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20001

Nine Mile Point Waste Processing Facility

PPC Variation

Fire Prevention Plan

V06

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# Report

<b>TITLE</b>	<b>Nine Mile Point Waste Processing Facility- PPC Variation – Fire Prevention Plan</b>
<b>PROJECT</b>	20001
<b>CLIENT</b>	Drumcastle Ltd.
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## DOCUMENT CONTROL

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01	Nine Mile Point Waste Processing Facility PPC Variation.	FINAL	NOV 2021	KB	AT	AT
02	Amendments made	FINAL	MAY 2022	KB	AT	AT
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06	Amendments made following site visit with Fire Service	FINAL	OCT 2022	KB	AT	AT

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# Contents

<b>6</b>	<b>Fire Prevention Plan</b> .....	<b>1</b>
	Introduction .....	1
	Aim and Objective of the Fire Prevention Plan.....	1
	Relevant Guidance and Documentation.....	1
	Site Location .....	2
	Facility Operations .....	3
	<u>Overview</u> .....	3
	Recyclate Storage .....	6
	Stored SRF/RDF.....	6
	Input Material.....	6
	Management of Risk from Fire .....	8
	<u>Overview</u> .....	8
	<u>Incident Management</u> .....	8
	<u>Fire Prevention Techniques</u> .....	8
	<u>General Measures to Minimise Fire Risk</u> .....	8
	<u>Storage of Waste to Minimise Fire Risk</u> .....	15
	Actions in the Event of a Fire.....	18
	Abnormal Operating Conditions .....	21
	Records and Recording.....	21
	<u>Records Keeping</u> .....	21
	<u>Notifying Natural Resources Wales</u> .....	21
	<u>Fire Prevention Plan Review</u> .....	22

## 6 Fire Prevention Plan

### Introduction

- 6.1 This Fire Prevention Plan has been prepared as part of onsite Operational Documentation for the waste processing facility ('The Facility') at Nine Mile Point Industrial Estate, Cwmfelinfach, Caerphilly.
- 6.2 The Operator of the Facility will be Drumcastle Ltd, hereby referred to as 'the Operator'.
- 6.3 Natural Resource Wales Fire Prevention and Mitigation Plan Guidance Note 16 describes the waste activities for which fire risk is a key issue and for which a Fire Prevention Plan is required and applies to facilities which store combustible materials. Nine Mile Point Waste Processing Facility stores such materials.
- 6.4 The plan will be updated and reviewed in accordance with the requirements of the site management systems. This plan will be provided in electronic format to Natural Resource Wales (NRW) and to the Fire Rescue Services. In the event of an incident, this plan will be made available in the form of an emergency grab bag located in the office as shown in Drawing 20001-402.
- 6.5 This Fire Prevention 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 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.

### Aim and Objective of the Fire Prevention Plan

- 6.6 This Fire Prevention Plan has been developed based on the requirements of Natural Resource Wales Guidance Note 16: Fire Prevention and Mitigation Plan- Waste Management. This guidance document outlines the standards which must be followed when storing combustible materials at permitted sites.
- 6.7 The aims of this Fire Prevention Plan are to identify sources of combustible materials, possible causes of fires, minimise the risk of fire occurring at the Facility and in the event of a fire occurring ensuring that it is identified as early as possible.

### Relevant Guidance and Documentation

- 6.8 This Fire Prevention Plan has been prepared with reference to the following key guidance:
- Natural Resource Wales Guidance Note 16: Fire Prevention and Mitigation Plan-Waste Management; and
  - CIRIA 736: 'Containment Systems for the Prevention of Pollution

## Site Location

- 6.9 The Facility's full address will be:  
 Nine Mile Point Waste Processing Facility  
 Nine Mile Point Industrial Estate  
 Ynysddu,  
 Cwmfelinfach,  
 Caerphilly,  
 NP11 7HZ
- 6.10 The National Grid Reference for the site is: ST 19235 91305. The site covers an area of approximately 1.09 hectares. The site is bordered by an industrial unit to the east, a road to the west beyond which are more industrial units, a road to the south beyond which is woodland and the Sirhowy River and to the north by woodland.
- 6.11 The nearest residential properties are on New Road, approximately 470m North East of the eastern edge of the site boundary and William Street, approximately 478m West of the western edge of the site boundary. The nearest place of work is immediately adjacent to the eastern boundary of the facility. Table 6.1 details the sensitive receptors

**Table 6.1 Sensitive Receptors**

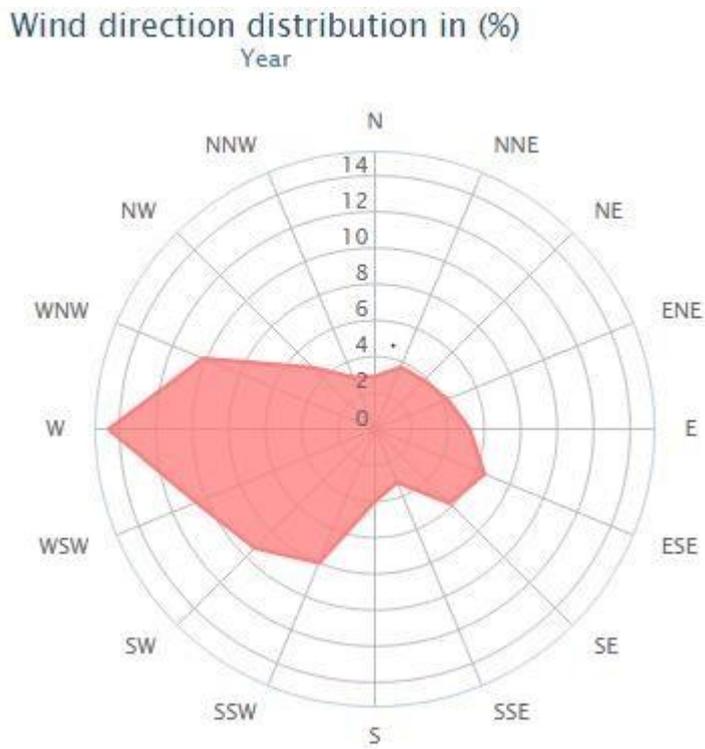
Receptor	Type	Distance (m)	Direction
The site is located close to other Industrial and Commercial units on the Nine Mile Point Industrial Estate. These lie to the east and west of the site. The closest of these is immediately adjacent to the facility.	Commercial	0	E
Residential properties at New Road, Wattsville	Residential	470	NE
Residential Properties at William Street, Cwmfelinfach	Residential	478	W

- 6.12 The prevailing winds at this site are from the west, west north west and west south west (based on regular observations recorded at the 'Caerphilly' monitoring station between April 2013 and May 2015 (<https://www.windfinder.com>)).

