

FIRE PREVENTION PLAN

Issue 1.0

Produced for **AF Pinkerton & Partners**

Document Reference **AFP-C05**





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QUALITY CONTROL

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1.0 SITE DETAILS

1.1 Premises Particulars

<p>Premises Name:</p> <p>AF Pinkerton & Partners (hereon referred to as AF Pinkerton)</p> <p>Address:</p> <p>AF Pinkerton & Partners Blackbirds Farm Aldenham Hertfordshire WD25 8BS</p> <p>Tel no:</p> <p>01923 850813</p> <p>Site Opening Times:</p> <table> <tr> <td>Monday to Friday</td> <td>07:30 – 17:00</td> </tr> <tr> <td>Saturday</td> <td>08:00 – 12:30</td> </tr> <tr> <td>Sunday</td> <td>Closed</td> </tr> <tr> <td>Bank Holidays</td> <td>Closed</td> </tr> </table>	Monday to Friday	07:30 – 17:00	Saturday	08:00 – 12:30	Sunday	Closed	Bank Holidays	Closed	<p>Use of Premises:</p> <p>Open window composting.</p> <p>Owner/Employer/Person in control of the workplace:</p> <p>Alistair Pinkerton – Site Owner</p> <p>Graham Choake – Site Manager</p>
Monday to Friday	07:30 – 17:00								
Saturday	08:00 – 12:30								
Sunday	Closed								
Bank Holidays	Closed								
<p>Date of Risk Assessment:</p> <p>TBC.</p>	<p>Date of Review:</p> <p>TBC.</p>								
<p>Name & relevant details of the person who carried out the Fire Risk Assessment:</p> <p>TBC as site is not operating yet.</p>									

1.2 General Statement of Policy for Preventing Fires

AF Pinkerton will do everything possible to prevent fire:

- Provide regular training on fire safety to all employees and new starters;
- Conduct annual drills;
- Control sources of ignition such as heating pipes, naked flames, light bulbs, space heaters, furnaces and incinerators;
- Keep sources of ignition at least 6m away from piles of combustible and flammable materials;
- Reinforce fire prevention messages using signs;
- Ensure staff and contractors follow safe working practices when undertaking hot working, such as welding and cutting;
- Ensure all visitors follow the correct safety and fire prevention procedures;
- Apply a no smoking policy or ensure designated smoking areas are situated away from combustible materials;

- Introduce a regular maintenance and inspection programme for all site areas (including site machinery) and minimise fibre and paper in buildings and around the site;
- Put site security measures in place (e.g. security fencing) to prevent arson;
- Have site vehicles fitted with fire extinguishers and dust filters;
- Make sure separation distances are observed between plant and material when the site is not staffed; and
- Provide a dedicated emergency or quarantine area big enough to cope with a major incident (this is available at all times and identified on the site plan).

1.3 General Description

The Works Fields composting facility at Blackbirds Farm is located near the village of Aldenham, Hertfordshire. The site is approximately 4.5km northeast of Watford in an area of land between the M1 and M25 motorways. In the immediate vicinity of the site are; light industries and a water treatment works, whilst the area beyond is largely agricultural in nature. Access to the site is gained via Blackbirds Lane.

AF Pinkerton compost up to 26,775 tonnes of green waste material per year through an open window composting system to produce compost products certified to PAS100.

The site is currently comprised of an impermeable concrete pad (constructed of 200mm of impermeable concrete and covers an area of 15,238m²) for waste reception, sanitisation, stabilisation, maturation and storage of materials which have been processed through the open-windrow composting process. The concrete pad is engineered with falls to collect all runoff waters, leachate and rainwater, which is directed to a below ground, gravity-fed lagoon at the northern end of the facility. The site office and weighbridge are located off the Works Field site on the wider Blackbirds Farm.

Grid Reference: Easting 514538, Northing 200101

2.0 MANAGEMENT SYSTEM & WASTE PILES

For information on site layout, please see Annex B – Site Layout Plan.

2.1 Waste Types

Table 1 – Composting Process Type and Throughput

Process Type	Stage	Annual Receipt
Open Windrow Composting	Sanitisation, Stabilisation and Maturation of Green Waste	26,775tpa.

For storage durations please see section 3.1.1 preventing self-combustion.

2.2 Waste Acceptance

All incoming loads are inspected for signs of excess heat, such as steam or previously burnt material. If a load is deemed to be an immediate risk, then it will be rejected. If the load requires cooling before being stored in the designated reception area, then it will be spread across the quarantine area until it reaches atmospheric temperature. All operatives who monitor load acceptance are trained to identify hot loads.

2.3 Regular Exercises

Fire drills are conducted on an annual basis to ensure that staff are adequately prepared in case a real scenario ever occurs. Fire drills are documented using a Fire Drill Record Template. The drill includes a range of site checks including; access and egress of escape routes, testing of alarm system and inspection of firefighting equipment. Furthermore, site operatives will practice utilising the two-way radios that they would use in the event of a real fire, to notify other operatives of a fire event and to initiate the response to a fire. The evacuation element of the drill is fully documented and lists the participants and the area where the evacuation drill took place. The evacuation response time is recorded. As part of these drills, staff will practise how to use the quarantine area during a fire.

