



Fire Prevention and Mitigation Plan EPR/AB3695CH

Nine Mile Point Waste Processing Facility

for:

Hazrem Environmental Ltd

CRM 083 002

'Experience and expertise working in union'

enzygo.com



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Fire Prevention and Mitigation Plan CRM 083 002 PE R 010 B

Project:	Nine Mile Point Waste Processing Facility
For:	Hazrem Environmental Limited
Status:	DRAFT
Date:	July 2018
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1.0 INTRODUCTION

1.1. Overview

- 1.1.1. This Fire Prevention and Mitigation Plan has been prepared as part of on-site Operational Documentation for the permitted waste processing facility ('The Facility') at Nine Mile Point Industrial Estate, Cwmfelinfach, Caerphilly.
- 1.1.2. This document was written to support Environmental Permit Application reference **EPR/GB3490HG/A001** to provide details of the operational techniques that will be used to minimise and control emissions from the proposed waste processing facility. It has been updated upon permit issue to reflect the latest guidance, prior to commencement of operations.
- 1.1.3. The Operator of the Facility will be Hazrem Environmental Ltd, hereby referred to as 'the Operator'.
- 1.1.4. Natural Resource Wales Guidance Note 16: *Fire Prevention and Mitigation Plan Guidance-Waste Management*, August 2017 describes the waste activities for which fire risk is a key issue and for which a Fire Prevention and Mitigation Plan is required and applies to facilities which store combustible materials. Nine Mile Point Waste Processing Facility stores such materials.
- 1.1.5. This Fire Prevention and Mitigation Plan will be transposed into the site's Environmental Management System (EMS) following commencement of operations. The plan will be updated and reviewed in accordance with the requirements of the site management systems.
- 1.1.6. As the Facility is not yet operational, it is proposed to update this document during site commissioning prior to operations commencing to provide further information where necessary on the proposed mitigation measures installed.
- 1.1.7. This Fire Prevention and Mitigation Plan is intended to be used as a stand-alone working document for operational staff on a day to day basis. It outlines the main potential fire sources at the proposed site, the mitigation measures to be used to reduce the risk of fire and the monitoring and reporting methods to be used when the site becomes operational. It will be reviewed regularly and revised as required.

1.2. Aim and Objectives of the Fire Prevention and Mitigation Plan

- 1.2.1. This Fire Prevention and Mitigation Plan has been developed to satisfy the requirements of Natural Resource Wales Guidance Note 16: *Fire Prevention and Mitigation Plan Guidance-Waste Management*, August 2017. This guidance document outlines the standards which must be followed when storing combustible materials at permitted sites.
- 1.2.2. The aim of this Fire Prevention and Mitigation Plan is to identify sources of combustible materials, possible causes of fires and to minimise the risks of fire at the Facility.

1.3. Relevant Guidance and Documentation

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

- Natural Resource Wales guidance Note 16: Fire Prevention and Mitigation Plan Guidance- Waste Management, August 2017; and
- Natural Resource Wales guidance: How to comply with your environmental permit, Version 8, October 2014.

2.0 SITE DESCRIPTION

2.1. Site Location

2.1.1. The full site address is:

Nine Mile Point Waste Processing Facility
Nine Mile Point Industrial Estate,
Ynysddu,
Cwmfelinfach,
Caerphilly,
NP11 7HZ

2.2. Facility Operations

2.2.1. Nine Mile Point Waste Processing Facility has the capacity to process a maximum of 100,000 tonnes of non-hazardous household, commercial and industrial waste per annum, to produce Refuse Derived Fuel (RDF) or Solid Recovered Fuel (SRF).

2.2.2. A Site Plan is included in Appendix B showing the general layout which will be updated once the site is constructed to show aspects which may affect fire risk e.g. hydrants and other possible water sources, receptors, drainage, access to site and the location of wastes and hazardous materials on-site.

2.2.3. In summary, waste will be brought to site and unloaded in the Waste Reception Building then fed into a preparation plant for segregation of recyclable content. The remaining waste will then either be passed through a dryer, and then baled and wrapped, or passed directly to the baler and then be wrapped. Bales will be stored outside the building on an impermeable pavement.