**Figure 6.1** Caerphilly Weather Station Data

Month of year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
	01	02	03	04	05	06	07	08	09	10	11	12	1-12
Dominant Wind dir.	➤	➤	➤	➤	➤	➤	➤	➤	➤	➤	➤	➤	➤
Wind probability >= 4 Beaufort (%)	19	23	18	21	21	11	8	11	5	14	6	24	15
Average Wind speed (kts)	6	7	7	8	7	6	6	6	5	6	4	7	6
Average air temp. (°C)	8	8	10	13	15	19	23	19	17	15	11	9	13

**Figure 6.2** Caerphilly Weather Station Data



**Facility Operations**

**Overview**

- 6.13 Nine Mile Point Waste Processing Facility has a 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).
- 6.14 In summary, waste will be brought to site and unloaded in the Waste Reception area. The waste will then be loaded into a pre-shredder and screened and sorted to remove fines, metals, and plastics. The waste will then be shredded to the appropriate particle size and the resulting SRF/RDF is then transferred to the end storage bay prior to transfer offsite. Prior to treatment all waste materials will be stored within the building which is on hardstanding.

- 6.15 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.
- 6.16 The proposed Waste Processing Facility comprises of the following elements:
- Weighbridge
  - Waste Reception Building
  - Storage areas for recycled wastes, metals, plastics, fines
  - Shredder
  - Screen
  - Separating equipment, magnets, heavy light separators, and a near infra-red optical unit
  - Dust filters
  - Carbon filters
  - Baler and Wrapper
  - SRF/RDF Storage
  - Electrical Infrastructure
  - Weighbridge Office
  - Sprinkler tank & pumphouse; and
  - Cabin associated with staff and visitors.
- 6.17 There shall be no Heavy Goods Vehicle deliveries to or from the site outside the following times:
- 07:30- 18:00hrs Monday to Friday
  - 07:30-13:00hrs Saturdays; and
  - No such deliveries on Sunday or Bank Holidays
- 6.18 Potentially combustible wastes are present in the quantities detailed in Table 6.2 below

**Table 6.2 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 bay within main building which has an impermeable floor	75 tonnes
Non-Ferrous Metals	In bay within main building which has an impermeable floor	75 tonnes

Plastics	In bay within main building which has an impermeable floor	50 tonnes
Heavy wastes (only a small proportion will be flammable e.g., wood, food waste)	In bay within main building which has an impermeable floor	100 tonnes
3D Heavies / bulky material	In bay within main building which has an impermeable floor	100 tonnes
Paper/Cardboard	In bay within main building which has an impermeable floor	50 tonnes
Fines	In bay within main building which has an impermeable floor	100 tonnes
SRF (loose)	Bay at the end of the waste processing equipment	350 tonnes
Bales	Stored outside the building on impermeable surface. Bales containing SRF will be wrapped five times.	600 bales

6.19 The scope of the proposed Facility will be limited to the activities specified in Table 6.3 below.

**Table 6.3 Regulated Activities**

Schedule 1 Activity	Description of Activity	Annex IIA or IIB	Treatment Capacity
Part A (1) Section 5.4 Part A(1)(b)	Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving (ii) pre-treatment of waste for incineration or co-incineration. Bulking of recyclable wastes recovered as an incidental part of production of SRF/RDF	R3: Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes) R4: Recycling/reclamation of metals and metal compounds R5: Recycling/reclamation of other inorganic materials R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on site where it is produced)	Total capacity of 100,000 tonnes per annum. Daily treatment capacity of >75 tonnes per day.

### Recyclate Storage

- 6.20 Recyclates removed during the RDF/SRF preparation process will be stored in dedicated bays within the main building. These bays will have dedicated flame detection and sprinkler coverage. Baled recyclable materials will be stored externally.
- 6.21 A strict rotation system will be employed to ensure that no recyclates will be stored for longer than 3 months on site.

### Stored SRF/RDF

- 6.22 The SRF will be turned and blended at least daily. This will ensure that the temperature does not build up within the stack. The SRF will generally only be stored for 5 working days and will be dispatched on a regular basis with loads leaving daily. Baled SRF will be wrapped and stored externally.
- 6.23 A strict rotation system will be employed to ensure that no SRF/RDF will be stored for longer than 3 months. Records of stock rotation will be kept on site.

### Input Material

- 6.24 Waste will be delivered to a reception hall inside the building and onto an impermeable surface.
- 6.25 Waste is then fed into the process to be segregated into recyclable materials and those materials suitable for the production of RDF/SRF.

### Maximum Pile Sizes

- 6.26 The maximum pile sizes given in Table 6.4 below. The pile sizes for the input material in the reception bay and SRF bays will have a maximum dimensions of 20m by 20m by 4m height. Access may be limited from both sides of the piles in the reception and SRF bays due to fire walls, therefore additional mitigation measures will be implemented as outlined in Table 6.4 below.
- 6.27 The outside bale storage area will have maximum dimensions of 20m by 20m by 4m height in accordance with Natural Resource Wales Fire Prevention & Mitigation Plan Guidance-Waste Management.

**Table 6.4 Maximum Pile Sizes and Additional Mitigation**

Material	Max Height (m)	Length/width (m)	Max vol (m <sup>3</sup> )	Additional Mitigation
Input material for processing	4	20/20	1,600	<ul style="list-style-type: none"> <li>▪ Dedicated bays will be provided for each material to</li> </ul>

Paper, cardboard, and rags	4	10/10	400	<p>ensure segregation.</p> <ul style="list-style-type: none"> <li>▪ The bay walls will be designed to take account of the potential flame height and the potential radiation of a fire to mitigate fire spread between piles. The walls utilised for separation will be designed for the purpose of containing a potential fire and will offer the required thermal barrier.</li> <li>▪ The stored materials will be managed to ensure that sufficient free board is provided above the materials and to prevent bridging across or around walls.</li> <li>▪ In addition to a standard fire detection and alarm system, there will be flame detectors (dual IR/UV) aimed at the tipping hall and SRF storage areas and seven small bays used for ferrous metals etc. Upon activation of these flame detectors, the fire alarm will be activated, and all processing equipment will automatically stop. The location of the activated flame detector will be shown on the control panel and will allow the operator to investigate immediately.</li> <li>▪ Fire suppression will include a dry sprinkler system at roof level and intermediate levels with an additional deluge sprinkler system installed to the zones around the pre-shredder and secondary shredders.</li> <li>▪ 4 No. fire hydrants installed around the perimeter of the SRF building.</li> <li>▪ Portable fire extinguishers will be</li> </ul>
Plastic, rubber, and other materials	4	10/10	400	
SRF	4	20/20	1,600	

				installed to the full facility toBS 5306 Part 8.
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## Management of Risk from Fire

### Overview

- 6.28 Provisions for storage of combustible materials take into account the guidance provided in Natural Resource Wales Guidance Note 16: Fire Prevention and Mitigation Plan-Waste Management.
- 6.29 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 located approximately 470m to the North East and 478m to the West of the facility could also be impacted.

