# Crown Transfer Station 2

## Fire Prevention Plan

Report No. K4554-BLP-R-ENV-00010

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# Document Control

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# 1 Introduction

## 1.1 Report Objectives

This Fire Prevention and Mitigation Plan (FPMP) supports a bespoke permit application by Crown Waste Management Limited (the Operator) at Crown Waste Transfer 2, Pool Road Industrial Estate, Pool Road, Nuneaton, CV10 9AE (the Site). The Site proposes to operate as a Waste Transfer Station.

This FPMP has been prepared in accordance with the following guidance:

- Environment Agency's web-based guidance 'Fire Prevention Plans: Environmental Permits' (Jan 2021) (Agency guidance)[1].
- Waste Industry Safety and Health Forum (WISH) Waste 28, Reducing Fire Risk at Waste Management Sites (Issue 3, March 2020) (Waste 28)[2].
- RDF Industry Group. Residual Waste Fire Prevention Plan Guidance (June 2019).
- Water UK National guidance document on the provision of water for fire fighting (Issue 3, January 2007).

The objective of the FPMP is to set out suitable measures to be implemented at the Site which:

- minimise the likelihood of a fire happening;
- aim for a fire to be extinguished within 4 hours; and
- minimise the spread of fire within the Site and to neighbouring Sites.

This FPMP is a standalone document which forms part of the Crown Waste Management Limited Environmental Management System (EMS). Procedures are in place to ensure all staff and contractors working at the Site understand the contents of the FPMP and follow the procedures of identifying and preventing fire hazards and what to do in the event of a fire.

A copy of the FPMP will be kept on Site and made available to all staff members such that it is easily accessible in the event of a fire. All staff shall be notified of the location of the FPMP.

[1] https://www.gov.uk/government/publications/fire-prevention-plans-environmental-permits/fire-prevention-plans-environmental-permits
[2] https://www.wishforum.org.uk/wish-guidance/

# 2 Site Activities and Operations

## 2.1 Site Location

The Site is located 1.5km west of Nuneaton; primary access to the Site is from Pool Road to the South of the Site. The Site is centred on an approximate National Grid Reference of SP 34686 92298 and is located within Pool Road Industrial Estate which comprises predominantly industrial businesses. Crown Waste operate their principal waste transfer site and head office to the south within Pool Road Industrial Estate.

## 2.2 Site Operations

The Site proposes to operate as a satellite of the currently permitted Waste Transfer Station (WTS1) operated within Pool Road Industrial Estate by the Operator under existent permit reference EPR/EP3192FU. The proposed Waste Transfer Station (WTS2) site will store baled plastic, cardboard, wood, soils & stones, general mixed waste, metal, green waste, and plasterboard. The Operator proposes to treat construction and demolition wastes to produce a saleable aggregate via a hopper, screener and picking station. The Site also provides skip and vehicle storage.

All wastes are received in accordance with the waste acceptance procedures detailed in the Site's Technical Standards.

The Site will accept approximately 75,000 tonnes per annum of non-hazardous waste.

## 2.3 Site Layout and Drainage

Steel palisade fencing and chain-link fencing bounds the entire Site. Approximately 10 m from the northern site boundary and 20 m from the eastern site boundary is a U-shaped contained area for the waste treatment and storage activities. The containment area is constructed of 3.2 m high concrete lego block walls and 3 m of steel sheet cladding upon the wall. Three storage bays are constructed with 3 m high concrete walls within the U shape containment area. Three additional storage bays constructed with 3 m high concrete walls are located northeast and east of the Site. Four storage bays with 2 m high concrete walls are located in the centre of the Site. A plasterboard skip and quarantine skip are located southwest of the Site.

The Site occupies approximately 0.5 hectares of land, with all waste storage and treatment areas located on concreted hardstanding with sealed drainage. A drainage system is already in place onsite for the western yard. Surface water drains via falls in the concrete which in turn drains into an interceptor to the foul water system in Pool Road. A silt trap is located across the Site entrance which collects and diverts drainage to the existing foul water system. The interceptors contain shut off valves that can be operated in the event of a spillage or for containment of any surface water. An aco channel will be constructed in the eastern yard and will also connect to the interceptor.

The drainage of the Site is shown on the Indicative Site Drainage Plan (Ref: 4554/4/003).

# 3 Risk of Fire

## 3.1 Types of Combustible Material on Site

The following combustible materials are stored on Site:

- Plastic Bales
- General mixed waste
- Cardboard
- Wood
- Scrap metal
- Plasterboard

## 3.2 Operations and Combustible Waste Storage Capacities

Site Operations are specified in Section 2.2 of this FPMP. Waste will be weighed in, registered and checked at the permitted WTS1. Incoming waste from the permitted WTS1 will be delivered through the entrance gate and deposited in the appropriate storage area at the Site (WTS2). Formal storage bays, two / three metres in height and of concrete construction, within the concrete yard area will be used to store waste. A 8-yard skip will be used for plasterboard and a 14-yard skip for quarantined waste.

The Site will store baled plastic, cardboard, wood, soils & stones, general mixed waste, metal green waste, and plasterboard. The Site also provides skip and vehicle storage. The proposed treatment activities will be limited to treatment of construction and demolition wastes to produce a saleable aggregate via a hopper, screener and picking station.

The operational maximum storage capacity of each waste stream on Site is summarised in Table 1 below.

| Waste Stream | Dimensions (Height, width & length) | Maximum Storage Volume ($m^3$) | Storage | Combustible / Non-combustible |
|---|---|---|---|---|
| General mixed waste | 2 m x 4 m x 4 m | $32m^3$ | Concrete Bay | Combustible |
| Plasterboard | 8 yard Skip | $6.1m^3$ | Skip | Combustible |
| Cardboard | 2 m x 4 m x 4 m | $32m^3$ | Concrete Bay | Combustible |
| Baled Plastic | 3 m x 7 m x 4 m | $84m^3$ * | Concrete Bay | Combustible |
| Scrap Metal | 3 m x 5 m x 4 m | $60m^3$ | Concrete Bay | Combustible |
| Wood | 2 m x 4 m x 4 m | $32m^3$ | Concrete Bay | Combustible |
| Green | 3 m x 7 m x 4 m | $84m^3$ | Concrete Bay | Combustible |

| Waste Stream | Dimensions (Height, width & length) | Maximum Storage Volume ($m^3$) | Storage | Combustible / Non-combustible |
|---|---|---|---|---|
| Soils | 3 m x 8 m x 4 m | $96m^3$ | Concrete Bay | Non-combustible |
| Quarantine Skip | 14-yard skip | $10.7m^3$ | Skip | Combustible |
| Discrete Loads | 3 m x 2 m x 4 m | $24m^3$ | Concrete Bay | Combustible |

Table 1. Maximum Storage Capacities of each Waste Stream

The height of the waste in the storage bays are dictated to by the height of the storage bays with the allowance of a freeboard height of 1 m for combustible wastes.

The stockpile sizes are the design maximum, however, it is unlikely the material will be stored consistently at this volume as the material is sorted and transferred off-Site. The final storage volumes are therefore likely to be lower.

## 3.3 Types of Flammable Materials on Site

Flammable materials are those which have the potential to be easily ignited and cause combustible wastes to combust. These are not considered combustible wastes as defined in the Agency guidance and are therefore not part of the FPMP but have been identified in Table 2 and included as a potential cause of a fire as an ignition source.

| Flammable material | Storage |
|---|---|
| Diesel Oil | 5000 litres bunded tank on impermeable concrete surface with sealed drainage |

Table 2. Storage of Flammable Materials on Site

All flammable materials including fuels and oils are stored in Site in accordance with the Oil Storage Regulations (The Control for pollution (Oil Storage) (England) Regulations 2001)[3].