In addition, an annual fire response test shall also be undertaken. The quarantine area is located to the East of site. To start, a portion of either the pre-composting material (reception) or oversize material will be designated as 'burning'. Using a shovel loader, a site operative will remove the 'unburnt' material and transfer it across the pad into the signed quarantine area. Once the drill has been completed, the 'unburnt' material will be returned to its applicable storage area. Post drill, the response will be evaluated by the Site Manager. Where the response has been judged to be inadequate, further training will be provided to staff.

2.4 Open Windrow Composting

AF Pinkerton utilise an open windrow composting system to process green waste, meeting the requirements of a PAS100 compost. All moisture levels, temperatures and turning frequencies are undertaken in accordance to the Compost Quality Protocol and industry best practise.

Once accepted, shredded and sifted, the waste is transferred to the composting portion of the pad, where the waste is formed into windrows to undergo sanitisation. The sanitisation phase

usually lasts for approximately 2 weeks (minimum of 7 days). Upon completion of the sanitisation phase, the windrows are turned (on the same concrete pad) to begin stabilisation. The stabilisation period occurs for 6 weeks.

The dimensions of windrows during sanitisation and stabilisation are dependent upon the area of Works Field in which the windrow is formed. The maximum windrow length is 155m and the minimum length is 61m. The windrows are always 4.5m wide and 2.1m high and are typically ~230-~590 tonnes each. Gaps of suitable width are left between windrows to enable turning / monitoring / litter picking.

After stabilisation the waste will be processed through a screener. Once the waste has been processed and is tested to the PAS100 standard, the product is transferred to the product storage area towards the east side of the site.

Due to the nature of composting and its classification as an actively managed process, the elements of fire prevention plan guidance V3 focusing on pile sizes and separation distances does not apply. The site will however, still employ a responsible practice to prevent fires occurring on site. Accordingly, this FPP will focus on the stages of the composting process which present a greater risk of combustion and where fire prevention guidance V3 does apply, namely waste reception/storage pre-composting and compost oversize storage.

2.4.1 Waste Reception / Storage Pre-Composting Material

Accepted material is stored on the composting pad in a dedicated reception area. Storage time for material will not exceed 7 days and shall not be stockpiled in a quantity that exceeds 750m³ before being processed. There is only one reception pile and it has a 6m separation distance surrounding it. Length and width dimensions will not exceed 20m and height will not exceed 4m. Dimensions below provide a guide and utilise a side slope ratio of 1:1. The waste material undergoes shredding, screening and windsifting prior to being formed into a windrow.

Table 2 – Material Reception Storage Parameters

Material	Max Height (m)	Length / Width (m)	Max Vol (m ³)	Min Separation (m)
Pre-composting material (Material)	4	20 x 15.5	750	6m

2.4.2 Oversize Material

Once the composting process has been completed, the resulting compost is screened to <40mm. The portion of material >40mm is classed as oversize. Oversize material from the composting process is stockpiled in a selected area to the south of the composting pad. From the pile, oversize material is continuously transported into the waste reception area by shovel loader, where it is reincorporated into the composting process by being mixed with new waste inputs. Oversize material can be stored for a maximum of 1 month, but this timescale is not representative of normal operational parameters as the oversize material is constantly reincorporated into the process. There is only one oversize pile and it has a 6m separation distance surrounding it. Length and width dimensions will not exceed 20m and height will not exceed 4m. Dimensions below provide a guide and utilise a side slope ratio of 1:1.

Table 3 – Oversize Material Storage Parameters

Material	Max Height (m)	Length / Width (m)	Max Vol (m ³)	Min Separation (m)
Oversize (top of the pad)	4	20 x 15.5	750	6m

2.4.3 Material Waiting for PAS Results

Whilst AF Pinkerton await the results of the PAS100 analysis, the finished material is stored in a separate pile on the open area of the composting pad. The material is only stored here temporarily whilst the operator is waiting for a PAS100 result. The pile will be the same amount as the windrow batch it is taken from. Should the results show that the finished material meets the requirements of PAS100: 2018 the pile shall be moved into the product storage pile area.

2.4.4 Non-PAS110 Material

Non-PAS100 material which has failed testing is continuously reincorporated back into the process at the reception area . Non-PAS100 is therefore not stockpiled on site.

2.4.5 PAS100 Compost Material

Once the compost material has gone through the entire process and has met PAS100 criteria for sanitisation and stabilisation and been tested, it is now classed as a product and not a waste so is therefore, out of the scope of fire prevention guidance. The finished PAS100 compost products are stored in the product storage area awaiting dispatch and are stored for no longer than 12 months. This area can accommodate 2,000m³ of material. Material is often held in combined batches of different grades prior to dispatch to end markets.

2.5 Contaminant Storage

Those wastes received which are unsuitable for processing or not permitted under the bespoke environmental permit are stored in closed containers. These closed containers are removed from site to an appropriate disposal site within 48 hours in line with the rejection procedure. Any minor contaminants within larger loads or contaminants from the screening and windsifting process are stored in the following method; metals are stored within a skip and plastics are stored within converted silage trailers that are covered with netting. Once the containers are full, the waste materials are removed from site for treatment at a suitably licenced facility. The maximum period this material can be stored is 1 month, but this is unlikely under normal operating procedures.

2.6 Quarantine Area

The site has ensured the quarantine area is >6m from any waste pile or the site perimeter. The quarantine area is large enough to store 50% of the largest waste pile encountered on site. The area is clearly marked on the concrete with the aid of a mobile sign. The quarantine area will be kept free from material at all times, except in emergency situations. Please see Annex B – Site Layout Plan for location of quarantine area.