### Incident Management

- 6.30 Drumcastle Limited have in place an Integrated Management System which covers how potential emergency situations are documented and an Accident Management Plan.
- 6.31 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.
- 6.32 Emergency contacts and other useful contact information will be included in Appendix A when the site is operational.

### Fire Prevention Techniques

- 6.33 Fire Risk Management techniques are detailed below which describe how the requirements of Natural Resource Wales Guidance Note 16: Fire Prevention and Mitigation Plan-Waste Management are applied on-site.

### General Measures to Minimise Fire Risk

- 6.34 Table 6.5 details the measures required by the NRW Guidance Document 'Guidance No.16 Fire Prevention and Mitigation plan'.

**Table 6.5 Prevention of Fire**

<b>Factor</b>	<b>Mitigation Measures Employed</b>	<b>Meets FPP Guidance?</b>
Control sources of ignition such as heating pipes, naked flames, light bulbs, space heaters, furnaces, and incinerators.	<ul style="list-style-type: none"> <li>▪ Industrial heaters will not be used at the Facility.</li> <li>▪ No waste or other materials will be burnt on site.</li> <li>▪ Electrically operated equipment, which may present an ignition source, will be at least 6m from combustible waste sources. Ignition sources during non-routine activities e.g., during maintenance activities, will be at least 6m from combustible materials.</li> <li>▪ The facility has a strict no smoking policy.</li> </ul>	Yes
Keep sources of ignition at least 6m away from piles of combustible and flammable materials	<ul style="list-style-type: none"> <li>▪ Ignition sources will be kept greater than 6m from combustible materials.</li> </ul>	Yes
Reinforce fire prevention messages using suitable signs around the site.	<ul style="list-style-type: none"> <li>▪ Visitors will be informed of the correct safety and fire prevention procedures; information will be provided at the gatehouse at the signing in point and by appropriate signage on-site.</li> <li>▪ Signage will be maintained in areas where combustible materials are stored</li> </ul>	Yes
Ensure staff and contractors follow safe working practices when undertaking hot working, such as welding and cutting	<ul style="list-style-type: none"> <li>▪ No hot work will be carried out on-site routinely.</li> <li>▪ Should maintenance require hot works to be carried out, procedures including relevant work permits will be in place to minimise fire risk. All contractors undertaking hot works or welding are required to have a permit to work issued by site staff before commencing works</li> <li>▪ No hot work will be carried out within 6m from combustible waste sources.</li> </ul>	Yes
Ensure all visitors follow the correct safety and fire prevention procedures.	<ul style="list-style-type: none"> <li>▪ Visitors will be informed of the correct safety and fire prevention procedures; information will be provided at the gatehouse at the signing in point and by appropriate signage on-site.</li> </ul>	Yes

Factor	Mitigation Measures Employed	Meets FPP Guidance?
Apply a no smoking policy or ensure designated smoking areas are located at a safe distance from combustible wastesto prevent accidental ignition.	<ul style="list-style-type: none"> <li>▪ Smoking is not permitted on site. 'No Smoking' signs will be visible on site and staff will be made aware of this requirement through training.</li> </ul>	Yes
Introduce a regular maintenance and inspection programme for all site areas (including static and mobile plant and equipment) and minimise fibre and paper in buildings and around the site	<ul style="list-style-type: none"> <li>▪ A maintenance and inspection programme will be in place following commencement of operations.</li> <li>▪ All stored waste shall be inspected daily.</li> <li>▪ Infrared / UV flame detectors will be used to aid these inspections.</li> <li>▪ The operator conducting the inspection will be looking to ensure there is no sign of the waste heating up, such as steam, arising.</li> <li>▪ Plant and equipment on-site will be maintained in accordance with the manufacturer's requirements.</li> <li>▪ A program of planned maintenance procedures will be included in the EMS for the facility from day 1 of operation. This will include the completion of a machine service record sheet and machine daily inspection checklist.</li> </ul>	Yes
Have adequate site security measures in place (e.g., security fencing, intruder alarms and CCTV) to prevent arson (your arrangements should include outside normal working hours)	<ul style="list-style-type: none"> <li>▪ Site security measures are in place to prevent unauthorised access and include total fencing of the site, CCTV, and security gates.</li> <li>▪ Security gates are kept locked and secured outside normal working hours.</li> <li>▪ Site intruder alarms will alert of break ins in the event that the site was unmanned.</li> </ul>	Yes
Have all site vehicles been fitted with fire	<ul style="list-style-type: none"> <li>▪ All site vehicles will be fitted with fire extinguishers and dust filters.</li> </ul>	Yes

Factor	Mitigation Measures Employed	Meets FPP Guidance?
extinguishers and dust filters.	<ul style="list-style-type: none"> <li>▪ All mobile plant will be parked outside the reception building when not in use and at least 6 metres from any flammable materials.</li> </ul>	
Have all bucket loaders fitted with rubber strips to prevent sparks when the bucket comes into contact with hard-standing etc.	<ul style="list-style-type: none"> <li>▪ Bucket loaders are fitted with rubber strips to prevent sparks when the bucket comes into contact with the surfacing.</li> </ul>	Yes
Implement a fire-watch at the end of each shift (when dust from processing operations can settle onto hot exhausts and engine parts)	<ul style="list-style-type: none"> <li>▪ A fire-watch will be achieved through inspection of waste processing areas following the start of daily operations prior to the Facility being vacated.</li> <li>▪ No plant or machinery will operate when the site is not staffed.</li> </ul>	Yes
Make sure separation distances are observed between plant and material when the site is not staffed	<ul style="list-style-type: none"> <li>▪ The unprocessed waste and SRF materials will be stored within bays surrounded by concrete block / reinforced concrete cast insitu wall, and therefore will provide a fire rating of two hours.</li> <li>▪ Separation distances will be inspected before the start of each shift and no operations are carried out when the site is not staffed.</li> <li>▪ Dedicated bays will be provided for each material to ensure segregation.</li> <li>▪ The bay walls will be designed to take account of the potential flame height and the potential radiation of a fire to mitigate fire spread between piles. The walls utilised for separation will be designed for the purpose of containing a potential fire and will offer the required thermal barrier.</li> <li>▪ The stored materials will be managed to ensure that sufficient free board is provided above the materials and to prevent bridging across or around walls.</li> </ul>	Yes