## 3.4 Processing and Storage of Combustible Materials on Site

Externally stored wastes are stored in bays separated by concrete lego blocks or A frames. The concrete blocks and precast concrete panels are classified as Class A1 non-combustible material. Each concrete block is fire resistant to at least 6 hours in accordance with BS 5623-3 (since replaced by BS EN 1996-1-2: 2005: Eurocode 6. Design of masonry structures. General rules. Structural fire design). As stated above all fire walls are classified as Class A11 fire resistant and provide fire resistance for over the minimum required 120 minutes. Concrete is identified in the Fire Prevention Plan Consultation Response produced by BRE2 to be a suitable material to use as firewalls. The 'Waste 28' guidance on reducing

[3] https://www.legislation.gov.uk/uksi/2001/2954/contents/made

fire risk at waste management sites specifies that's 300 mm thick concrete provides adequate fire resistance.

All of the wastes once sorted are deposited in designated stockpiles that allow for a 'first in, first out' procedure to be operated. This ensures that older wastes are transferred off-Site prior to the newer waste materials however wastes are usually transferred off-site within a week. The incoming wastes are required to be bulked and transferred off-site within the maximum storage times provided in Table 3 below.

| Waste Stream | Maximum Storage Time |
|---|---|
| Metals | Two weeks |
| Cardboard | One month |
| Green waste | One day |
| General mixed waste | One week |
| Plasterboard | Once full |
| Wood | One week |
| Baled Plastic | One month |
| Quarantine Waste | 48 hours |

Table 3. Maximum Storage Times for Combustible Waste Streams

The Fire Prevention Plan (Drawing Ref: 4554/4/003) shows the location of the stored wastes.

A quarantine skip is located to the southwest of the Site for non-permitted wastes. The location of the quarantine skip is shown on the Site Layout Plan.

A 6 metre separation distance is in place between the open front of the external waste storage bays, the storage pad, the skips, the quarantine area and fixed plant. 6 m separation distances, the freeboard heights for the external waste storage bays (where applicable), and quarantine area will be inspected on a daily basis prior to operations commencing on Site and periodically during the day. Constant housekeeping will be employed to ensure separation distances are maintained for fire prevention and to ensure access to the storage bays.

Storage controls are discussed in Section 4.5.

## 3.5 Causes of a Fire

The potential causes of a fire specific to the proposed activities on this Site and the measures employed to prevent them are identified with reference to Agency guidance and 'Waste 28' as summarised below.

- Arson or vandalism
- Self-combustion of stored waste materials
- Plant or equipment failure
- Naked lights
- Electrical Faults

- Discarded smoking materials
- Hot exhausts
- Hot works, e.g., welding, cutting
- Industrial heaters
- Neighbouring Sites activities
- Batteries from ELVs
- Leaks and spillages of oils and fuels
- Build-up of loose combustible waste
- Ignited materials received at the Site
- Reactions between incompatible wastes/materials
- Deposited hot loads

'Waste 28' identifies that the most likely causation of fires based on data from sites reporting fires/smoulders suggest that 38% was caused by the acceptance of hot or hazardous materials accepted at sites (i.e. lithium batteries). 25% of fires were caused by self-heating. Despite the data any of the causes detailed above have the potential to ignite the combustible waste types stored at the Site.

The consequences of a fire are discussed below.

## 3.6 Effects of a Fire

The effects of a fire may be both immediate and long term, presenting a significant burden for the operator and regulatory agencies. The potential consequences of a fire are reviewed below with reference to Agency guidance and 'Waste 28':

- Firewater run-off transporting pollutants to surface water and groundwater;
- Thermal radiation harming nearby properties leading to fire spread;
- Creation of hazardous waste by the fire and impacts of firefighting;
- Explosions and projectiles harming sensitive receptors and spreading the fire to unaffected areas;
- Transport disruption resulting from road and rail closures;
- Nuisance from smoke, odour and particulates; and
- Threat to life and property.

## 3.7 Receptors

The potentially sensitive receptors within 1km have been considered with regards to their type (i.e. residential, commercial, industrial, agricultural etc.), distance from the Site boundary, direction from the Site and the location of the receptor relative to the prevailing wind direction.

Wind speed and directional data has been obtained for the Nuneaton weather station located approximately 1.9 km to the northwest of the Site. Statistical data has been obtained from Coleshill weather station. Both are presented in Figure 1[4] and Figure 2[5] below. The prevailing wind direction is from the south southeast (22.09%).

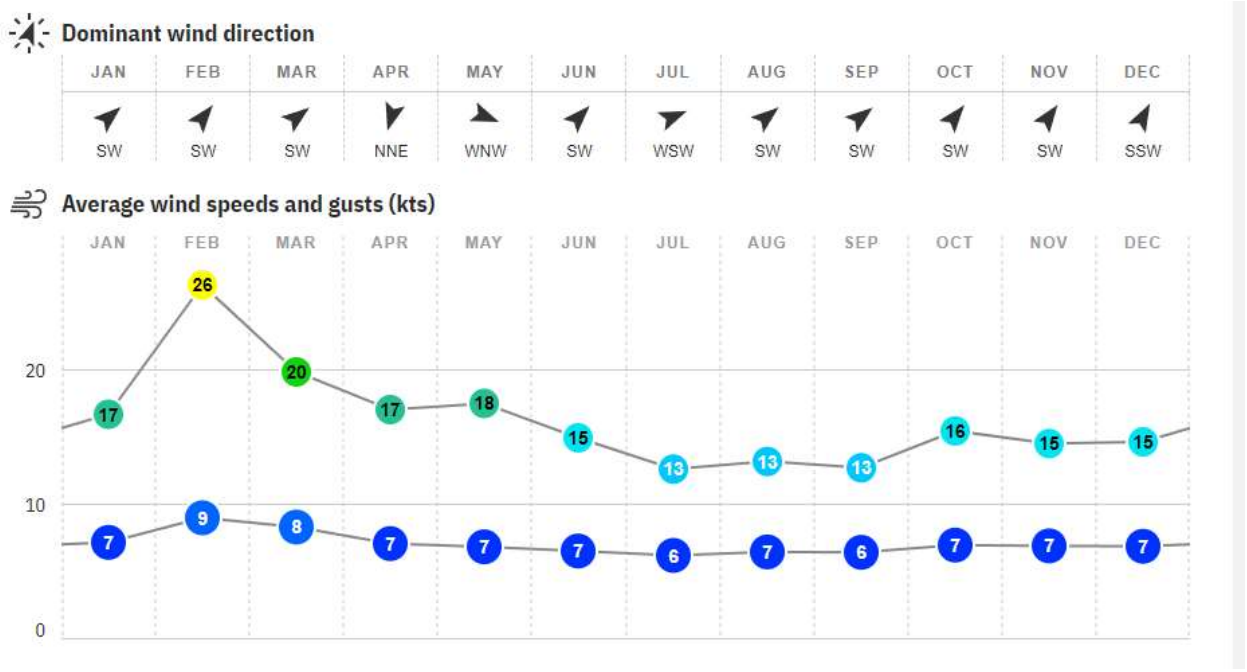



Figure 1. Wind Statistics for Coleshill Weather Station

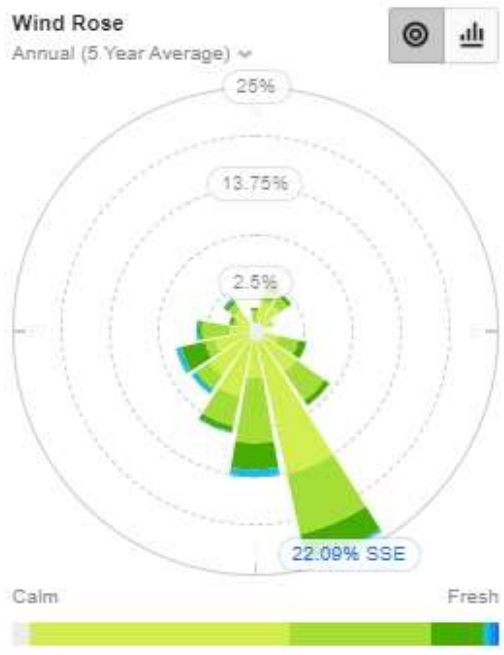



Figure 2. Wind Rose for Nuneaton Weather Station

[4] https://www.windfinder.com/windstatistics/coleshill
[5] https://wind.willyweather.co.uk/wm/warwickshire/nuneaton.html