Table 4 – Quarantine Area

Quarantine Area	Volumes
Quarantine Area on Pad	375m ³

2.6.1 Quarantine Area Management

Long term storage of material in quarantine area will not form part of the standard operating practice at the quarantine area. Temporary storage of material in the quarantine area will purely be used under rejection procedures and in emergency situations, such as a hot load. The quarantine area will also be utilised for training. If a rejection or an emergency situation does arise the material will be moved as soon as possible once the situation has been dealt with. If there is a fire the material shall be cleared from the area immediately if practicably possible to do so and deposited within a spare container which can be brought on to the pad. As previously stated, a mobile sign will ensure the quarantine area can be easily identified.

In the event of a fire, where safe to do so, heavy plant will move unburnt material in the vicinity of the fire to the quarantine area, reducing the risk of the fire spreading. The location of the quarantine area has been selected to ensure the waste can be transported to the chosen area in a timely manner, meeting the timeline set out in fire prevention plan guidance V3; guidance states as soon as possible but no later than one hour after the fire starting.

2.7 Comments

The site has records of all contracts to supply for PAS100 compost and all documentation is stored in the site office.

The site will minimise the risk of fire spreading by controlling the flammable material on an ongoing basis.

If a fire occurs on site the operatives will call 999 if deemed necessary, all staff will proceed to the emergency point. If the fire is containable, for instance on a windrow, the site will douse the windrow with water from a fire extinguisher.

The site will also consider:

- Recycling firewater if it's not hazardous and it's possible to reuse;
- Applying water to cool unburned material and other hazards, taking care to prevent this water causing or adding to water pollution and/or increasing air pollution;
- Separating unburned material from the fire using heavy plant;
- Separating burning material from the fire to quench it with hoses or in pools (this will reduce the amount of firewater produced).

3.0 SOURCES OF IGNITION

The main sources of ignition have been identified and mitigated in the following section. It is worth noting that not all sources can be practically identified.

Main Sources of Ignition on Site

- Core temperature of windrows – self combustion
- On-site machinery
- Extreme weather – lightning
- Fuel tanks
- Smoking
- Arson
- Site Infrastructure electrical faults
- Hot works
- Build-up of loose combustible waste, dust and fluff
- Reactions between incompatible or unstable waste
- Naked lights
- Industrial heaters
- Open burning
- Hot loads
- Leaks and spillages of oils and fuels

3.1 Self-Combustion

Waste materials that are at risk of self-combustion if stored and not aerated include:

- Green waste; and
- Compost.

3.1.1 Preventing Self-Combustion

- During open windrow composting of material, windrows are monitored daily during sanitisation and weekly during stabilisation. If temperature exceeds 80°C then windrows will be turned to facilitate aeration and cooling of the material. Thermal runaway of compost begins at 80°C, so this measure is taken to prevent this from occurring. A probe is placed 1m deep (1m dug into compost, 1m length probe) to ascertain a reading of the windrow. Three readings are taken per batch at different points. Where the batch is greater than 750m³ an additional point is chosen for every additional 250m³.
- Moisture levels within the windrows are monitored on a daily basis during sanitisation and weekly during stabilisation by squeeze test. If the critical limit is below grip 3-4 then fresh water will be added to increase moisture content.
- Turning of open windrows is recorded through the site manager and takes place at least twice during sanitisation and once during stabilisation, via use of a windrow compost turner.
- Daily checks are made to identify any hot spots within all waste piles at risk of combustion as highlighted above in section 2.4. Each pile is closely inspected by a competent person (suitably trained staff member) to identify signs of excess heat such as excessive steam or smoke. If piles outside of active composting are identified to be at risk of combustion, then temperature and moisture checks will be made and appropriate action will take place – for example spread to cool down or wet if dry.

- The stock of oversize is managed, so that the oldest material is worked into the composting system first.
- Pre-composting material is not monitored for temperature and moisture due to its short storage period.
- Heating during hot weather has been taken into account within this Fire Prevention Plan and it has been decided that shading of material is not seen to be required on site due to the use of a daily check and the quick turnaround time under normal operation.
- Material is stored in its largest form prior to processing.
- All waste piles will be stored within the guidelines of the Fire Prevention Plan.

3.1.2 Combustion Emissions

- Compost is a slow burning material that produces smoke and releases particles into the air when ignited. There is no risk of explosion.
- Fresh green material burns similar to dried wood, however, produces more smoke due to moisture. Fresh material burns quickly.

3.1.3 Stock Rotation

Oversize material is reincorporated back into the process at the reception area in the formation of windrows. The oldest oversize material is the first to be reincorporated into batches by sourcing oversize from one side of the pile and adding new oversize to the other side, preventing older oversize material remaining on site.

3.2 Plant/Machinery

Plant has the potential to become a fire risk if there is a malfunction or if it is not maintained correctly. All plant on site will be fitted with fire extinguishers. Fixed plant is situated in the processing area of the site. Mobile plant will be stored on the pad away from piles or offsite at the associated farm when not in use and overnight. AF Pinkerton is committed to reducing these risks by performing visual checks and maintenance activities.