Factor	Mitigation Measures Employed	Meets FPP Guidance?
Provide a dedicated emergency or quarantine area big enough to cope with a major incident, with a clear area of at least 10m around the perimeter (this must be available at all times and identified on your site plan)	<ul style="list-style-type: none"> <li>▪ If a hot load is received or if waste is found to be burning on site this will be removed, by mechanical loading shovel if safe to do so, to the quarantine area for burning material located in the centre of the yard. This area is identified on Drawing 20001-402. The quarantine area will accommodate at least 50% of the volume of the largest stack and has a separation distance of at least 6 metres around the perimeter of area. This open storage area will be marked out on the ground. Onsite mobile plant will include grab vehicles, loading shovels, telehandler, and forklifts.</li> </ul>	Yes
Documented robust waste acceptance procedure to identify incompatible wastes/ hot loads and to prevent the receipt of unauthorised waste or waste that the site does not have the capacity to treat or store.	<ul style="list-style-type: none"> <li>▪ 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.</li> </ul>	Yes
Mitigate and reduce risk from hot exhausts	<ul style="list-style-type: none"> <li>▪ Vehicles will not have exhausts at ground level.</li> <li>▪ Staff are trained to watch out for signs of smouldering or smoke at all times.</li> </ul>	Yes
Building electrics fully certified by a qualified electrician and documented maintenance schedule in place	<ul style="list-style-type: none"> <li>▪ Testing will be carried out on electrical equipment by fully and appropriately qualified electricians when required and inspection of electrical cabling at the Facility will be included in the maintenance and inspection programme.</li> <li>▪ All control panels etc. within the facility will be suitability IP rated to ensure the ingress of water and dust is minimised.</li> <li>▪ The Planned Preventative Maintenance Planner will be included once the equipment has been purchased and details of maintenance</li> </ul>	Yes

Factor	Mitigation Measures Employed	Meets FPP Guidance?
	requirements have been supplied by the plant and equipment supplier.	
Gas containers/flammable items in an isolated location	<ul style="list-style-type: none"> <li>▪ A self-bunded 10,000 litre diesel tank will be located on the Northern boundary of the site. The bunded capacity will be to 110% of the tank capacity. The location of this tank is shown in Drawing 20001-402.</li> </ul>	Yes
Routinely turn waste piles	<ul style="list-style-type: none"> <li>▪ The materials stored in the bays will be rotated daily to ensure stock rotation.</li> <li>▪ The temperature of stack piles will be checked regularly using a thermal lance.</li> <li>▪ If the temperature of the waste pile rises to 10°C above ambient temperature, then the pile will be turned.</li> <li>▪ A record of this rotation will be made in the site diary.</li> </ul>	Yes

6.35 Table 6.6 below details the measures required by the NRW Guidance Document ‘Guidance No.16 Fire Prevention and Mitigation plan’.

**Table 6.6 Detection of Fire**

Factor	Mitigation Measures Employed	Meets FPP Guidance?
You must carry out regular inspections, including at the start and end of every working day	<ul style="list-style-type: none"> <li>▪ The site, including all combustible waste storage piles, will be inspected at the start of each shift. The site will be operational 24 hours a day 7 days a week. These inspections will be logged, see Appendix D.</li> <li>▪ The operator conducting the inspection will be looking to ensure there is no sign of the stockpiles heating up such as steam arising.</li> <li>▪ If there are any indications that cause concern, the stockpile will be turned mechanically to check and to allow any heat build up to dissipate.</li> </ul>	Yes
Consider fitting automatic detection	<ul style="list-style-type: none"> <li>▪ The fire detection system will be designed and installed in accordance with BS5839-1.</li> </ul>	Yes

Factor	Mitigation Measures Employed	Meets FPP Guidance?
<p>systems such as smoke and heat detectors including temperature probes</p>	<ul style="list-style-type: none"> <li>▪ In addition to a standard fire detection and alarm system, there will be flame detectors (dual IR/UV) aimed at the tipping hall and SRF storage areas and seven small bays used for ferrous metals etc. The location of these flame detectors is shown on Drawing 20001-404 in Appendix E. These storage bays will have both dedicated flame detection and sprinkler coverage.</li> <li>▪ Upon activation of these flame detectors, the fire alarm will be activated, and all processing equipment will automatically stop. The location of the activated flame detector will be shown on the control panel and will allow the operator to investigate immediately.</li> <li>▪ Localised flame detection and suppression will be installed in the high-risk areas of the processing plant. These areas include the input/outputs of the pre-shredder and secondary shredder. The flame detection is a combination between triple IR and double IR with UV detectors. There will be a total of 16 flame detectors installed, 8 in Zone 1 (pre-shredder) and 8 in Zone 2 (secondary shredder). The detectors will be installed to automatically activate the suppression system consisting of “open sprinkler” heads which results in a deluge suppression in each zone separately. Deluge Zone 1 has a 6 minute investigation period. If a second flame detector detects a flame within the 6 minute window, the deluge system will automatically activate. If the 6 minute window elapses without a second flame detector detecting a flame, the deluge system will automatically activate. For Deluge Zone 2, there is no investigation period. The deluge system will activate upon flame detector detection. The investigation period will be kept under review during initial stages of the site operation and will be adjusted accordingly if necessary.</li> </ul>	

<p>Monitor and control sub-surface temperature and moisture content with a thermal probe or other device and ensure that this is capable of reaching all parts of a pile (if materials are stored in plastic wrapping you must demonstrate a sampling and testing protocol to ensure a representative number of bales (minimum 10%) are assessed during monitoring)</p>	<ul style="list-style-type: none"> <li>▪ The temperature of stack piles will be checked regularly using a thermal lance. This monitoring will be carried out at the beginning of each shift. Bale stockpiles will be checked in a similar manner.</li> <li>▪ A record will be kept showing which areas of storage are monitored at each check and operatives will ensure that monitoring is rotated.</li> </ul>	<p>Yes</p>
<p>Detect and control hotspots within piles</p>	<ul style="list-style-type: none"> <li>▪ Daily heat monitoring will be carried out during hot weather using an infrared heat sensor for all combustible waste storage piles.</li> </ul>	<p>Yes</p>