The sensitive receptors within a 1km radius of the Site have been identified and are presented in Table 4 below. The location of the receptors can be seen on the Sensitive Receptor Plan (drawing ref: 4554/4/001B). Examples of sensitive receptors considered include:

- Schools, hospitals, nursing and care homes, residential areas, workplaces
- Protected habitats, watercourses, groundwater, boreholes, wells and springs supplying water for human consumption
- Roads, railways, bus stations, pylons (on or immediately adjacent to the Site only), utilities, airports.

The Site surface (including those areas where combustible material is stored) is covered by impermeable concrete with drainage that directs surface water flow, via an interceptor, to foul sewer on Pool Road. Kerbs will also be installed around the perimeter. The system contains shut off valves that can prevent discharge from Site should a spillage occur, or to prevent the escape of firewater.

| Number | Receptor | Description | Distance from Site | Direction from Site | Freq. of Prevailing Wind |
|---|---|---|---|---|---|
| 1 | Bar Pool Brook | Watercourse | <10 | N | 13.6 |
| 2 | Ennell Road / Arrow Road | Road | 96 | N | 13.6 |
| 3 | Properties off Willow Road | Residential | 140 | N | 13.6 |
| 4 | Holly Stitches Dell | Local Wildlife Site | 151 | N | 13.6 |
| 5 | Coastal and Floodplain Grazing Marsh | Protected Habitats | <10 | NNW to NE | 22.1 to 7.2 |
| 6 | Arleigh Internation / Midland Chandlers Head Office | Commercial | 51 | NNE | 9.8 |
| 7 | Unamed Pond | Waterbody | 132 | NNE | 9.8 |
| 8 | Tuttle Hill | Road | 362 | NNE | 9.8 |
| 9 | Residential Properties off Corrib Road | Residential | 128 | E | 5.5 |
| 10 | Coventry Canal | Watercourse | 195 | ESE | 2.5 |
| 11 | Pool Road Industrial Estate | Commercial / Industrial | <10 | E to W | 5.5 to 0.7 |
| 12 | Railway Line | Railway | 187 | SE | 3.6 |
| 13 | Playing Fields | Recreational | 248 | SE | 3.6 |
| 14 | MacIntyre's Discovery Academy | School | 355 | SE | 3.6 |
| 15 | Allotment Gardens | Recreational | 168 | S | 2.1 |
| 16 | Properties off Vernons Lane / Black - A - Tree Road | Residential | 227 | S | 2.1 |

| Number | Receptor | Description | Distance from Site | Direction from Site | Freq. of Prevailing Wind |
|---|---|---|---|---|---|
| 17 | Pool Road | Road | <10 | S | 2.1 |
| 18 | Hilary Road | Road | 155 | WSW | 1.8 |
| 19 | Properties off Hilary Road / Mapel Road | Residential | 166 | WSW | 1.8 |
| 20 | Whittleford Park and Barpool Valley | Local Wildlife Site | 110 | NW | 8.6 |
| 21 | Judkins Quarry Complex – HWRC & Bio-Waste Facility | Industrial | 485 | NE | 7.2 |
| 22 | Camp Hill Primary School and Early Years Centre | School | 550 | NW | 8.6 |
| 23 | St Anne's Catholic Acadamy | School | 950 | NW | 8.6 |
| 24 | Stockingford Community Centre | Recreational | 915 | SE | 3.6 |
| 25 | Stockingford Medical Centre | Medical Centre | 710 | SSW | 4.4 |
| 26 | Croft Junior School | School | 890 | SSW | 4.4 |
| 27 | Queen's Church of England Academy | School | 700 | SE | 3.6 |
| 28 | The Benedictine priory and precinct of St Mary | Scheduled Monument | 605 | E | 5.5 |
| 29 | Manor Court Site | Hospital | 685 | E | 5.5 |
| 30 | Abbey Church of England Infant School | School | 890 | E | 5.5 |
| 31 | Good Quality - semi improved grassland | Protected Habitats | 880 | WSW | 0.7 |

Table 4. Potential Sensitive Receptors within 1km

A summary of these impacts and how they may affect specific receptors is detailed in Table 5.

## 3.8 Hazard and Pathway

The Site is located within Pool Road Industrial Estate which is an area predominantly occupied by industrial and commercial activities. There are residential properties located approximately 128 m to the east (at their closest point). The potential hazards of a fire at the facility and likely pathways to identified receptors are listed in Table 5 below. The sensitive receptors within 1 km are shown on the Site Receptor Plan and Site surface water drainage is shown on the Drainage Plan.

Bar Pool Brock is the closest watercourse to the Site located approximately <10m to the north.

| Receptor Location | | Hazard | Pathway |
|---|---|---|---|
| 1 | Bar Pool Brook | Explosions and projectiles harming sensitive receptors and spreading the fire to unaffected areas<br><br>Transport disruption resulting from road and rail closures<br><br>Nuisance / health impacts from smoke, odour and particulates.<br><br>Pollution of water courses from firewater.<br><br>Smothering of protected habitats due to smoke and particulates. | Airborne / Site Drainage |
| 2 | Ennell Road / Arrow Road | | |
| 3 | Properties off Willow Road | | |
| 4 | Holly Stitches Dell | | |
| 5 | Coastal and Floodplain Grazing Marsh | | |
| 6 | Arleigh Internation / Midland Chandlers Head Office | | |
| 7 | Unnamed Pond | | |
| 8 | Tuttle Hill | | |
| 9 | Residential Properties off Corrib Road | | |
| 10 | Coventry Canal | | |
| 11 | Pool Road Industrial Estate | | |
| 12 | Railway Line | | |
| 13 | Playing Fields | | |
| 14 | MacIntyre's Discovery Academy | | |
| 15 | Allotment Gardens | | |
| 16 | Properties off Vernons Lane / Black - A - Tree Road | | |
| 17 | Pool Road | | |
| 18 | Hilary Road | | |
| 19 | Properties off Hilary Road / Mapel Road | | |
| 20 | Whittleford Park and Barpool Valley | | |
| 21 | Judkins Quarry Complex – HWRC & Bio-Waste Facility | | |
| 22 | Camp Hill Primary School and Early Years Centre | | |
| 23 | St Anne's Catholic Acadamy | | |
| 24 | Stockingford Community Centre | | |
| 25 | Stockingford Medical Centre | | |
| 26 | Croft Junior School | | |
| 27 | Queen's Church of England Academy | | |
| 28 | The Benedictine priory and precinct of St Mary | | |
| 29 | Manor Court Site | | |
| 30 | Abbey Church of England Infant School | | |
| 31 | Good Quality - semi improved grassland | | |

Table 5. Relevant Hazard and Pathway

If a fire were to occur at the Site the fire / smoke emissions are likely to result in an impact in terms of:

- Damage to buildings from explosions or projectiles resulting from the fire;
- Degradation of health to the public, workers in nearby factories or emergency services;
- Physical prevention of access to buildings and businesses downwind of the fire due to fire or smoke hazard. The degree of this impact will decrease with distance from the fire;
- Disruption to normal business operations due to employees / customers being unable to reach places of work;
- Infiltration of smoke into the ventilation systems of adjacent warehouses;

- Potentially hazardous travelling conditions (loss of visibility) arising on transport links downwind of the fire;
- Loss of amenity to domestic receptors downwind of the fire.