Table 5 – Major Plant on Site

Plant	Number	Function	Fire Extinguisher
Loading Shovel	2	Loading/moving green waste and compost	Yes
Compost Turner	1	Turning windrow	Yes
Shredders	2	Shredding	Yes
Screeners	2	Screening	Yes

3.2.1 Plant Maintenance

All plant is checked daily by a competent member of staff. Faults or anomalies are recorded in the site diary and dependent upon the severity acted upon immediately. If faults or anomalies are identified, then operations for the plant in question will be ceased until rectified.

Daily checks are made on all machinery for dust. If high levels are detected, then the machine must be shut down and cleaned. Machinery is blown down at least once a week or as required by the outcome of the daily checks.

A planned preventative maintenance regime is operated on site. As part of this regime a strict inspection is carried out on each vehicle in line with manufacturer's recommendations.

3.2.2 Preventing Sparks from Loading Shovels

Sparks caused by loading shovel buckets are rare due to the training of the operatives and the nature of the materials being transported. Sparks are highly unlikely to cause a fire with compost as it typically has ~50% moisture content. If sparks do ignite waste material, operatives are trained to use fire extinguishers to stop the fire from spreading. If this is unsuccessful then the member of staff must follow emergency procedures. Further prevention measures involve not moving windrows and waste materials when they and the concrete pad are dry or have low moisture content.

3.2.3 Mitigating Risk from Hot Exhausts

Exhausts have the potential to become hot and therefore present a risk to surrounding material on site.

- All exhausts on plant or vehicles are designed to reduce risk to the surrounding environment by being placed in isolated locations.
- There are designated traffic routes across the site to minimise unnecessary contact between plant and material.
- Vehicles or Plant are not run continuously for more than 3 hours at a time and are cooled for a minimum of 15 minutes.
- Operators are instructed to carry out a visual check of the machine after stopping and before leaving site for hot spots/smouldering dust in the immediate area surrounding the exhaust.

3.3 Fuel Tanks

There are no fuel tanks or gas cylinders stored on site. All machinery on site shall be refuelled via use of a 5,000l mobile bowser which itself shall be topped up from the stationary fuel tank situated on Blackbirds Farm (outside of the permitted area). When the bowser is not in use, it shall be parked in the main farmyard, not on site. No vehicles shall be transported within 6m of the mobile bowser unless they are refuelling.

3.4 Extreme Weather

On the rare occasion that extreme weather such as lightning occurs, the following procedures are taken:

- Windrows and all other storage piles are lowered and flattened to reduce risk of being hit by lightning.
- All machinery is transported >6m from any waste material.
- Once machinery is moved operators will seek shelter.

3.5 Smoking

The site has a strict no smoking policy on areas of operation and storage. Smoking takes place at a designated smoking area back at main farmyard.

3.6 Arson

The facility lies within a gated facility which is fully fenced and is situated within a rural location.

The site is gated at the site entrance from the main road and these gates are locked outside all normal operating hours.

The boundary fences to the site and main access gate are checked on a regular basis for damage or signs of attempted entry. Such occurrences are entered in the site diary and any damage is repaired at the earliest opportunity.

All visitors will be required to sign in/out at the Site Office on arrival and exiting the site.

3.7 Site Infrastructure Electrical Faults

The site does not have any buildings. The electrical system of fixed plant will be maintained to a safe and correct standard. Certification and maintenance will be undertaken by a qualified electrician.

Regular PAT testing is undertaken around the site on electrical equipment and the records are kept on site as evidence.

3.8 Hot Works

If any hot works, such as welding or cutting for refurbishment of fixed or mobile plant need to be carried out these actions shall be restricted offsite to the maintenance shed at Blackbirds Farm. The only hot works permitted on site will be for machinery breakdown. For all hot works the prior written approval will be required from site management. Hot works are only to be carried out by trained operatives. The training and qualification records of these operatives are kept on site.

After completion, the hot works are checked before being signed off as complete. These checks at the end of the hot works ensure signs of the start of a fire are not missed. A fire watch shall be conducted at the site of the hot works one hour after they have been completed to ensure there is no sign of fire. This check is recorded within the site diary.

3.9 Build-up of loose combustible waste, dust and fluff

To prevent the build-up of loose combustible waste, dust and fluff on site, an operative will carry out a daily patrol around the site looking for any loose waste or fluff. If any is observed it shall be cleared. The daily patrol shall be recorded in the site diary.

3.10 Reactions between incompatible or unstable waste

Upon arrival at site, all waste loads shall undergo a visual inspection by a trained operative. If an operative notices any signs of incompatible or unstable waste the load shall be spread on the quarantine area for further inspection. If incompatible or unstable waste is found it shall be removed from the load, 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 in line with *OP02 – Waste Acceptance*.

3.11 Naked lights

There will be no naked lights on site.

3.12 Industrial heaters

There are no industrial heaters used on site.

3.13 Open burning

There will be no open burning on site. It is highly unlikely that neighbouring industrial premises will have open fires. In the event that they do, the distance between sites provides a significant fire break to prevent the spread of fire. Further, the activities of neighbouring premises are not classed as high risk to be a potential cause of fire.

3.14 Hot loads

If any waste accepted at site passes the initial visual inspection procedure but on tipping is subsequently identified to be hot, e.g. the presence of steam, the load will be moved to the quarantine area, segregated from other wastes and a water hose will be used to douse the load until it is suitably cooled.

3.15 Leaks and spillages of oils and fuels

Any liquid spillages will be cleared as soon as practicable by depositing absorbents on the affected area. A spillage kit is available on-site for rapid clean-up and amelioration of spills located in the Blackbirds farm tool shed. The absorbents will then be suitably contained prior to being transferred to a suitably permitted facility.