**Storage of Waste to Minimise Fire Risk**

6.36 Table 6.7 below lists the combustible wastes which are accepted by the Facility and how they are stored.

**Table 6.7 Storage of Combustible Materials**

Combustible Material	Type of Containment (if any)	Approximate Storage Capacity (Tonnes)	Separation Distances from Other Waste Piles (m)	Storage Times
Paper, cardboard, and rags	Dedicated bay in main building which has an impermeable floor	50	6	less than 3 months
Plastic, rubber, and other materials	Dedicated bay in main building which has an impermeable floor	50	6	less than 3 months

SRF	Dedicated bay in main building which has an impermeable floor	350	6	less than 3 months
Quarantine area for hot loads	Located in centre of yard.		10	Less than 48 hours

Table 6.8 below details the measures required by the NRW Guidance Document 'GuidanceNo.16 Fire Prevention and Mitigation plan'

**Table 6.8 Storage of Materials to Minimise Fire Risk**

Factor	Mitigation Measures Employed	Meets FPP Guidance?
Documented and recorded stock rotation e.g., bay or pile plan with dates in and out and clear methodology for showing duration of storage for any wastes within a pile	<ul style="list-style-type: none"> <li>▪ A strict rotation system will be employed to ensure that RDF/SRF is not stored for longer than 3 months. Records of stock rotation and turning will be kept.</li> <li>▪ A Stock Rotation Control document (RDF/SRF) will be held in the site office and reviewed by the Site Manager on a weekly basis.</li> </ul>	Yes
Storage times - if the operator is proposing mixed durations during processing, then take the LONGEST duration. Define the maximum storage time of all materials on site and show how this will be monitored and controlled	<ul style="list-style-type: none"> <li>▪ Material turnover will be high, and, in any instance, combustible materials will be stored for less than 3 months.</li> <li>▪ Storage times for combustible wastes which are accepted by the Facility will be adhered to. Records of stock rotation and turning will be kept.</li> </ul>	Yes
Minimise pile sizes and maintain sizes and separation distances.	<ul style="list-style-type: none"> <li>▪ RDF/SRF will be stored within a bay of reinforced concrete walls with 1m freeboard. Flame detection will be located within the bay, as well as a sprinkler system with high density and output head.</li> <li>▪ All other material will be stored in bays within the building with a separation distance of 6m.</li> </ul>	Yes

Control moisture levels	<ul style="list-style-type: none"> <li>▪ The facility has been designed to accept and process mixed dry waste. Moisture in the end products reduces their quality therefore moisture levels will be strictly controlled.</li> <li>▪ All material will be stored within a building, and therefore moisture levels will be more stable than external storage.</li> </ul>	Yes
Store material in largest form prior to processing	<ul style="list-style-type: none"> <li>▪ Input wastes may be received in a variety of forms therefore this is beyond the operator's control. However, material will be inputted into the process within 24 hours of receipt, so the risk of combustion is minimised.</li> </ul>	Yes
Provide shading from direct sunlight	<ul style="list-style-type: none"> <li>▪ All material will be stored within the building with no transparent roof lights, and therefore will be shaded from direct sunlight. There will be no sources of heating within the building therefore preventing ignition sources from this process.</li> </ul>	Yes
Mark any hazardous or combustible materials on site plan	<ul style="list-style-type: none"> <li>▪ Pre-acceptance procedures will be maintained to ensure that only permitted waste codes, which do not include hazardous wastes, are accepted into the site.</li> </ul>	Yes

6.37 The SRF will be continually turned and blended to ensure that the moisture and calorific value of the material meets the specification of the end user. The material will only be stored for 5 working days and will be dispatched on a daily basis to ensure that there is sufficient capacity in the storage bay to ensure the processing of waste can continue. The other materials, such as paper, card, plastic, and metals will be also turned round quickly with bales only being stored on site for 1 month.

6.38 Any baled material will be stacked in piles created of rows and will have a maximum height of 4m or 4 bales (whichever is lower). This will allow the dispatch of bales from one side of the stack and storage on the opposite side. This will ensure the dispatch of the oldest materials first. The dispatch of materials will be monitored and recorded by the site manager in the site diary.

6.39 Stock capacity will be maintained in accordance with the permitted storage limits. The site manager will regularly review the quantities of materials on site and will ensure their dispatch prior to maximum limits being reached.

### Actions in the Event of a Fire

6.40 Table 6.9 below details the measures required by the NRW Guidance Document ‘Guidance No.16 Fire Prevention and Mitigation plan’

**Table 6.9 Actions in the Event of a Fire**

Factor	Mitigation Measures Employed	Meets FPP Guidance?
A firefighting strategy must be included within the fire prevention plan	<ul style="list-style-type: none"> <li>▪ A ‘Fire Response Procedure’ is included in Appendix B.</li> <li>▪ All site staff will be trained in the Fire Emergency Response Procedure</li> </ul>	Yes
Provision of portable fire extinguishers	<ul style="list-style-type: none"> <li>▪ Firefighting equipment will be maintained on site in accordance with fire regulations, including portable fire extinguishers.</li> <li>▪ All site staff will be fully trained in the Fire or Explosion Response Procedure and in the use of firefighting equipment. All escape routes, fire exits, alarm call points, and fire extinguishers will be kept clear and free from waste at all times.</li> </ul>	Yes
Materials stored in a building will require a fire suppression system. This system should be proportionate to the nature and scale of waste management activities carried out. Materials must be kept a minimum of 3m below the level of the spray or sprinklers.	<ul style="list-style-type: none"> <li>▪ Fire suppression will include a dry sprinkler system at roof level and intermediate levels with an additional deluge sprinkler system installed to the zones around the pre-shredder and secondary shredders.</li> <li>▪ There shall be 4 No. fire hydrants installed around the perimeter of the SRF building as shown on Drawing 20001-402 in Appendix E.</li> <li>▪ Portable fire extinguishers will be installed to the full facility to BS 5306 Part 8.</li> <li>▪ There shall be eight wash down hose reels installed throughout the facility primarily for washing down purposes, however these may also be used to extinguish small fires and allow early suppression of larger fires.</li> </ul>	Yes
Installation of secondary and tertiary containment to prevent fire-water	<ul style="list-style-type: none"> <li>▪ Any runoff from external firefighting will be directed via interceptors to the surface water crates.</li> </ul>	Yes