## 3.9 Hazard and Risk Management

In the event of a fire the sensitive receptors identified to the east have the greatest potential to be affected by smoke from the Site. Furthermore, the sensitive receptors identified adjacent to the Site boundary have the potential to be affected by fire from the Site.

The management of hazards through the Site management procedures detailed within Section 4 and 5 of this FPMP will aid in reducing the risk from the Site to the surrounding receptors.

# 4 Risk Reduction

## 4.1 Procedures for Common Causes of Fire

The potential causes of a fire specific to the activities on this Site and the measures employed to prevent them are identified with reference to Agency guidance and 'Waste 28' as summarised below.

### 4.1.1 Arson or Vandalism

The Site is required to provide site security measures to ensure unauthorised access does not lead to the potential for arson or vandalism which may lead to a fire. The following security measures are in place to prevent unauthorised access to the Site.

The Site Perimeter comprises the following:

- Security fencing surrounds the Site;
- 3.2 m high concrete lego block walls and 3 m of steel sheet cladding upon the wall on the northwestern boundary;
- The externally stored wastes bays are constructed out of concrete block walls.
- The boundary of the Site is shown on the Fire Prevention Plan (Drawing Ref: 4554/4/003. The Site is inaccessible due to the security of the perimeter boundary. The condition of the perimeter walls and fencing are inspected on a daily basis.
- The Site entrance and exit have secure gates which are locked and fully secured outside of operational hours. The main entrance to the Site is supervised at all times during operation;
- External stored wastes are kept to a minimum outside of operational hours;
- A CCTV system is in operation at the Site 24 hours a day. The CCTV system is installed at the site purely for security purposes providing video surveillance to ensure that the site is secure at all times. Although not designated as a fire detection measure the CCTV provides for visual indications of fire. CCTV is also available to view during office hours within the main office building.
- Buildings, comprising the portakabins, are secured and have intruder alarms which are activated outside of operational hours. The Site and buildings are occupied from 07:00 to 18:00 Monday to Friday and 07:00 to 17:00 Saturday.
- A Site Security guard is attendance at the Site from 6pm to 6am or until site personnel arrive on Site. The security guard undertakes nightly patrols of the entire Site In the event of an incident the security guard will respond to the emergency by engaging with the emergency services as necessary. The security guard will immediately inform the Site Manager and the Technically Competent Manger.
- The Site is fully locked and secured overnight and the security measures comprising the boundary fencing, CCTV system and intruder alarms provide adequate protection from any unauthorised access and if access is gained the Site can be quickly secured.

### 4.1.2 Self combustion of stored waste materials (e.g. chemical oxidation, microbial decomposition)

The risk of self-combustion increases when materials are stored for prolonged periods. Maximum storage times identified in 'Waste 28' by WISH specified that a minimum of one month was the likely time limit for storage that may lead to self-heating. Table 3 of this FPMP states the maximum storage times for each waste type which does not exceed the maximum of one month therefore the potential for self-combustion of stored waste materials is reduced.

Extended storage times would not be practicable at the Site due to its use as a waste transfer station with limited storage space and the requirement for a quick throughput to enable the acceptance of further wastes. Waste inputs are continually processed as they are accepted at Site.

Unsorted waste is removed off-Site within the specified time frames. The bays are visually inspected on a daily basis. The key components therefore required to cause self-combustion are limited in the reduced storage times of all materials on Site. The storage of wastes and the controls are discussed further in Section 4.5.

### 4.1.3 Plant, Vehicle or Equipment Failure

Plant, vehicle or equipment failure may provide a risk as an ignition source. To ensure that any potential risk posed by failure of plant, vehicles or equipment at the Site they are regularly serviced and cleaned. Plant and machinery on Site comprises loading shovels, skip wagons transferring waste to and from the Site, a mechanical screener and picking station. A 6 m exclusion zone will be maintained between plant or equipment and combustible waste when the machinery is not in use. The wastes are not stored near to or subject to vehicles or plant which may represent an ignition hazard.

All plant and vehicles are regularly inspected on a daily basis and maintained in accordance with the manufacturer's specification. Procedures for the inspection of mobile plant including the inspection record are provided in the Operators EMS.

### 4.1.4 Hot Exhausts

Hot exhausts provide a risk as an ignition source. As mentioned above, plant machinery and vehicles are regularly serviced and cleaned and the following additional mitigation measures are applied at the Site:

- A 6 m exclusion zone will be maintained between plant or equipment and combustible waste when the machinery is not in use.
- All plant or machinery is to be turned off when not in use.
- Only mobile plant to a specification suitable for handling this material will be in direct contact with the waste materials.
- Plant is inspected to ensure any wastes are cleared from around exhausts at the periodically throughout the day when in use, at least twice a day at a minimum, with a final inspection at the end of each working day.

- Operatives are instructed to clear any wastes/litter/dust from hot exhausts/engine parts at the end of each working day.
- A fire watch is undertaken twice daily by the Site Manager including an end of day check. Fire watch procedures are provided in Section 4.2.

### 4.1.5 Naked Lights

There are no naked lights or exposed light bulbs on Site.

### 4.1.6 Smoking

The operator enforces a strict no-smoking policy on Site.

### 4.1.7 Electrical Faults

Electrical faults provide a risk as an ignition source. All electrics on Site will be inspected and certified by a qualified electrician. Portable appliances are checked and certified every two years and fixed electrics every 5 years.

### 4.1.8 Industrial Heaters

There are no industrial heaters on Site.

### 4.1.9 Build-up of loose combustible waste, dust and fluff

The build-up of loose combustible waste, dust or fluff can pose a risk due to the fact that the smaller the particle size the easier it is considered to set alight. The control of loose combustible waste, dust and fluff is controlled for fire prevention and dust control. A dust management plan has been produced and submitted with this application.

The Site has a Quattro 4-in-1 Effective Defence to minimise dust. It includes a rainmaker which extends to a heigh of 3m were 3 powerful jest nozzles throw mist up to 20m. It also contains a handheld jet wash for direct application to problem areas and can be towed behind a vehicle to deploy a rear spray bar measuring 1.6m in diameter with 10 powerful jet nozzles for damping down roads and tracks. The dust suppression system can be on during operation and if high dust levels are evident during non-operational hours. The Operator employs good housekeeping including maintaining levels of dust, fibre and keeping any litter to a minimum. Excessively dusty wastes will be excluded from the Site and all waste received at the Site will be in enclosed collection vehicles.

Site operators supervising the delivery of waste will ensure the risk of dust generation is reduced by minimising the drop height when depositing waste and ensuring it is appropriately contained after it has been deposited and for the duration the stockpile is present. A spray bar is also installed around the green/bio waste.

The mechanical screening of the waste can create dust however this is controlled via the Site's dust suppression system.

All Site roads and surfaces will be inspected on a daily basis in accordance with the daily Site checklist. Daily sweeping will be undertaken to ensure the Site surfaces are kept free of

loose material. All plant and equipment are subject to regular inspections and cleaning as part of the daily Site checklist. Any dust will be cleared from electrical conduits and systems on a weekly basis.