4.0 DETECTING AND MANAGING FIRES

4.1 Daily checks

Daily checks are made across the site, which seek to identify and mitigate potential hazards. If a hazard is identified from the daily checks then it is recorded in the site diary and acted upon immediately with appropriate action. Daily checks take place on:

- Site Infrastructure – Senior staff check for damage or abnormalities in the site infrastructure.
- Plant – All plant is checked before use (see section Plant Maintenance).
- Waste Piles – Senior staff assess all waste piles manually through observation and touch for excessive heat and ensure that dimensions are correct (See section Preventing Self-combustion).

4.2 Training

All new employees will be subject to an induction programme which will include familiarisation with the EMS and this FPP. This will also include training of how to identify 'hot loads' when accepting waste on site and 'hot spots' within waste material stored and processed on site. Staff will also be trained on how to use fire extinguishers and fire drills are undertaken annually and documented.

Regular toolbox talks will be held with employees and documented accordingly, in order to communicate any updates / changes made to the Fire Prevention Plan.

This FPP will be stored in the Site Office so that it can be referenced for induction, on-going training, testing and other management review purposes. All training undertaken will be logged in a training matrix.

4.3 Emergency Action Plan

In the event of fire, the alarm will be raised verbally by shouting "FIRE, FIRE" and all operatives will be informed by two-way radios. Upon hearing the verbal fire alarm or receiving confirmation through the two-way radios, the fire brigade will be called by the site management or supervisor available. Immediately personnel will leave their work area and proceed to the fire assembly point (see Annex A – Site Emergency Procedure for location of fire assembly point).

All visitors sign in when they arrive on site and then out again once they leave. All employees as well as visitors are then required to make themselves known to the Site Manager when they arrive on site and again once they leave. In the event of a fire, the visitor book is collected by the site manager and taken to the assembly point.

The specific arrangements for fire are as follows:

- A. Fire extinguishers are provided around the premises and are marked by signage;
- B. If an employee discovers a fire, the alarm should be raised. Competent individuals will be trained to use fire extinguishers; other employees should not tackle a fire but proceed safely to the assembly point via the escape routes, if applicable.

The site manager, or another member of the management team if the site manager is not on site, will be responsible to see the premises are clear and account for everyone at the assembly point.

4.4 Fire Infrastructure on Site

- **Fire Warning System** – All operatives informed by two-way radios if event occurs;
- **Emergency Lighting** – None as no buildings on site;
- **Fire Detection System** – None as it is an open aired site.
- **Fire Safety Signs and Notices** – *(These requirements are to be confirmed once the site is operational and a fire risk assessment has been undertaken by a trained external contractor).*
- **Firefighting Equipment** – *(These requirements are to be confirmed once the site is operational and a fire risk assessment has been undertaken by a trained external contractor).* These are marked by signage and serviced annually by an approved external contractor.
- **Bay Walls** – None used on site.
- **Access to Mains Water** – Access to mains water is available via two fire hydrants in the local area (please see Annex D for correspondence with Hertfordshire Fire and Rescue Service confirming location of fire hydrants). One hydrant is at the entrance of Blackbirds Farm (Ref 6471) and the other one is on Kemprow (ref 6470). The correspondence also states that hydrants in the area show a flow rate of between 15 and 30lp/s (see section 4.7) which is drastically lower that what would be required in the event of a fire. Please note, as this is the case the fire brigade can use the onsite lagoon as the primary source of water in the event of a fire

4.5 Firefighting Strategy and Suppressing Fires

The site has an active firefighting strategy in place and will seek to extinguish fires as quickly as possible, either through on-site fire equipment or through supporting emergency services. In the event of a fire, sufficient staff and plant resources shall be provided to assist the Fire and Rescue Service in tackling a fire, if deemed safe to do so.

For small fires, fire extinguishers are available. All operatives will be trained to use this equipment.

For a large fire arising in the material piles, the fire shall be managed by the Fire and Rescue Service via water from the onsite lagoon. The operator shall support the Fire and Rescue Service via active firefighting measures, such as using plant to move unburnt material in the vicinity of the fire to the quarantine area under the instruction of the Fire and Rescue Service. All fire water shall be captured on site and drain via the engineered concrete pad back to the lagoon. Once the fire has been extinguished, the operator will test the fire water contained in the lagoon to check its characteristics and either reuse the fire water within the process for moisture amendment or if this cannot be carried out the fire water shall then be removed off site for deployment or to a suitably licenced facility.

If materials or plant becomes ignited, then every safe effort will be made to suppress the fire and move it to the quarantine zone.

4.6 Fire Water

See Annex C – Site Drainage Plan for details on drainage. The whole site is served by a contained drainage system to prevent leachate produced during the composting process and any rainfall that lands on the concrete pad from running off the pad and onto the surrounding land. The concrete has been built with an engineered fall to prevent water/leachate from flowing off the pad. The pad has been constructed in such a way that all water/leachate on the pad will flow from the southeast to the northwest of the site. All water/leachate from the pad is channelled to the northwest corner of the concrete where the liquid falls into a gravity-fed, below ground lagoon.