2.2.4. The waste reception building has an impermeable floor capable of being cleaned and all drainage is directed to foul sewer under a trade effluent consent from Welsh Water.

1.1.1. For the majority of the time the facility will accept more than 75 tonnes of waste per day. This waste will include an element of combustible wastes such as wood, paper, cardboard, plastics and metals.

2.2.5. The Waste Processing Facility comprises of the following elements:

- Weighbridge;
- Waste reception and storage;
- Storage area for recycled wastes, i.e metals, plastics, fines;
- Shredders;
- Screens;
- Separating equipment, magnets, heavy light separators and a near infra-red unit for plastic separation;
- Dryer;

- Odour abatement; carbon filter
- Baler and Wrapper;
- RDF/SRF Storage; and
- Site cabin with associated staff and visitor parking.

2.2.6. Waste materials are delivered to the site during the following operational hours:

- Monday – Friday 07:30 – 18:30
- Saturday 07:30 – 13:00
- No handling operations will take place on Sundays or Public/Bank Holidays.
- The treatment of waste through the process will in general operate continuously 24 hours a day.

2.2.7. Waste storage areas are detailed on the site plan in Appendix B.

2.2.8. Potentially combustible wastes include wood, general waste and cardboard which are present in the quantities detailed in Table 2.2.7 below

Table 2.2.7: Combustible Waste Types and storage capacities

Waste types	Containment	Approximate Storage capacity
Input material for processing (waste codes as listed in permit)	In the waste reception building in the waste reception bay	610 tonnes
Ferrous Metals	In the waste reception building in a bay separated from other materials by a fireproof wall and with an impermeable floor	17.95 tonnes
Non-Ferrous Metals	In the waste reception building in a bay separated from other materials by a fireproof wall and with an impermeable floor	8.45 tonnes
PVC	In the waste reception building in a bay separated from other materials by a fireproof wall and with an impermeable floor	9.08 tonnes
Large heavy material (only a small proportion will be flammable e.g wood, food waste)	In the waste reception building in a bay separated from other materials by a fireproof wall and with an impermeable floor	4.59 tonnes (estimated flammable portion)
Fines	In the waste reception building in a bay separated from other materials by a	41.54 tonnes

Waste types	Containment	Approximate Storage capacity
	fireproof wall and with an impermeable floor.	
Non-recyclable mixed wastes to be baled and or dried	In bunker in the waste reception building which has an impermeable floor	69.31 tonnes
RDF/SRF bales	Wrapped five times and stored outside the building on impermeable surface	600 bales

Input material

- 2.2.9. Waste will be delivered to a reception bay inside the building which has a volume of approximately 2400m³ and able to store 610 tonnes of waste. The building is on an impermeable surface and drains to foul sewer under a trade effluent consent regulated by Welsh Water.
- 2.2.10. Waste is then fed into the process to be segregated into recyclable materials and those materials suitable for the production of RDF/SRF.

Recyclate Storage

- 2.2.11. Recyclates removed during the RDF preparation process will be stored in dedicated bays within the waste reception building.
- The site has not yet been constructed as such the exact sizes of the storage bays have not yet been confirmed. No storage bays exceed the limits given in Natural Resources Wales guidance Note 16: *Fire Prevention and Mitigation Plan Guidance- Waste Management*, August 2017.
- 2.2.12. All waste apart from baled RDF will be stored in bunkers/ bays within the waste processing building. Bays will be a maximum width of 10m and a length of approximately 10m. A minimum of 1m freeboard will be left between the waste and bunker height.
- 2.2.13. A strict rotation system will be employed to ensure that no recyclates will be stored for longer than 3 months on site.