### 4.1.10 Hot works, e.g., welding, cutting

No hot works are undertaken on the Site. However, if hot works are required all staff and contractors will follow safe working practices and the hot work permit / permit to work protocols with no hot works carried out in the vicinity of the stored wastes.

In the event that hot-works are carried out, fire watches will be carried out during and after hot works have been undertaken. The fire watch will be maintained for a period of 1 hour. This is in line with the HSE recommendations which suggest a fire-watch should be maintained for a period of 30 minutes. If hot-works are carried out outside operational hours then a member of Staff will be required to stay for at least 1 hour to complete the fire watch. A visual inspection of the area will be carried out at the end of the working day to ensure there is no evidence of a fire.

### 4.1.11 Leaks and spillages of oils and fuels

Oils and fuels are flammable and therefore any leak and spill pose a risk of igniting. To reduce any potential for leaks and spillages at the Site the fuel tank is fully bunded and regularly inspected to ensure good condition. Any site vehicles and plant are inspected daily. Any vehicles or plant found leaking fuel or oil will be repaired. Procedures for dealing with any leaks and spillages are within the Operators EMS. The Site has spill kits on Site which are kept in the site office. The spill kits comprise disposal bags, goggles, marking tape, pads, pillows, socks and a wheel bin.

### 4.1.12 Neighbouring Sites Activities

Martin Robey Group Auto Parts Store is located to the west of the Site. Anker Timber Products and Coachleasing, a coach and minibus hire area is located to the east of the Site. To the north is a tree line, with Arleigh International and Midland Chandlers Head Office beyond. To the south is Pool Road and Abrasive Power Tools with other commercial premises beyond. Due to the products stored at the Auto Parts store and timber merchants, the neighbouring properties pose a potential risk of fire. However, the Site is approximately 10 m from the nearest building associated with the Auto Parts store and no wastes are proposed to be stored abutting the eastern boundary of the Site.

### 4.1.13 Incompatible or unstable wastes

No reactive or unstable wastes are accepted at the Site. Upon arrival at Site, all waste loads shall undergo a visual inspection by a trained operative. If incompatible or unstable waste is found during pre-acceptance checks the waste will be immediately removed from the Site, if safe to do so. If this is not possible the waste load shall be rejected and stored in the quarantine area for removal from Site by the end of the working day. Agency guidance will be sought if necessary. This will be the decision of the Site Manager, prior to removal from the Site.

### 4.1.14 Hot loads or Ignited materials received at the Site

No ignited loads will be accepted at Site. In the event that smouldering loads or non-compliant wastes are identified arriving at site they will be reloaded onto the vehicle or quarantined, and the vehicle will not be permitted to tip its load. Tipped wastes identified as being at risk of combustion or on fire will be transferred to the quarantine area and dampened down as appropriate prior to removal of-site. Robust waste acceptance procedures are in place on Site and as such there is negligible risk of hot or ignited materials being accepted.

### 4.1.15 On-Site Facilities

Office and welfare facilities are provided in the portacabin. A number of hazardous materials are stored in the site offices associated with maintenance of the fixed and mobile plant including oils and coolant. Fuels are stored adjacent to the Site Office on an impermeable concrete surface. Fuel is stored in a bunded tank. These materials are stored within secure storage containers which are compliant with The Control of Pollution (Oil Storage) (England) Regulations 2001. The integrity of the storage containers and bunds or drip trays used to store oils on Site are checked on a daily basis.

Spill kits are available on Site. All buildings are inspected and maintained in accordance with building regulations and standards. Firefighting equipment including fire extinguishers are located at the site offices and picking station.

## 4.2 Fire Procedures – Equipment and Infrastructure

### 4.2.1 Fire extinguishers

Portable fire extinguishers are provided at strategic locations. Foam and dry powder fire extinguishers are available. A check of the fire extinguishers (discharged/full, service in date) is undertaken on a weekly basis. All fire extinguishers are annually tested by an approved accredited supplier. All fire extinguishers are hung up on wall brackets and appropriately sign posted for easy visibility.

### 4.2.2 Fire Watches

Waste stockpiles are visually inspected once deposited. The temperature will be monitored in accordance with ‘Waste 28’.

Vigilance for potentially hot loads/signs of combustion (e.g. dust settling on hot exhausts and engine parts) is part of the Site waste acceptance procedures and routine management of the stored wastes. This will include operators inspecting the vehicles and plant when in use for any sign of combustion. The Site Manager who conducts operations on Site including the loading and unloading of waste will visually inspect vehicles to ensure no build-up of wastes/litter/dusts on hot exhausts/engine parts. Site operatives are instructed to ensure that all wastes/litter/dusts that may have accumulated onto hot exhausts/engine parts from the skip vehicles and/or mobile plant are removed at the end of the day.

Staff are to be fully trained in and aware of the Site’s waste acceptance and storage procedures.

In addition to this, a fire watch will be carried out by the Site Manger twice a day including one end of day check and will cover the following:

- Confirm no bridging of waste or spilling from bays and that adequate freeboard space is available;
- Confirm no smouldering, burning or heating material is present within any of the stockpiles as well as no signs of smoke or vapour;
- Confirm that waste is being managed in accordance with the First In, First Out management procedures;
- Perform a visual check for any potential sources of ignition such as plant and electrical failure;
- Confirm the Site (including machinery and vehicles) is free from the excessive build-up of dust and litter; and
- Confirm all staff on Site are appropriately trained in fire risk;
- Where hot works are carried out, fire watches will be completed at more regular intervals during the activity and at the end of the working day.
- Site Operatives will be instructed to remove all waste/litter/dust from around exhausts and other hot parts of the plant and vehicles at the end of each shift. Hot exhausts and engine parts on skip vehicles and mobile plant will be monitored as part of the end of day check when all vehicles and mobile plant are transferred and stored within the warehouse overnight.

Waste stockpiles are visually inspected on a daily basis due to the loading and unloading of waste within the external bays. Visual inspections will increase in summer months, temperature will be monitored in accordance with ‘Waste 28’.

## 4.3 Water Supply

The Site has mains water supply. 35 mm water supplies are available in the Site Office. A fire hydrant is located approximately 90 m from the main entrance to the Site to the west and 162 m southwest.

The Sites largest waste pile will have an estimated volume of 84m$^3$. The Agency guidance specifies that 2,000 litres per minute for 3 hours is required for a stockpile of 300 m$^3$. Therefore, for the maximum stockpile of 84 m$^3$ water is required to be delivered at a rate of 560.28 litres a minute for three hours. The minimum flow rate requirement for fire hydrants as dictated by British Standards is 1,200 litres/minute for industrial developments. It is considered reasonable to assume the fire hydrants accords with this and will therefore be more than suitable if required. Warwickshire Fire and Rescue Service have confirmed with Severn Trent Water that the fire hydrant does have a flow rate of over 1,200 litres / minute.

The Site has a dust suppression system. The dust suppressant system is mobile and can be directed to any part of the WTS2. It is fed from mains water to ensure there is a sufficient supply of water. This may be deployed to aid in dampening combustible wastes in the event of a fire to reduce the combustibility of other wastes. An odour suppression unit is located on the Site and may be utilised as an additional source for dampening combustible wastes in proximity to the waste pile alight.

The suppression of a fire has the potential to produce run-off dependent on the amount of water required to be used. At this flow rate it will be necessary to provide containment provision for 100,850.4 litres of water (100.85 $m^3$). Fire water is required to be retained on Site to be adequately disposed of. The storage of fire water is discussed in Section 5.4.