The composting area, including product storage area and reception pad is approximately 15,238m² and the pad is constructed of 200mm thick impermeable concrete. The lagoon has a capacity of approximately 8,750m³ with an additional freeboard space volume of approximately 2,700m³. The capacity of the lagoon is large enough to cope with a 1 in 100 year storm event and to comply with equivalent of a 24hr M5 worst case storm event producing 40mm of rainfall. These arrangements ensure that under all weather conditions, no water/leachate can escape from the site. In the event the lagoon has reached 90% of the working capacity (8,750m³) the leachate is either re-circulated into the composting process, removed for application to land under deployment or removed by tanker for treatment at a suitable licenced facility. At least 900m³ will remain in the lagoon at all times for fire tackling purposes.

All foul water from operative facilities, such as toilets, is located offsite at Blackbirds farm.

4.6.1 Storage Tanks

There are no fixed freshwater tanks on site.

4.7 Fire Water Capacity

The Fire Prevention Plan V3 states that 'A 300m³ pile of combustible material will normally require a water supply of at least 2,000 litres a minute for a minimum of 3 hours'. It is worth noting that compost would absorb the vast majority of water added and that it does not burn like a regular flammable material. The figures quoted from the EA's fire prevention plan are therefore unlikely to be representative of the compost waste on site.

The calculation for the amount of fire water required to extinguish the largest waste pile on the site is shown below.

- Volume of Waste Reception / Oversize Waste – 750m³
- Water required per minute – 5000l/5m³
- Duration – 180 minutes

Water required per minute (5m³) * Duration (180min) = 900m³ of required capacity

As mentioned earlier, the local fire hydrant flow rate is far below what would be required. As this is the case the demand required in the above calculation shall be supplied via the onsite lagoon. The lagoon is designed with a concrete access ramp which the Fire and Rescue Service would be able to utilise to deposit their pumps in the lagoon.

4.8 Contingency Plan

If a major fire occurs, then the site will put the following procedures in place:

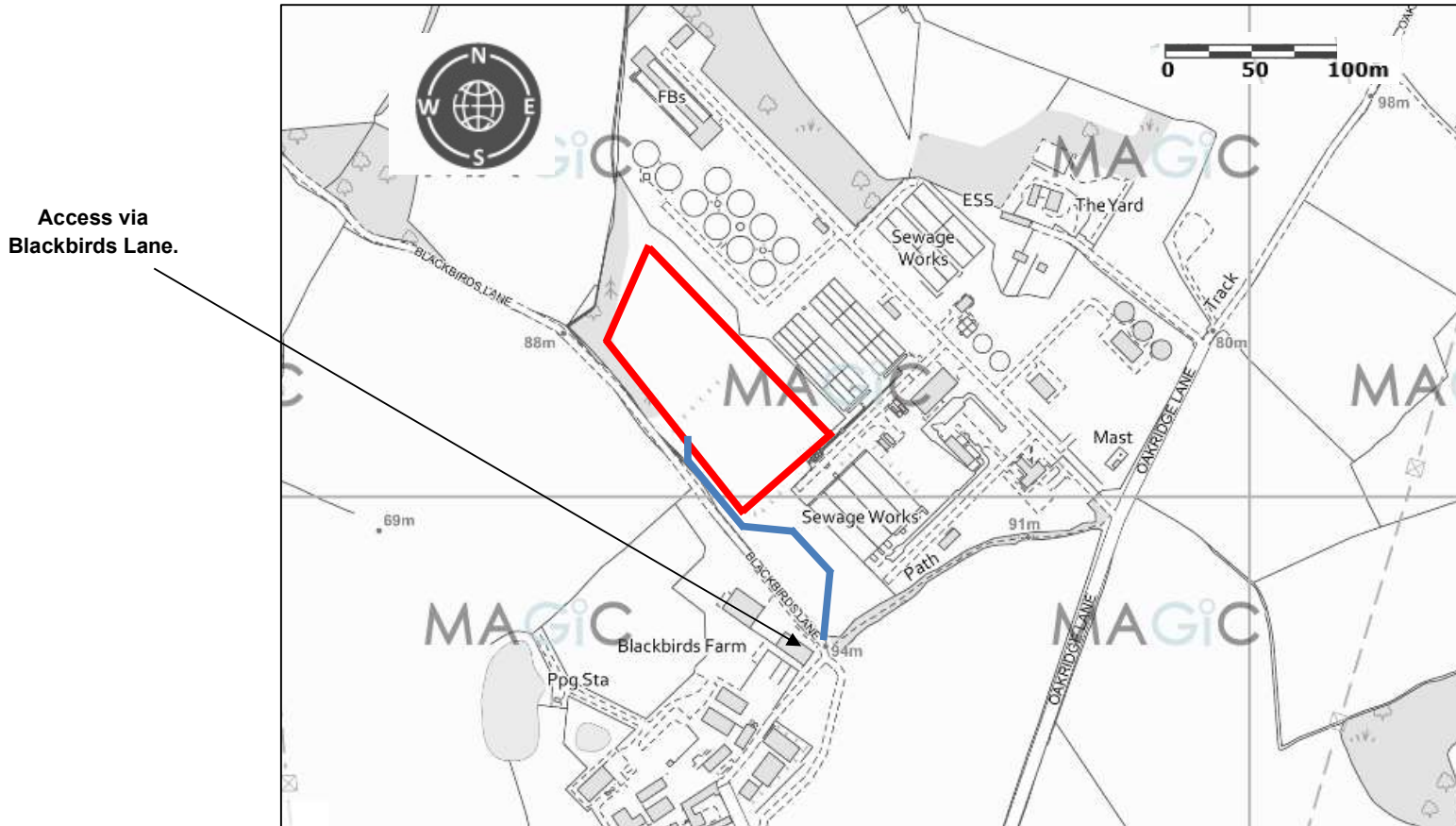
- All incoming loads will be diverted, and the site will be closed to new waste until implications from the fire have been resolved;
- All waste remnants left by a fire shall be inspected and potentially processed onsite or transferred to a suitably permitted facility. If necessary, a specialist contractor will be engaged to assist.
- Fire water which has drained to the lagoon shall be tested. If it is suitable, the fire water shall be utilised in the process. If it is not, it shall be deployed to land if possible or tankered off site to a suitably licenced treatment facility.
- In the rare event, material cannot be processed within 2 weeks following the fire, then it will be removed off site to a suitably permitted facility, unless agreed otherwise with the Environment Agency.
- All the sensitive receptors identified in this fire prevention plan shall be contacted, where practicably possible, via door to door visits and the situation explained or via a leaflet drop providing information and a contact number. AF Pinkerton will also provide a helpline for any sensitive receptors to contact the site.