Baled RDF

- 2.2.14. Baled RDF and SRF will be wrapped 5 times and stored outside the building on an impermeable surface.
- 2.2.15. There will be one baled RDF storage area which will occupy a total area of 267m². Within this area there will be a number of stacks which will have a maximum height of 4m (or 4 bales, whichever is lowest) and a maximum width of 20m. Separation distances between stacks will be calculated in accordance with graph 1, p22 of Natural Resources Wales guidance Note 16: *Fire Prevention and Mitigation Plan Guidance- Waste Management*, August 2017.
- 2.2.16. A strict rotation system will be employed to ensure that no RDF will be stored for longer than 3 months. Records of stock rotation will be kept on site.

3.0 MANAGEMENT OF RISK FROM FIRE

3.1. Overview

- 3.1.1. Provisions for storage of combustible materials take into account the guidance provided in Natural Resources Wales guidance Note 16: *Fire Prevention and Mitigation Plan Guidance-Waste Management*, August 2017.
- 3.1.2. In the event of a fire, the site personnel, the Sirhowey River and other businesses on Nine Mile Point Industrial Estate (the closest being immediately adjacent to the facility) are most at risk. Combustion products may have a local and temporary impact depending on meteorological conditions at the time of any incident. The nearest residents are approximately 470m to the North East and 478m to the West of the facility so could also be impacted. A Location Plan is included in Appendix C which includes nearest residential housing areas and watercourses.

3.2. Incident Management

- 3.2.1. Hazrem Environmental Limited have in place an Integrated Management System which covers how potential emergency situations are documented and an Accident Management Plan.
- 3.2.2. A 'Fire Response Procedure' is incorporated into the above procedure and details specific actions which must be carried out in the event of a fire. This can be seen in Appendix D.
- 3.2.3. Emergency contacts and other useful contact information will be included in Appendix A when the site is operational.

3.3. Fire Prevention Techniques

- 3.3.1. Fire Risk Management techniques are detailed below which describe how the requirements of Natural Resources Wales guidance Note 16: *Fire Prevention and Mitigation Plan Guidance-Waste Management*, August 2017.
- 3.3.2. This Fire Prevention and Mitigation Plan will be reviewed during the construction programme in discussion with the Fire Safety Officer and if available, the Fire Rescue Service.

3.4. General Measures to Minimise Fire Risk

- 3.4.1. Ignition sources will be kept greater than 6m from combustible materials.
- 3.4.2. Signage will be maintained in areas where combustible materials are stored. Facility has a strict no-smoking policy.
- 3.4.3. No hot works will be carried out on-site routinely. Should maintenance require hot works to be carried out, procedures will be in place to minimise fire risk.
- 3.4.4. Visitors will be informed of the correct safety and fire prevention procedures; information will be provided at gatehouse at the signing in point and by appropriate signage on-site.
- 3.4.5. A maintenance and inspection programme will be in place following commencement of operations.

- 3.4.6. Site security measures are in place to prevent unauthorised access and include total fencing of the site, CCTV and security gates. Security gates are kept locked and secured outside normal working hours.
- 3.4.7. Firefighting equipment will be maintained on site in accordance with fire regulations. All site staff will be trained in the Fire Response Procedure and in the use of firefighting equipment. Any incidents of fire will be reported to NRW and recorded in the site diary.
- 3.4.8. Fire extinguishers located at the Facility will be clearly marked and tested to ensure that they are safe and in good working order. Site personnel will be made aware of their location and trained in their correct use with training records maintained.
- 3.4.9. A fire-watch will be achieved through inspection of waste processing areas following the end of daily operations prior to the Facility being vacated. No plant or machinery will operate when site is not staffed.
- 3.4.10. A dedicated emergency or quarantine area will be incorporated into the design of the site and will be indicated on the site plan following construction. This will be for incoming waste and materials which are not suitable for processing or are suspected of being a fire risk i.e. found to be smouldering following unloading etc.. The quarantine area will be located to the north of the site and will be sized to contain the largest pile of waste which is 750m³. The quarantine area will be surrounded by a 10m exclusion zone.
- 3.4.11. Waste acceptance and pre-acceptance procedures will be maintained to ensure that only the permitted waste codes, which do not include any hazardous wastes, including those with oxidising or flammable risk phrases, are accepted.
- 3.4.12. No wastes will be burned on-site.