## 4.4 Quarantine Area

Due to the use of fire walls at the site it is considered safer to leave the combustible material in situ if a fire is detected. The current quarantine area is comprised of a 10.7$m^3$ skip. However, as discussed above, the combustible waste will remain in situ if a fire is detected.

A potential quarantine area is available for use if required to place burning or heating waste in order to manage them or to move adjacent low combustible wastes to. A separation distance of at least 6 m has been provided around the potential quarantined waste area and other combustible materials.

## 4.5 Fire Procedures – Waste Storage

Waste receipt and storage will be controlled by the Sites Operational Procedures and Environmental Permit. General Waste Storage Procedures and Waste Type Specific Storage Procedures are detailed below:

### 4.5.1 General Waste Storage Procedures

Wastes are stored for the maximum time as specified in Table 3. Waste types that are stored for one week comprise wood, general mixed waste, and discrete loads. Soils and stones, and metal can be stored for 2 weeks. Baled plastic can be stored up to one month to allow the accumulation of enough bales to warrant removal off-site (approximately 15 bales). Cardboard is also stored for one month. The plasterboard skip and quarantine skip are emptied once full. Green waste is removed by the end of the working day.

All wastes are either stored in external storage bays separated by fire walls or are located with a separation distance of at least 6 metres in accordance with the storage requirements of the Fire Prevention Plan guidance. Baled plastic is stored within a concrete bay with a six-metre separation distance. Baled plastic is not stored more than 2 bales high.

Due to the short storage durations it is considered that the waste materials will not be on Site long enough for a self-heating event to take place.

Further to this, a ‘First In, First out’ process is followed. With the timescales specified in Table 3 the bays or stockpiles are cleared completely for onward recovery or disposal. Older wastes will therefore be the waste deposited at the rear of the concrete bays which are then subsequently filled by incoming newer wastes and removed by the timescales specified in Table 3 which is dictated by the date and time of the deposit of the oldest wastes within the bay.

A six-metre separation distance is applied to the Site where fire retaining walls are not in place. This includes between the open fronts of external waste storage bays and between storage bays and other sources of combustion/ignition. The separation distances will be kept clear at all times through regular housekeeping.

Freeboard heights on bay walls will be maintained through regular inspection of the pile size.

The short storage durations and the regular movement of the waste piles ensure that the materials do not self-heat which can potentially lead to self-combustion.

Vigilance for signs of combustion over this short storage period are implemented as part of the Site waste acceptance procedures and routine/daily Site inspection procedures. All staff will be trained to detect and manage hotspots in accordance with the Operators EMS.

If a fire is detected in a single bay or stockpile, if safe to do so and under direction from the Site Manager or nominated fire officer the Operator will attempt to remove any combustible wastes from the adjoining bays/stockpiles and place them in an unoccupied bay or other location isolated from the other bays. These wastes will be kept under observation in case they also begin to combust.

The wastes from adjacent bays will be removed away from the bay on fire only if safe to do so. The removal of the waste will only ever be undertaken under supervision of the Fire and Rescue Service and undertaken in a manner which minimises risk of collapse onto the mobile plant driver.

### 4.5.2 Fire Walls

All externally stored wastes are stored within concrete bays. All external bays are constructed using interlocking concrete lego blocks which encompass the entire bay. The individual dimensions of the concrete blocks are 1,800 mm in length by 600 mm in height and 600 mm in width which are stacked to a height of 2 / 3 m.

The concrete blocks are classified as Class A1 non-combustible material. Each concrete block is fire resistant to at least 6 hours in accordance with BS 5623-3 (since replaced by BS EN 1996-1-2: 2005: Eurocode 6. Design of masonry structures. General rules. Structural fire design). As stated above all fire walls are classified as Class A1 fire resistant and provide fire resistance for over the minimum required 120 minutes. Concrete is identified in the Fire Prevention Plan Consultation Response produced by BRE to be a suitable material to use as firewalls. The ‘Waste 28’ guidance on reducing fire risk at waste management sites specifies that’s 300 mm thick concrete provides adequate fire resistance.

# 5 Containment and Mitigating the Effects of the Fire

## 5.1 Waste Management and Storage

Combustible waste piles will be stored in accordance with the separation distances and stockpile dimensions set out within the Agency guidance as discussed in Section 4.5 of this report. The majority of waste is stored in bays which are separated by fire walls. Managing waste storage is a key factor, not only in preventing fires, but in mitigating the impact, should a fire break out. Ensuring the Site is accessible in the event of a fire is a key consideration in containing a fire. The emergency access routes to waste storage and quarantine area in the event of a fire are shown on the Site Layout Plan.

### 5.1.1 Control Measures

The following control measures will be utilised to minimise any associated fire risks:

- No wastes will be burnt on Site.
- Smoking is not allowed on Site.
- Weekly safety checks of the offices and workshops will cover fire hazards and control measures.
- The fire alarm within the Site Office will be tested weekly by the Site Manager, and full evacuation tests undertaken every six months. The fire alarm system will be inspected and maintained periodically by a qualified and authorised contractor.
- Fire extinguishers are maintained under a maintenance contract and are inspected and serviced annually. It is the responsibility of the Site Manager to ensure that these checks are carried out as required.
- P.A.T. (portable appliance testing) will also be carried out at intervals of 1-3 years (dependent on frequency of use) as appropriate under current legislation.
- Firefighting equipment, comprising of portable fire extinguishers, are available. These may be issued to extinguish or contain small fires, but only where the operative is not putting themselves or others at further risk.

In addition to the above the following control measures will be implemented to minimise any associated fire risks:

- emergency lighting will be provided as appropriate;
- emergency exit routes and signs will be kept clean and clear of obstructions at all times;
- staff will be trained in the use of extinguishers, procedures for fire drills and evacuation; and
- records of training, induction, drills, alarm tests and fire certification will be kept on the premises.

## 5.2 Firefighting Procedures

In the event of a fire on Site the following actions will be taken:

### 5.2.1 Discovery of a Fire: Operational Hours

Any outbreak of fire at the Site shall be treated as an emergency and if a fire is discovered via CCTV or visual inspection the following actions will be undertaken:

- Raise Alarm by operating the two way radio system, shouting “FIRE, FIRE, FIRE”;
- Or shout “FIRE, FIRE, FIRE”. Repeat.
- Ring the fire brigade immediately by dialling 999;
- Where it is safe to do so, without endangering the safety of persons, immediate action shall be taken to extinguish the fire using the Site fire extinguishers and/or fire hoses. If it is not safe to do so then report to the fire assembly point;
- Advise by telephone the senior Crown Skips management of any fire, its location and if the fire brigade has already been called. The Site Manager to liaise with the Fire and Rescue Service and will coordinate further activities.

### 5.2.2 Discovery of a Fire: Outside Operational Hours

In the event a fire is detected outside of operational hours by the site security guard or CCTV the emergency services will be informed immediately. The Fire and Rescue Service are located approximately 4 minutes away.

Any outbreak of fire at the Site shall be treated as an emergency and if a fire is detected by the out of hours detection system the following actions will be undertaken:

- The site security guard will alert the Site Manager and the emergency services confirming the location and severity;
- Where it is safe to do so and if possible, without endangering the safety of persons, immediate action shall be taken to extinguish the fire using the Site fire extinguishers and/or fire hoses;
- If it is not possible or safe to do so, the Site Manager and site security guard will await the arrival of Fire and Rescue Services at a safe distance whilst ensuring access is provided and any containers/skips in proximity of the fire are moved in accordance with the procedures for moving skips and containers in Section 5.3 below;
- The Site Manager to liaise with Fire and Rescue Services and coordinate further activities in accordance with the Emergency Action Plan in Section 5.3.

