads, to ensure they are kept away from other wastes and prevent fire spreading. Waste will be managed and removed as soon as possible to keep the quarantine area available for use.
- 11.1.3 Secondly, in the event of a fire waste may be moved into the quarantine area, to prevent fire spreading, by moving it away from burning wastes, or to facilitate extinguishing the fire by allowing a wider area to cool or smother the waste (assuming that it can be moved safely and this will not increase the risk of fire spreading).

12 FIRE DETECTION

- 12.1.1 Staff will remain vigilant and a fire watch will take place during and following hot works and at the end of the working day.
- 12.1.2 In addition, an infra-red fire detection system will be in place above the waste bays. Where this detects an increase in heat the Company Control Room will be automatically notified and the water cannons will be automatically triggered.
- 12.1.3 Fire detection systems will be certified to UKAS accreditation standards.

13 SUPPRESSION SYSTEMS

- 13.1.1 Water spray deluge canons will be located in the roof of the building. These will be directed towards the waste storage bays where combustible waste is stored.
- 13.1.2 The water cannons can be operated by:
 - a control panel at the site entrance,
 - remotely via the control room, or
 - automatically by the infrared heat detection system.
- 13.1.3 In the event of a fire smoke and heat vents in the building roof will automatically open. As the name suggests, these serve to release smoke and heat from the building. This allows for cooling, a better air supply and better visibility to improve safety for firefighters.



14 ACTIVE FIREFIGHTING

- 14.1.1 A member of staff will act as the trained fire warden and will give a lead in managing any incident involving a fire. The priority will always be to ensure personal safety and to ensure the building is evacuated and staff are protected.
- 14.1.2 Active firefighting may also be employed where it is safe to do so. Fire extinguishers will be located around the building, as shown on drawing ERN-MRF 2000, whilst drawing ERN-MRF 2999 shows the access for emergency vehicles.
- 14.1.3 Fire extinguishers will be used only by staff trained in their proper use.
- 14.1.4 Where it is safe to do, so the fire extinguishers will be deployed to extinguish small fires.

15 WATER SUPPLY

- 15.1.1 To ensure an adequate water supply a firewater storage tank has been installed. The tank has been sized based on the need to provide 3 hours supply for fire suppression in the RDF bay.
- 15.1.2 Fire water storage volume has been calculated in accordance with Environment Agency methodology, shown in Table 14.1 below.

Table 14.1 Calculation of Fire Water Supply									
Maximum file size in cubic metres	Water supply needed litres per minute	Overall Water Supply for 3 hours in litres	Total Water Available on Site in litres						
450	450 x 6.67 =3001.5	3001.5 x 180 = 540,270 litres	Required 549,270 litres Available 360,000 litres in tank, supplemented by mains supply and recirculation.						

15.1.3 Because space is limited the tank has been sized to hold 360m³. That is 66% based on the methodology in the Environment Agency's Fire Prevention Plan template.



However, during a fire the tank will be refilled from the mains supply and, where possible, this will be supplemented by a pump in the floor sump, so that the tank can also be replenished by recirculating used fire water.

15.1.4 Because the tank can be refilled as the water is being used adequate water should be available to allow 3 hours of fire fighting in the largest stockpile.

16 MANAGING FIRE WATER

- 16.1.1 The building has an impermeable concrete floor which is designed to drain towards a sealed sump. The sump will have a capacity of 240m³.
- 16.1.2 The remaining water will be held within the footprint of the building. The building is 70m long by 48m wide. A 90mm high s will be placed at the site entrance to act as bunding. This provides an additional 302m³ holding capacity on the building floor.
- 16.1.3 The sump and the building floor between them have been calculated by Valencia to provide 484m³ of storage. This will take account of bay walls and equipment bases reducing the available area within the building.
- 16.1.4 As the water hits the hot waste, it is expected that a minimum of 25% of the water would be evaporated. A further 12% will be absorbed into the waste. Therefore, if 720m³ of water is used in firefighting, 455m³ will need to be contained.
- 16.1.5 The building and sump therefore provide adequate capacity to contain firewater. The fact that firewater will be recirculated back into the firewater tank provides additional containment. These measures are therefore believed adequate to minimise any loss of contaminated fire water into the environment.

17 DURING AND AFTER AN INCIDENT

17.1 Dealing With Issues During a Fire

- 17.1.1 The priority during an incident will always be to ensure the safety of staff.
- 17.1.2 Upon detection of a fire which is not controllable, the alarm will be sounded and the Site Manager or Fire Warden will contact the relevant authorities. The Fire Warden will ensure that all staff are evacuated from the facility and congregate at the agreed gathering point.



17.1.3 During an incident no waste will be admitted to site and Customers will be contacted and will be directed to another of Valencia's sites or, if necessary, to another permitted facility.

17.2 Notifying Residents and Businesses

- 17.2.1 The nearest receptors are located around 300m from site and will be contacted by site management should the fire become a risk to their site/ wellbeing.
- 17.2.2 Dependant on the size of the fire a number of agencies will be contacted, including the Environment Agency, the local council and the Highways Authority.