3.5. Storage of Waste to Minimise Fire Risk

- 3.5.1. All materials with the exception of baled RDF/SRF will be stored within dedicated bays and bunkers on impermeable paving inside the Waste Reception Building.
- 3.5.2. Baled RDF/SRF is stored outside the building on impermeable paving to a maximum height of 4m (or 4 bales high, whichever is lowest) and a width/ length of 20m. Separation distances will be calculated in accordance with graph 1, p22 of Natural Resources Wales guidance Note 16: *Fire Prevention and Mitigation Plan Guidance*, and 6m will be maintained between any stack and the perimeter of the site.
- 3.5.3. Water supply will be available to suppress any outbreak of fire all-year round.
- 3.5.4. Material turnover will be high, and in any instance combustible materials will be stored for less than 3 months.
- 3.5.5. Stock will be rotated frequently at a frequency agreed locally with NRW /Fire Rescue Service.
- 3.5.6. Temperature monitoring methods and frequency will be agreed locally with NRW/Fire Rescue Service. Monitoring will most likely be undertaken with hand held infra-red sensors to detect hotspots in waste piles. If piles are identified to be more than 10°C above ambient temperature, waste piles will be removed from the bale storage area to the quarantine area and doused with water.

3.6. Actions in the event of a fire

- 3.6.1. In the event of a fire, the emergency measures detailed below are in place on-site to minimise the risk of fire spreading.
- 3.6.2. The Environmental Management System contains a 'Fire Response Procedure'.
- 3.6.3. Firefighting equipment will be maintained on site in accordance with fire regulations, including portable fire extinguishers. All site staff will be fully trained in the Fire or Explosion response Procedure and in the use of firefighting equipment. Any incidents of fire will be reported to Natural Resources Wales and recorded including any root-cause investigations.
- 3.6.4. A year-round supply of water will be available to suppress fire.
- 3.6.5. Unburned/ burning material will be separated using on-site machinery where the level of risk permits this activity, and where possible moved to the quarantine area.
- 3.6.6. Water will be applied to fire and unburned material for cooling if the level of risk permits these actions.
- 3.6.7. Firewater will be recycled and reused wherever possible. Any run off from external firefighting will be directed via interceptors to the surface water crates. Under normal circumstances the water would then pass at a controlled rate to the off-site surface water drainage system. In the case of a fire the lock off valve would be closed, retaining any fire water within the crates and allowing for it to be re-circulated for re-use in the fire fighting efforts.
- 3.6.8. Site staff will be fully trained in the Fire Response Procedure and in the use of firefighting equipment which will include these measures to minimise the spread of fire balanced with the risk to personnel.
- 3.6.9. The Site Manager will oversee any decision to apply on-site fire-fighting equipment and has the authority to cease on-site measures should the risk to personnel prove too high.

3.7. Abnormal Operating Conditions

- 3.7.1. Operators must also consider what incidents or emergencies might increase the risk of fire in order that they can plan and take appropriate steps to reduce the likelihood of the incident occurring; minimise any impacts if the incident were to occur; and re-establish normal operations as quickly as possible.
- 3.7.2. Periods of very warm weather can increase the risk of fire. During these periods, additional site inspections and monitoring will take place.
- 3.7.3. Maintenance operations, routine or otherwise, may increase the risk of fire by introducing potential ignition and heat sources. Separation distances between any ignition sources and combustible wastes will be adhered to as detailed in Section 3.5 above. During maintenance operations, additional inspections shall take place.

4.0 RECORDS AND REPORTING

3.8. Record Keeping

3.8.1. Records will be maintained of the following activities on-site:

- Incidents including post-incident investigation;
- Stock management, including rotation;
- Training of operatives;
- Site inspections;
- Maintenance;
- Monitoring;
- Testing of firefighting equipment; and
- Complaints.