5.0 SITE LOCATION

5.1 Fire Service Access Route

The main route to site for the Fire and Rescue Service site will be via Blackbirds Lane (See Map 1).

Map 1 – Composting Facility Site Access



5.2 Sensitive receptors:

Please see map 2 & 3 below for sensitive receptors and borehole locations surrounding the site, in a 1km radius. Please see map 4 for location of site in relation to source protection zones.

Table 10 - Sensitive Receptors Surrounding South Portion of Site

Reference	Receptor	Distance from site in metres (Direction)
1	Annibels	~80 (S)
2	RSL Engineering Limited	~80 (S)
3	Commercial Motors – Watford	~80 (S)
4	Blackbirds Sewage Treatment Works (Thames Water)	0 – Immediately adjacent to site (E)
5	Kuhn Interiors Limited	~180 (S)
6	Lam Upholstery	~180 (S)
7	Residential Property – Blackbirds Lane	~190 (S)
8	Residential Properties – NE of Sewage Treatment Works	~205 (NE)
9	FMS Recovery	~380 (NE)
10	CarTakeBack	~390 (NE)
11	Residential Properties – Kemprow	~590 (SSE)
12		~700 (SSE)
13		~860 (SSE)
14	Michelin Travel Partner	~940 (NW)

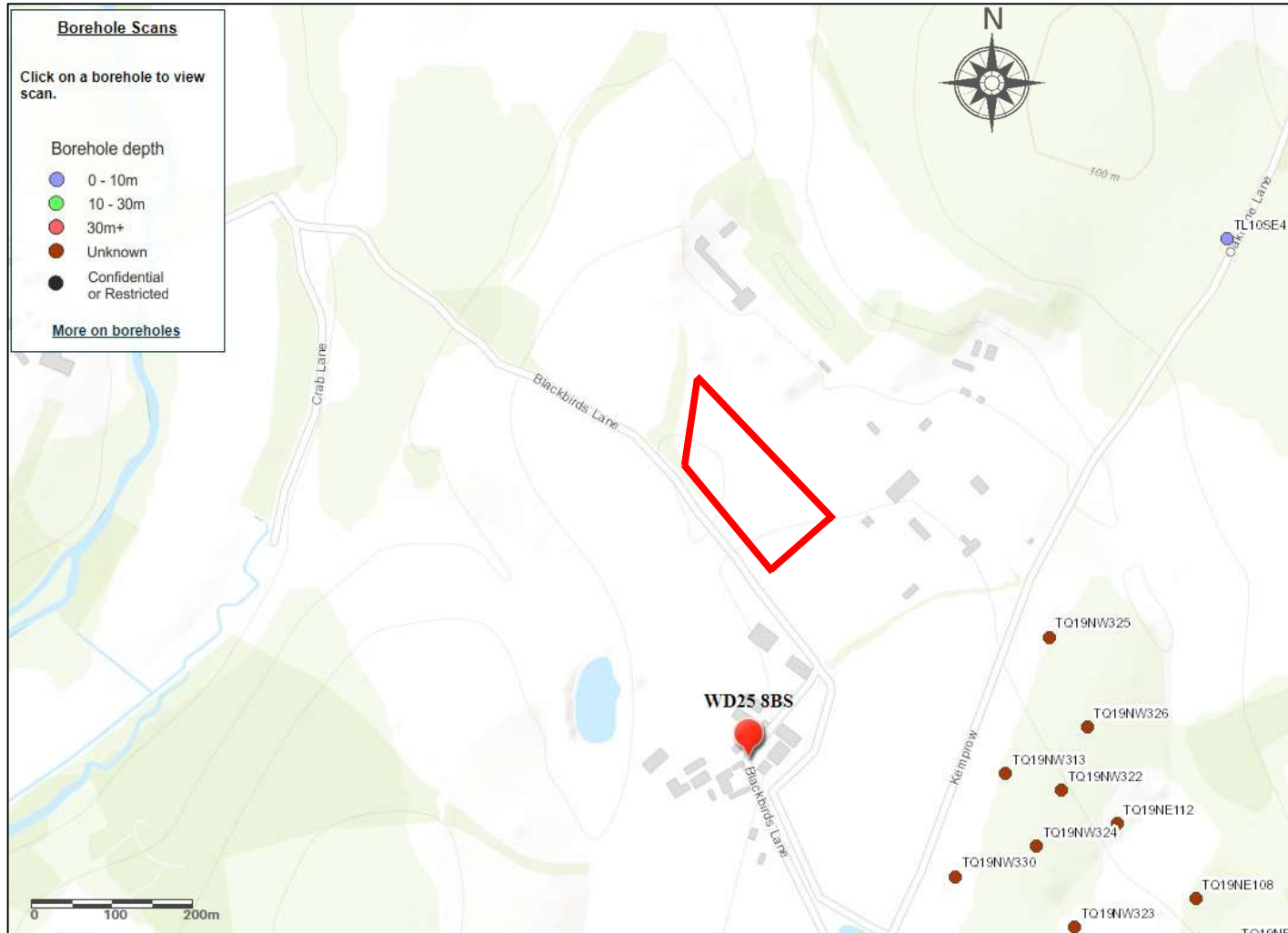
15	M&Y Interiors	~945 (NW)
16	Residential Property – Broadfield Way	~950 (WSW)
17	Origin Studios Photography	~965(NW)
18	Ideal Driving School – Watford	~970 (SSE)
19	Ahisma Dairy Foundation	~970(SW)
20	Motor Care	~1000(NE)