The fire detection system, including the rapid response, during operational and outside of operational hours, and the limited amount of material stored within the building would enable any fire to be extinguished well within the required 4 hours as required by Section 14 of the Agency guidance.

## 5.3 Emergency Action Plan

In the event of an outbreak of fire, all or some of the following actions will be undertaken as appropriate, referenced in the EMS.

ALL FIRES ON SITE WILL BE TREATED AS AN EMERGENCY AND MUST BE REPORTED TO THE SITE MANAGER AS SOON AS POSSIBLE

- Where is it safe to do so and without endangering the safety of persons, immediate action shall be taken to extinguish the fire using on Site fire extinguishers / water supplies. No one should attempt to fight a fire unless they have received training in the use of fire extinguishers;
- If the fire cannot be controlled on Site then the Fire & Rescue Service is to be contacted by telephone immediately. Call 999 – Give the exact details including Site address and telephone number;
- If required and only if safe to do so, action shall be taken to move any containers or skips in accordance with the procedures for moving containers/skips.
- The Site Manager is to be contacted immediately by telephone and informed of the situation.
- The area of fire must be evacuated without generating panic. All Site personnel must make their way to the fire assembly points. Site personnel must ensure that no persons or vehicles re-enter the affected area.
- A check shall be conducted to ensure that all persons present on the Site are safe and accounted for as required for Fire Emergencies. Using clock cards and/or staff and visitor signing in sheets.
- The Site Manager is to contact the Agency by telephone and in writing, as soon as reasonably practicable but within 24 hours, after the outbreak of a fire to advise them of the incident and of the action taken.
- Communication with local businesses and residents identified in the sensitive receptor table above will be undertaken in the event of a fire to reduce any environmental damage and risks to human health associated with smoke and dust. Communication will be carried out via door to door. A list of the contact details of the neighbouring businesses will be obtained and kept updated to ensure the Site Manager or nominated deputy can call the relevant contacts to inform them of a fire.
- Upon the outbreak of fire the receipt of waste at the Site is to be suspended and not resumed until authorised by the Site Manager after consultation with the Fire and Rescue Service and the Agency. All waste will be diverted to other suitable facilities as listed in the EMS;
- Collected fire water to be retained as specified in Section 5.4. Any retained firewater will be removed from Site by tanker if necessary for suitable disposal.

Table 6 below provides relevant contact details for individuals to be used in the event of a fire on Site.

| Company | Position | Name | Telephone Number | Email |
|---|---|---|---|---|
| Crown Waste Management Limited | Site Manager | Kashan Aslam | 024 7635 1111 | crownskips@aol.com |
| Environment Agency | | Incident Switchboard | 0800 80 70 60 | |
| Fire and Rescue Service | | Emergency | 999 | |
| Nuneaton Fire Station | | | 024 7638 3131 | |

Table 6. Emergency Contact Details

## 5.4 Management of Fire Water

The Site benefits from an impermeable concrete surface with a surface water drainage system. Kerbing will be installed around the permitted of the Site to create a sealed system. The Site is constructed to drain via falls in the concrete to a series of drains to the drainage system. The system discharges via an interceptor directly to the foul sewer in Pool Road. An interceptor is installed on Site and contain shut off valves to prevent discharge from Site. The indicative drainage plan for the Site is shown on drawing reference 4554/4/003.

In the event of a fire it is proposed that fire water storage is provided through external perimeter containment and placement of a containment boom across the main entrance of the Site. The area of the external concrete hardstanding at the Site is approximately 4,396 $m^3$. To contain approximately 100.85 $m^3$ of firewater, the height of the containment boom used will be required to be approximately at least 0.1 m (10 cm) in height.

The perimeter of the Site is bounded by steel palisade fencing and kerbing will be installed to a minimum height 0.1 m. The condition of the kerbing will be checked on a regular basis as part of the Site perimeter checks and annually as part of general site maintenance inspection. Any damage to the kerbing that is identified will have sandbags placed temporarily and remediation scheduled to ensure the containment of the Site is maintained.

Any firewater collected will be tankered off-site to an appropriately licenced facility for disposal as soon as possible such that waste operations can resume.

## 5.5 Decontamination of the Site

The Site will be cleared of all debris with all material disposed of at an appropriate disposal facility. Any burnt waste will be quarantined and transferred to an appropriate disposal facility. Any unburnt waste will be segregated and transferred to the appropriate storage bay. All fire water will be contained and disposed of in accordance with the procedures specified in Section 5.4. Where it is considered that there is considerable contamination the Government Decontamination Service can be contacted for advice on clean-up protocols.

Permission will be sought from the Fire and Rescue Service and the Agency to enable operations on Site to commence again. The receipt of waste at the Site is to be suspended

and not resumed until authorised by the Site Manager after consultation with the Fire and Rescue Service and the Agency.

## 5.6 Fire Prevention Plan Review

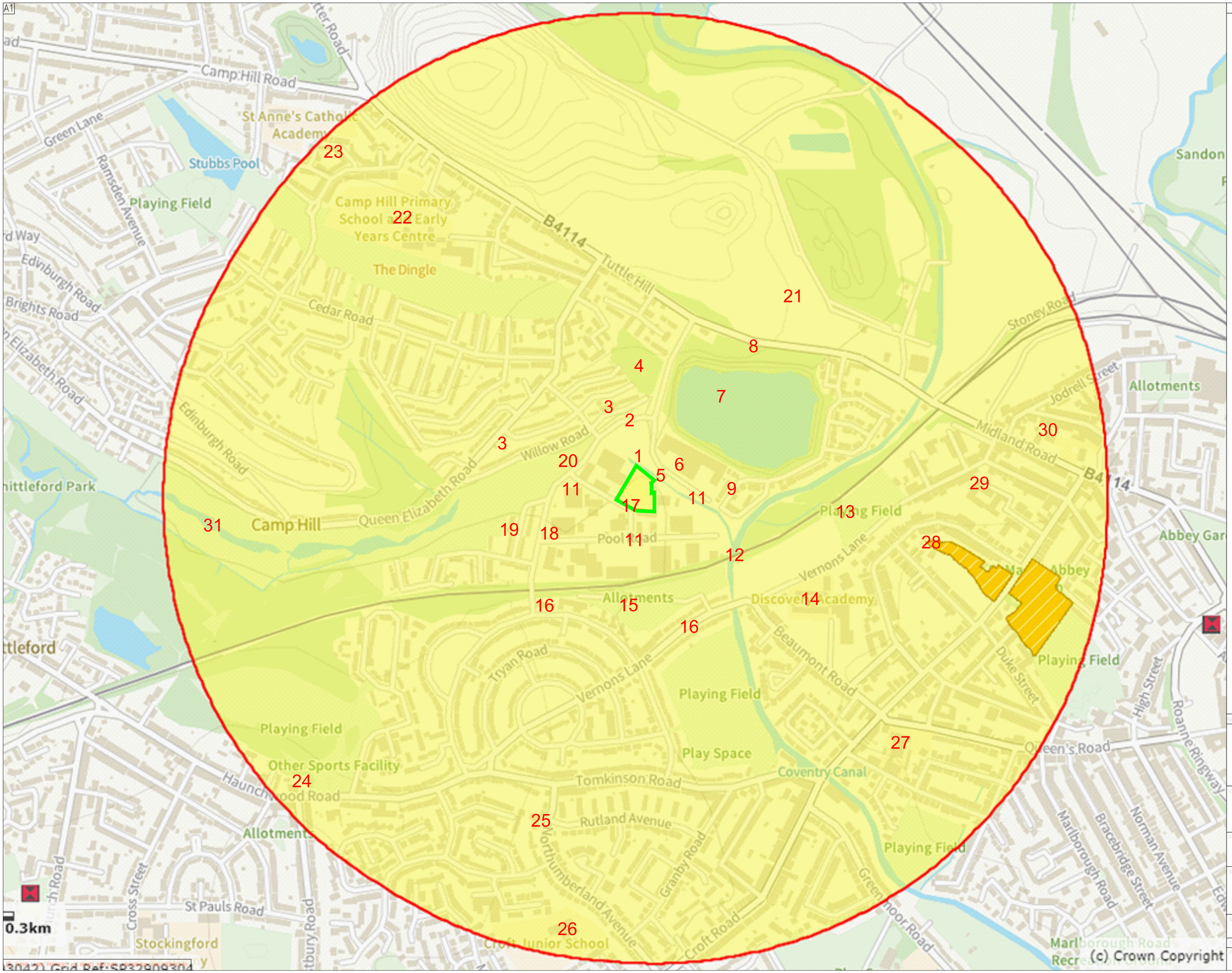
The FPMP will be reviewed on an annual basis. The annual review will incorporate any changes to the following:

- Site operations;
- Site infrastructure;
- Sensitive receptors;
- Fire risk associated with the Site; and
- Control measures in place.

The emergency procedures set out within the FPMP will be tested through regular exercises (twice annually) to ensure staff are appropriately trained and the procedures in place are effective. Any fire drills/ tests carried out at the Site will be assessed and where improvement is required these shall be integrated into the FPMP. All records of staff training and emergency drills will be kept in the Site Office.

# Appendix A - Drawings

A1




GENERAL NOTES

NOTES:

1. ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS IN METRES ABOVE ORDNANCE DATUM.

2. DO NOT SCALE FROM THIS DRAWING.

3. ANY ANOMALIES IDENTIFIED WITH THE DETAILS SHOWN ON THIS DRAWING ARE TO BE BROUGHT TO THE ATTENTION OF BYRNE LOOBY PRIOR TO CONSTRUCTION WORKS COMMENCING.

LEGEND:

- Permit Boundary
- 1000m Buffer Zone
- (1) Receptor Marker

| Rev | Date | Description | By | Chk | App |
|---|---|---|---|---|---|

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IRELAND | UK | UAE | BAHRAIN | KSA

CLIENT

PROJECT
Crown Transfer Station 2

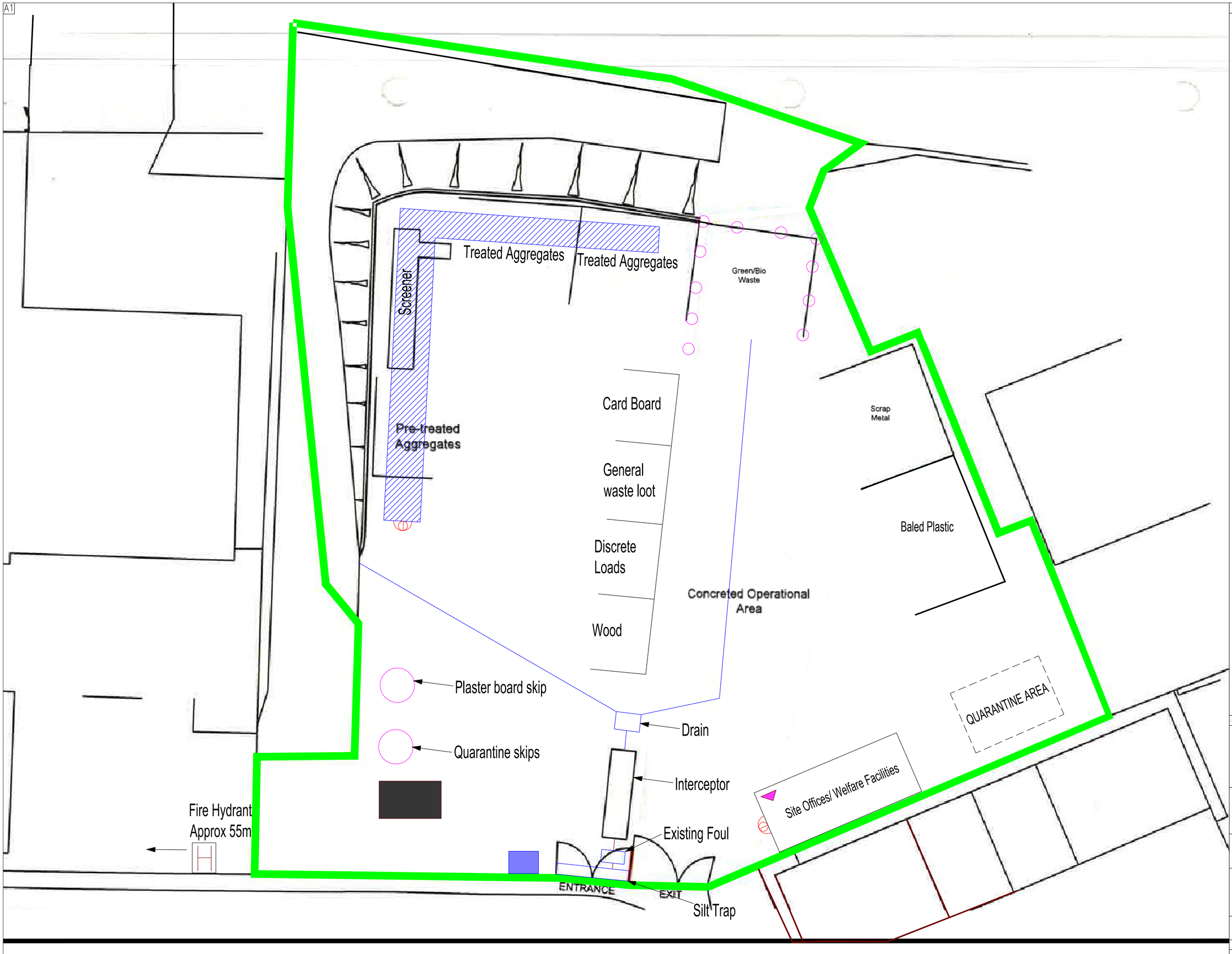
DRAWING TITLE
Receptor Plan

STATUS
FOR CONSTRUCTION

| Date: 21/04/22 | Scale: N/A | Drawn: JM | Chk: MR | App: JB |
|---|---|---|---|---|

| Project No: | Drg. No: | Rev: |
|---|---|---|
| 4554 | 4554.4.001B | 00 |

A1




GENERAL NOTES

NOTES:

1. ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS IN METRES ABOVE ORDNANCE DATUM.

2. DO NOT SCALE FROM THIS DRAWING.

3. ANY ANOMALIES IDENTIFIED WITH THE DETAILS SHOWN ON THIS DRAWING ARE TO BE BROUGHT TO THE ATTENTION OF BYRNE LOOBY PRIOR TO CONSTRUCTION WORKS COMMENCING.

LEGEND:

- Permit Boundary
- Picking Station
- Drainage Pipe
- Spray Bar Motorised Odour Neutraliser
- Fire Extinguisher
- Approximate Location Of Fire Hydrant
- Mains Water Supply
- Fuel Tank
- Quarantine Area
- Spill Kit

| Rev | Date | Description | By | Chk | App |
|---|---|---|---|---|---|

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CLIENT

PROJECT
Crown Transfer Station 2

DRAWING TITLE
Site Layout Plan

STATUS
FOR CONSTRUCTION

| Date: 21/04/22 | Scale: N/A | Drawn: JM | Chk: MR | App: JB |
|---|---|---|---|---|

| Project No: | Drg. No: | Rev: |
|---|---|---|
| 4554 | 4554.4.003 | 00 |