3.8.2. All records of events and actions taken will be retained as required by the Environmental Permit.

3.9. Notifying Natural Resources Wales

3.9.1. In the event of a fire, the Operator will notify the Fire Rescue Service in the event of an emergency and Natural Resources Wales as soon as practically possible, using the emergency 24hr phone line (0800 80 70 60). Following the incident, the Site Manager will advise what remedial measures or actions have been taken to prevent further incidents.

3.10. Fire Prevention and Mitigation Plan Review

3.10.1. This Fire Prevention and Mitigation Plan will be reviewed and updated by senior management following construction and every 4 years afterwards or immediately following any major fire incident / event.

3.10.2. Any technical and managerial changes on site will also initiate a review of the Fire Prevention and Mitigation Plan to ensure that the control techniques remain appropriate for the site.

3.10.3. The first review and update of the Plan will occur during site commissioning prior to full operations commencing to include further detailed information on the proposed mitigation measures installed at the facility.

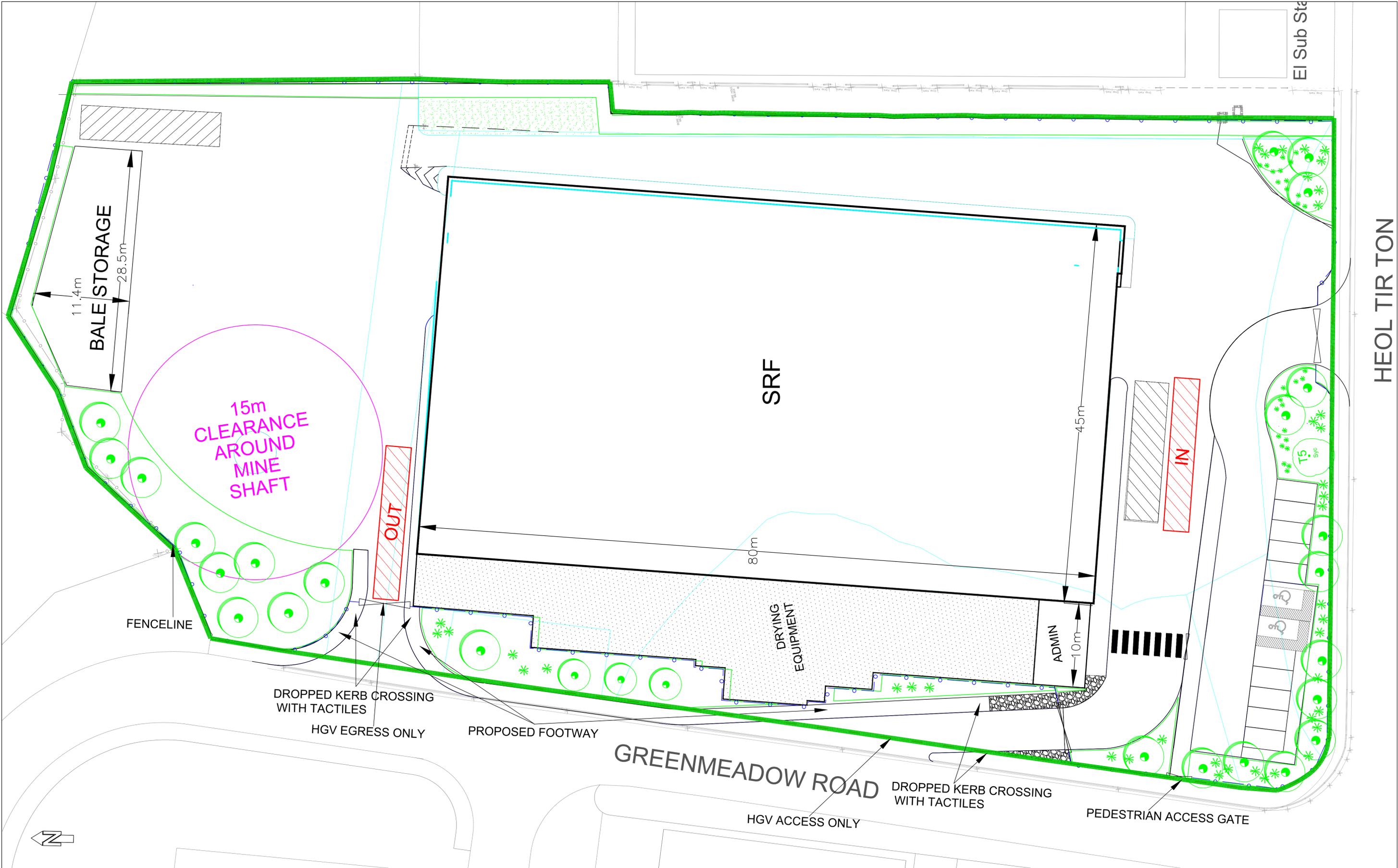
APPENDICES

APPENDIX A - KEY SITE AND EMERGENCY CONTACTS

This table will be completed when the site has been constructed.

SITE DETAILS		
Location: Nine Mile Point Waste Processing Facility, Nine Mile Point Industrial Estate, Cwmfelinfach, Caerphilly		
Postcode: NP11 7HZ		
Site Access Grid Reference: ST 19235 91305		
SITE CONTACTS	Office Hours (specify)	Out of hours
General Manager:		
Site Manager:		
Site Supervisor:		
Security Contact:		
EMERGENCY SERVICES	Office Hours	Out of hours
Emergency	999	999
Medical:	111/999	111/999
Police:	999	999
Fire:	999	999
REGULATORS	Office Hours	Out of hours
Health and Safety Executive (HSE)	0845 300 9923	0151 922 9235
Local Authority:		
Natural Resources Wales (Local)		
Natural Resources Wales (24 hour emergency hotline)	0800 80 70 60	
UTILITY AND KEY SERVICES	Office Hours	Out of hours
Water provider		
Sewerage provider		
Gas supplier:		
Electricity supplier:		
Oil supplier:		
Fuel supplier:		
Chemical supplier:		
Oil spill contractor:		
Maintenance contractor:		
Electrician:		
Plumber:		
Locksmith:		
Joiner:		
OTHER KEY CONTACTS	Office Hours	Out of hours
Head Office:		
Adjacent landowners:		
Neighbours:		
Specialist advisors:		