Factor	Mitigation Measures Employed	Meets FPP Guidance?
run-off polluting the local receiving environment.	<ul style="list-style-type: none"> <li>▪ Under normal circumstances the water would then pass at a controlled rate to the off-site surface water drainage system.</li> <li>▪ In the event of a fire, the site operational procedure shall include closing the penstock valves located on the foul and storm drainage outlet pipes and ensuring that flood barriers are installed at the site access/egress locations.</li> <li>▪ The site design included reinforced concrete walls on the lower boundaries to capture fire water. This will allow the external surfaced area as well as the building footprint to act as the containment area for any fire water from firefighting. Dwarf kerbs are located between the HGV access/egress locations.</li> <li>▪ Given that all of the processing equipment is generally elevated, the risk of flooding equipment is not likely.</li> <li>▪ In order to remove any contained fire water from the site, tankers will be brought to site to extract the fire water from the drainage system. The lines will then be jetted to ensure they are clean. The site grounds will then be cleaned over with any surface water collected and removed. Burnt remains will be removed and disposed of offsite at an appropriately licensed facility. All of the above measures will be taken before the site can become operational again.</li> </ul>	
Water supply Volume available, rate of supply and location to site	<ul style="list-style-type: none"> <li>▪ The fire suppression systems at the NMP facility will be served by a 1,450m<sup>3</sup> sprinkler tank. The sprinkler tank will provide water for 120 minutes system operation in a fire condition.</li> <li>▪ A year-round supply of water will be available to suppress fire; this will be stored in the sprinkler tank and will supply water to the sprinkler and deluge systems.</li> </ul>	Yes

Containment of fire water volume	<ul style="list-style-type: none"> <li>▪ Firewater will be recycled and reused wherever possible.</li> </ul>	Yes, based on alternative measures proposed
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- 6.41 Firefighting equipment will be maintained on site in accordance with fire regulations.
- 6.42 All site staff will be trained in the Fire Emergency Response Procedure in Appendix B and in the use of firefighting equipment. Training records will be maintained in accordance with the Facilities' Management System. The Fire Emergency Response Procedure is incorporated within the site's Environmental Management System. In the event of a fire, Fire Rescue Services will enter the site via either the HGV entrance or exit. Barriers to the entrance points can be manually opened so as not to prevent access. Upon Arrival, a fire warden / senior member of staff will meet the Fire Service at the exit gate and will direct them to the location of the fire.
- 6.43 Any incidents of fire will be reported to the Natural Resource Wales and recorded in the site diary including the outcome of any root-cause investigations.
- 6.44 Unburnt/ burning material will be separated using on-site machinery where the level of risk permits this activity, and where possible moved to the designated quarantine area.
- 6.45 Water will be applied to fire and unburnt material for cooling if the level of risk permits these actions.
- 6.46 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.
- 6.47 In the event of a fire, waste will not be accepted onto site. Contingency arrangements are in place whereby waste is diverted directly to the Oakleaf Materials Recovery Facility.
- 6.48 A summary of the mitigation measures that will be continuously implemented at the facility include:
- Prevention of fires through:
    - The control of ignition through making the area a no smoking zone, the installation of fire detection and suppression equipment, including sprinklers. No space heaters or lighting in close proximity to the SRF stockpile; and
    - Dedicated flame detectors focused on the SRF stockpile 24 hours per day;
  - Prevention of self-combustion through;
    - Short storage times;
    - Low moisture levels in the SRF; and
    - Daily turning and mixing of the SRF;
  - The removal of the SRF from the site is not subject to seasonality and is removed from the site on a constant basis;
  - Reinforcement of fire prevention messages using appropriate signage;

- Ensuring staff and contractors follow safe working practices when undertaking hot works/maintenance;
- Regular maintenance and inspection of all areas of the site;
- Site vehicles fitted with fire extinguishers and dust filters, and rubber strips fitted to buckets where applicable;
- Gas containers, fuels, or other flammable items to be kept in an isolate location;
- Building electrics fully certified by a qualified electrician, with a documented maintenance schedule in place; and
- The provision of firefighting equipment at strategic points around the facility.

### **Abnormal Operating Conditions**

- 6.49 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.
- 6.50 Periods of very warm weather can increase the risk of fire. During these periods, additional site inspections and monitoring will take place.
- 6.51 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 Table 6.7 above. During maintenance operations, additional inspections shall take place.

### **Records and Recording**

#### **Records Keeping**

- 6.52 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.
- 6.53 All records of events and actions taken will be retained as required by the Environmental Permit.

#### **Notifying Natural Resources Wales**

- 6.54 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 (0300 0653000). Following the incident, the Site Manager will advise what remedial measures or actions have been taken to prevent further incidents.

**Fire Prevention Plan Review**

- 6.55 This Fire Prevention Plan will be reviewed and updated by senior management following construction and every 4 years afterwards or immediately following any major fire incident / event.
- 6.56 Any technical and managerial changes on site will also initiate a review of the Fire Prevention Plan to ensure that the control techniques remain appropriate for the site.
- 6.57 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.

<b>SITE DETAILS</b>		
<b>Location:</b> Nine Mile Point Waste Processing Facility, Nine Mile Point Industrial Estate, Cwmfelinfach, Caerphilly		
<b>Postcode:</b> NP11 7HZ		
<b>Site Access Grid Reference:</b> ST 19235 91305		
<b>SITE CONTACTS</b>	<b>Office Hours (Specify)</b>	<b>Out of Hours</b>
<b>General Manager:</b>	Head Office: (9am-5pm)	
<b>Site Manager:</b>	Head Office: (9am-5pm)	
<b>Site Supervisor:</b>	Head Office: (9am-5pm)	
<b>Security Contact:</b>	TBC	
<b>EMERGENCY SERVICES</b>	<b>Office Hours</b>	<b>Out of Hours</b>
<b>Emergency</b>	999	999
<b>Medical</b>	111/999	111/999
<b>Police</b>	999	999
<b>Fire</b>	999	999
<b>REGULATORS</b>	<b>Office Hours (Specify)</b>	<b>Out of Hours</b>
<b>Health and Safety Executive (HSE)</b>	Incident Contact Centre: 0345 300 9923 (Mon-Fri: 8.30am-5pm)	0151 922 9235
<b>Local Authority:</b> Caerphilly County Borough Council	Main Switchboard: 01443 815588 (Mon-Thurs: 8.30am-5pm, Fri: 8.30am-4.30pm)	<b>01443 875500</b>
<b>Natural Resources Wales</b>	0300 0653000 and select option one to connect with the environmental incident report line and speak with one of the operators (24hrs)	0300 0653000 and select option one to connect with the environmental incident report line and speak with one of the operators
<b>UTILITY &amp; KEY SERVICES</b>	<b>Office Hours (Specify)</b>	<b>Out of Hours</b>
<b>Water Provider:</b> Welsh Water	General Enquires: 0800 052 0145 (Mon-Fri: 8am-6pm, Sat:9am-1pm)  Water Emergencies: 0800 052 0130 (24hrs)	0800 052 0130