17.3 Clearing and Decontamination After a Fire

- 17.3.1 A building inspection will be made by a competent engineer to determine whether the building is safe and appropriate repairs will be scheduled.
- 17.3.2 Firewater will be tested to determine levels of contamination and arrangements will be made for it to be collected by tanker and disposed of at a suitably permitted site.
- 17.3.3 Residues may remain in place for a short time whilst the site is made safe and any required investigation into the cause of the fire is carried out.
- 17.3.4 Once it is safe to do so residues will be removed to the landfill and the site will be cleaned.

17.4 Making the Site Operational After a Fire

- 17.4.1 Following any fire incident a full review of the circumstances of the fire and the sites response to the fire will take place.
- 17.4.2 The findings of this report will inform the steps taken before the site is allowed to operate again.
- 17.4.3 Any damage caused by the fire will be repaired to secure the site and building.
- 17.4.4 If the fire is caused by fault in the machinery, this plant will either be decommissioned and not used or will be repaired/ replaced to avoid a repeat failure.
- 17.4.5 Waste acceptance, processing and storage procedures may be reviewed and altered based on the findings of the investigation.



- 17.4.6 Fire water stored in the internal sump will be tested and if found to not be suitable for discharge to sewer, will be tankered off site to avoid contamination.
- 17.4.7 The site will not resume operation until it has been certified as safe by the relevant parties.



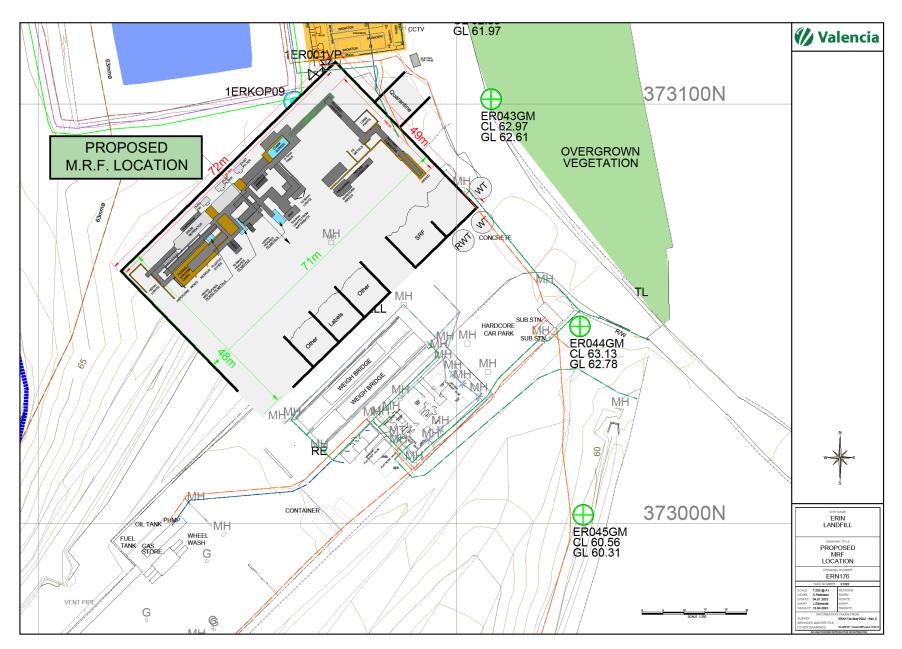
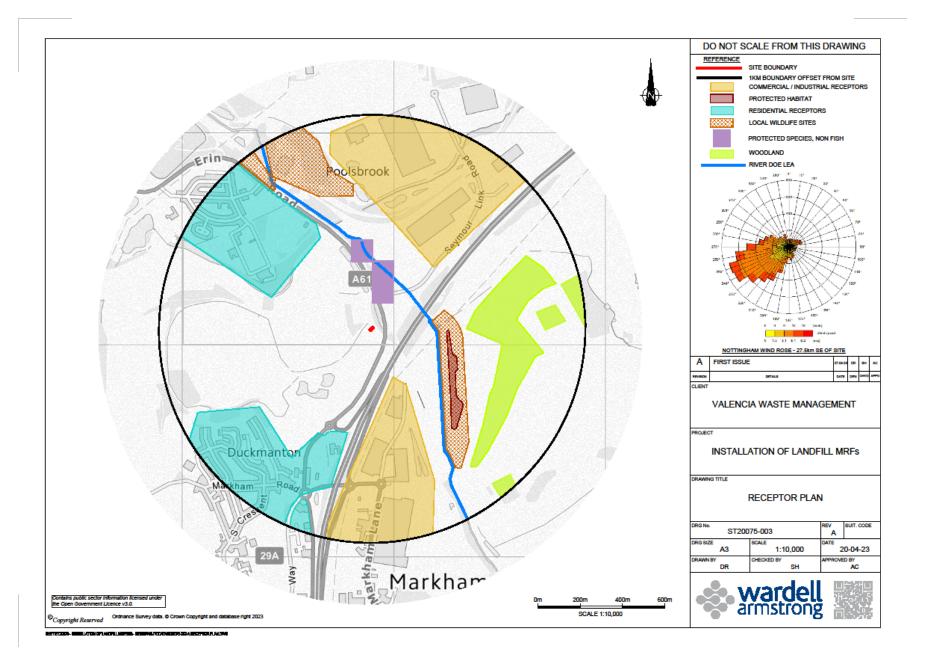


Figure 1 - ERN176 - Proposed MRF Location



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