APPENDIX B - SITE PLAN



STEP Business Centre, Wortley Rd, Sheffield, S36 2UH

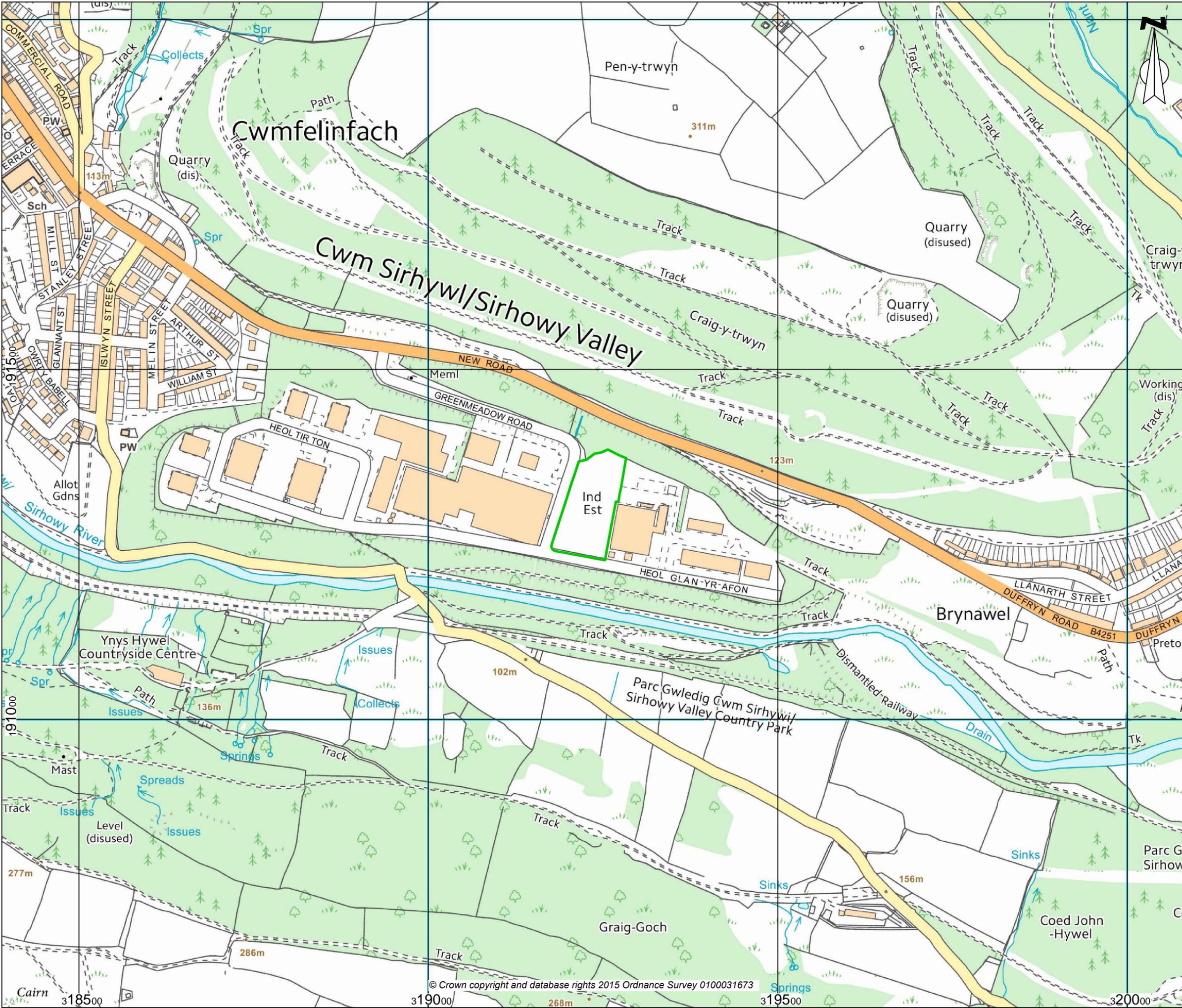
Key

	Installation Boundary
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SCALE	PROJECT NO.
1:200@A1	CRM.083.002
DATE	DRAWING NO.
Oct 2015	CRM.083.002.PE.D.003
DRAWN	CHECKED
MG	SC

Proposed SRF Facility, Greenmeadow Road, Nine Mile Industrial Estate	DRAWING TITLE
	Site Plan
	CLIENT
	Hazrem Environmental Ltd