<b>Sewerage Provider:</b> Welsh Water	Sewer Flooding & Sewerage Emergencies: 0800 085 3968 (24hrs)	0800 085 3968
<b>Gas Supplier:</b>	N/A	
<b>Electricity Supplier:</b> Western Power Distribution	General enquiry: 0800 0963 080 (Mon-Fri: 8am-5pm)  Emergency Information: 0800 6783 105	0800 6783 105
<b>Oil Supplier:</b>	N/A	
<b>Fuel Supplier:</b>	TBC	
<b>Chemical Supplier:</b>	N/A	
<b>Oil Spill Contractor:</b>	TBC	
<b>Electrician:</b>		
<b>Plumber:</b>		
<b>Locksmith:</b>		
<b>Joiner:</b>		
<b>OTHER KEY CONTACTS</b>	<b>Office Hours (Specify)</b>	<b>Out of Hours</b>
<b>Head Office:</b>	(9am-5pm)	
<b>Adjacent Landowners:</b> <ul style="list-style-type: none"> <li>▪ Curtiss Wright</li> <li>▪ MöllerTech Ltd</li> </ul>	Curtiss Wright: 01495 202000 (9am-5pm)  MöllerTech Ltd: 01495 200044 (9am-5pm)	
<b>Neighbours:</b>	As Above	
<b>Specialist Advisors</b>	N/A	

## Appendix B- Fire Response Procedure

The below outlines the fire event procedure that will be undertaken:

- Activation of the fire alarm sounders and beacons via flame detection, heat/smoke detectors or manual call point;
- All processing equipment will stop immediately;
- Staff begin evacuation procedure to the fire assembly point;
- If a staff member has witnessed the fire, and when safe to do so, the staff member will report location of fire to senior management. For example, this could be the operator of the 360 grab who has identified a fire in the pre-shredder – contact could be made via site radio system;
- Trained Fire Wardens investigate if there is a fire and scale of fire. The location of the fire will be confirmed by checking the fire control panel;
- Trained Fire Wardens will extinguish the fire if safe to do so. Fire Wardens will contact the Fire & Rescue Service immediately if scale of fire is deemed too excessive. Upon Arrival, a fire warden / senior member of staff will meet the Fire Service at the exit gate and will direct them to the location of the fire.
- Fire Wardens will manually activate the deluge sprinkler system if the fire is located within a deluge zone, and it has not been activated automatically;
- Fire Wardens will ensure that evacuation of staff is complete; and
- Penstock valves on outlet drainage pipes are closed and flood barriers are installed at site access/egress points.

The site will be occupied 24 hours a day, 7 days a week with the exception of short Christmas holidays. This will reduce the risk of false alarms being sent to the Fire and Rescue Service.

When the site is closed, The Site Manager will notify the insurance companies. If a fire occurred during the site closure, an automatic signal will be sent to the Fire and Rescue Service and all keyholders for the site.



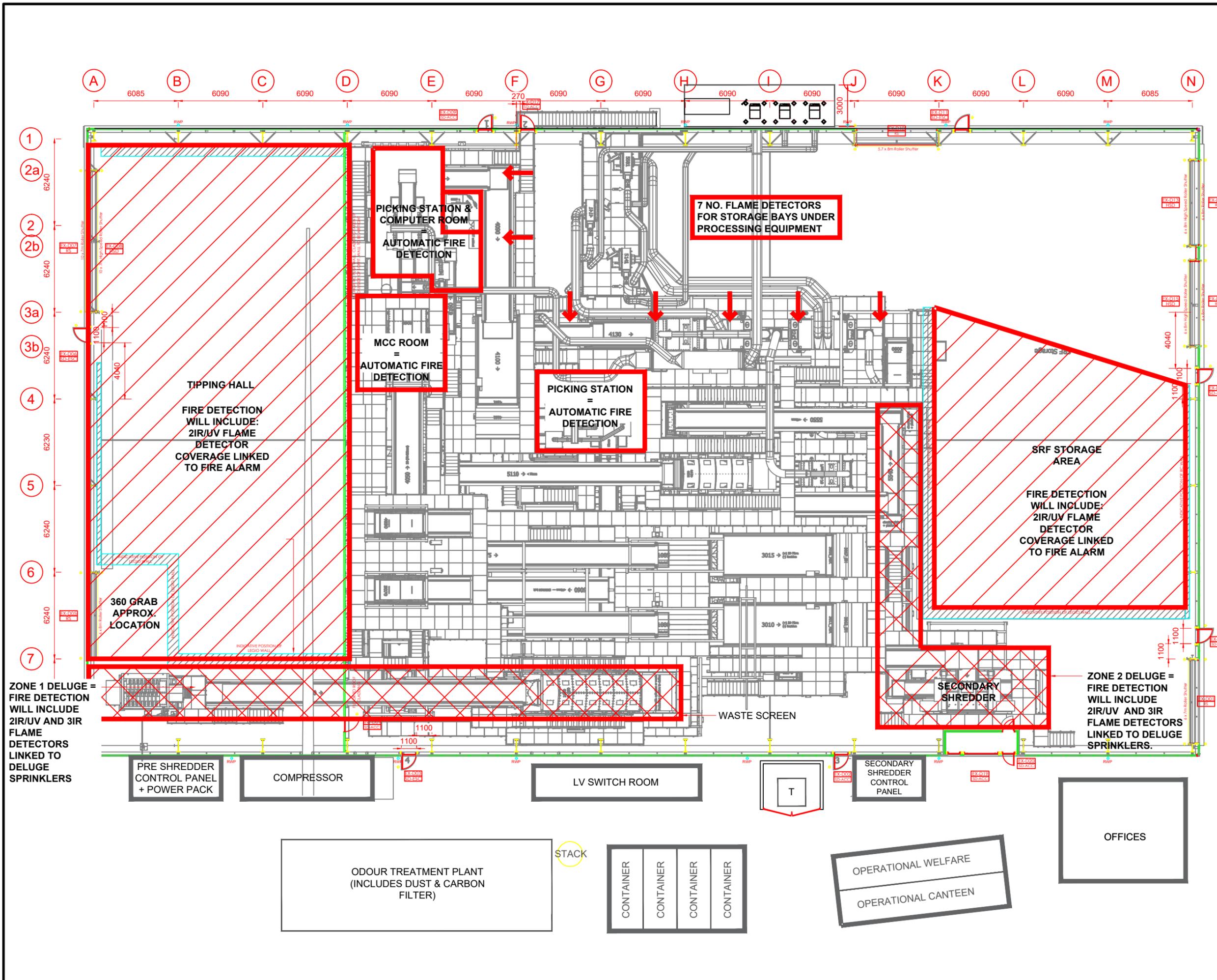


## Appendix E- Drawings



SPRINKLER SYSTEMS INCLUDE:

- ROOF LEVEL SPRINKLER SYSTEM
- INTERMEDIATE OVER/UNDER CONVEYOR SPRINKLER SYSTEM
- ZONE 1 DELUGE SPRINKLER SYSTEM
- ZONE 2 DELUGE SPRINKLER SYSTEM



REVDATE	DESCRIPTION	DRN	CKD
FOR PERMIT			

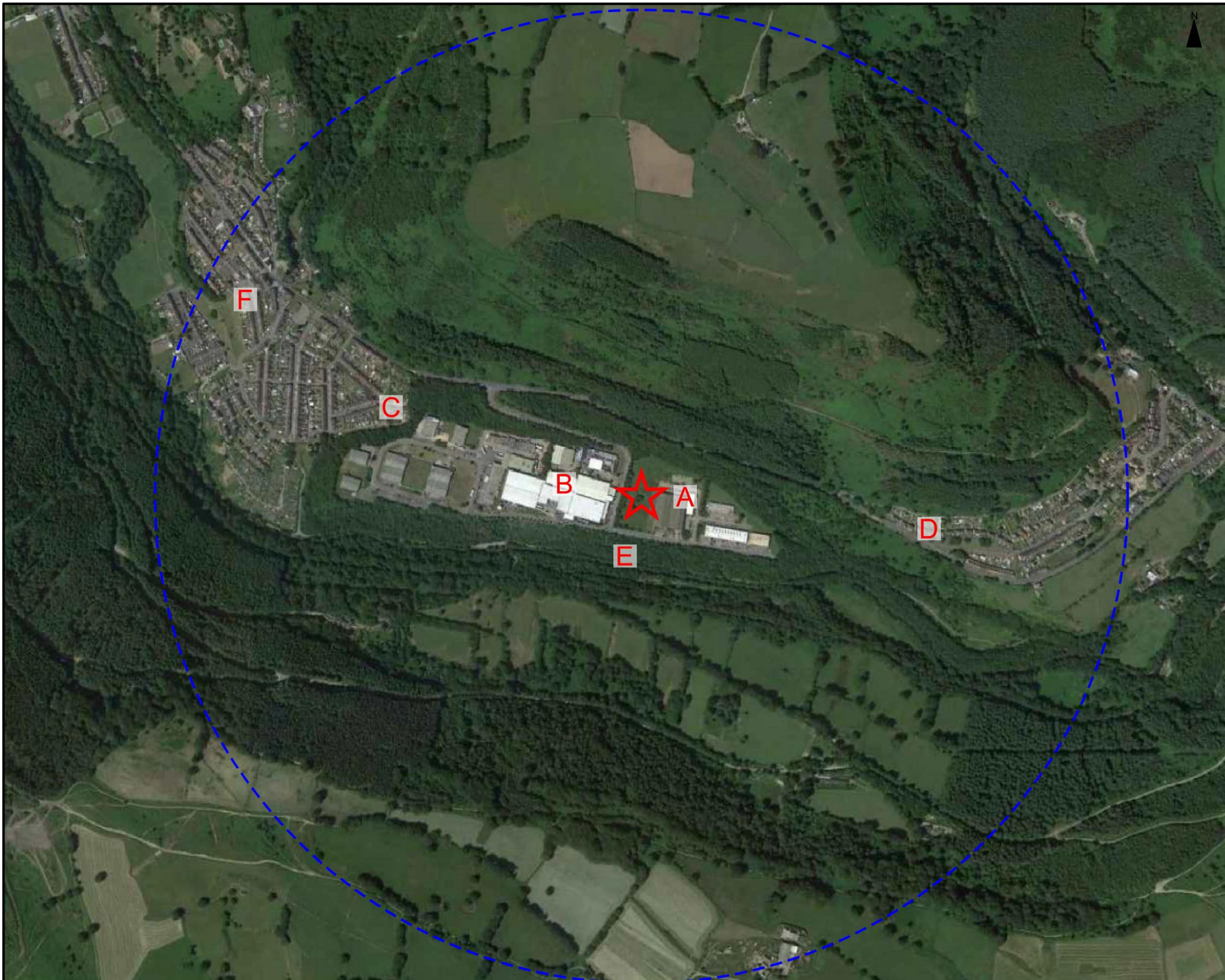
# Taggarts

CLIENT	NINE MILE POINT
CONTRACT	NINE MILE POINT
DRAWING	FIRE PREVENTION PLAN

SCALE	1:250 @ A3	DATE	NOV 2021
DRAWN	WS	CHECKED	RY
DRG No.	20001-404	REVISION	

Architects  
Civil Engineers  
Waste & Energy  
Project Managers

23 Bedford Street  
Belfast  
BT2 7EJ  
t: 028 9066 2121  
e: info@taggarts.uk  
f: www.taggarts.uk



**LEGEND**

- ★ SITE LOCATION  
ST 19220 91302
- A COMMERCIAL RECEPTOR  
ST 19321 91309
- B COMMERCIAL RECEPTOR  
ST 19116 91312
- C RESIDENTIAL RECEPTOR  
ST 18751 91473
- D RESIDENTIAL RECEPTOR  
ST 19742 91248
- E SIRHOWY RIVER
- F SCHOOL  
ST 18427 91774
- 1KM BUFFER ZONE

REV	DATE	DESCRIPTION	DRN	OKD
FOR PERMIT				



CLIENT  
NINE MILE POINT

CONTRACT  
NINE MILE POINT

DRAWING  
SENSITIVE RECEPTORS

SCALE	1:500 @ A3	DATE	SEPT 2022
DRAWN	KB	CHECKED	RY
DRG No.	20001-405	REVISION	A

<p>Architects Civil Engineers Waste &amp; Energy Project Managers</p>	<p>23 Bedford Street Belfast BT2 7EJ t: 028 9066 2121 e: info@taggarts.uk f: www.taggarts.uk</p>
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