APPENDIX C: LOCATION PLAN



Key

 Installation Boundary

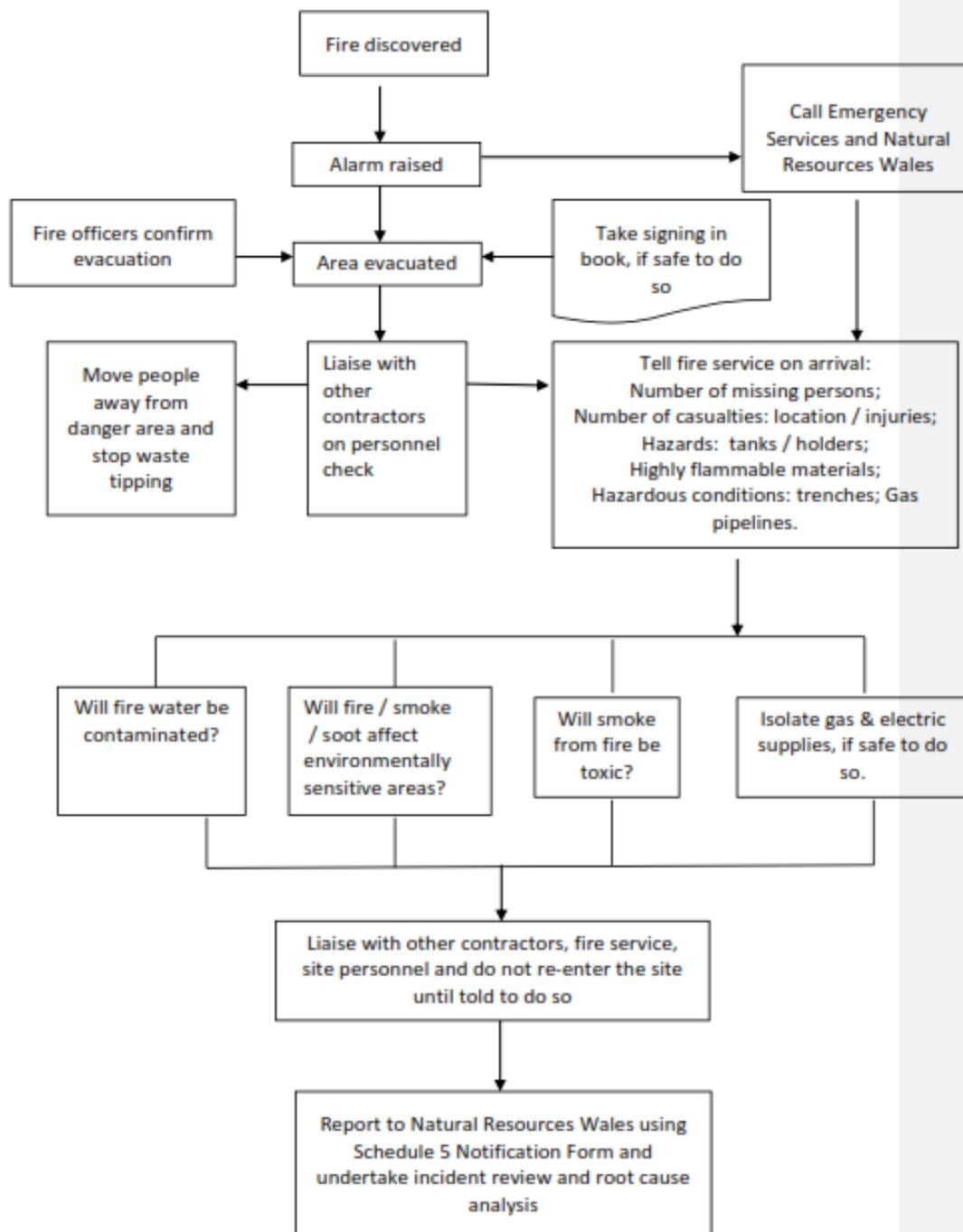
enzygo
environmental consultants

STEP Business Centre, Wortley Rd, Sheffield, S36 2UH

CLIENT:		Hazrem Environmental Ltd	
SCALE:	1:5,000@A3	PROJECT REF:	CRM.083.002
DRAWN:	MG	CHECKED:	SC
DATE:		Oct 2015	
PROJECT:			
Proposed SRF Facility, Greenmeadow Road, Nine Mile Industrial Estate			
TITLE:			
Site Context Plan			
DRAWING NO:			
CRM.083.002.PE.D.002			

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APPENDIX D: FIRE RESPONSE PROCEDURE





Enzygo specialise in a wide range of technical services:

Property and Sites

Waste and Mineral Planning

Flooding, Drainage and Hydrology

Landscape Architecture

Arboriculture

Permitting and Regulation

Waste Technologies and Renewables

Waste Contract Procurement

Noise and Vibration

Ecology Services

Contaminated Land and Geotechnical

Traffic and Transportation

Planning Services

BRISTOL OFFICE

The Byre
Woodend Lane
Cromhall
Gloucestershire GL12 8AA
Tel: 01454 269 237

SHEFFIELD OFFICE

Samuel House
5 Fox Valley Way
Stocksbridge
Sheffield S36 2AA
Tel: 0114 321 5151

MANCHESTER OFFICE

First Floor
3 Hardman Square
Spinningfields
Manchester M3 3EB
Tel: 0161 413 6444

Please visit our website for more information.

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