Map 2 – Local Sensitive Receptors



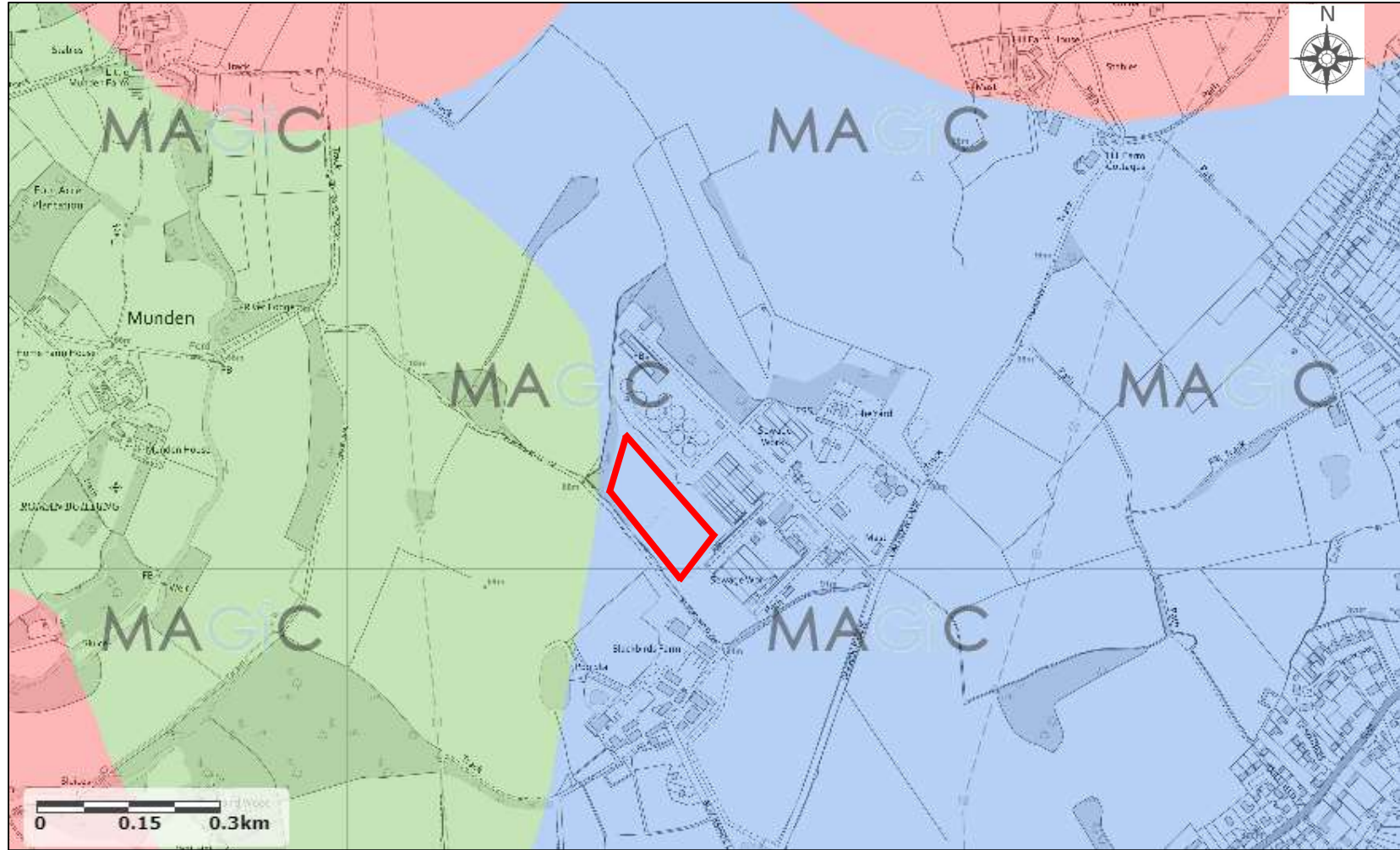
For wind rose and prevailing wind direction please see figure 1 below.

Map 3 – Local Borehole Receptors



For wind rose and prevailing wind direction please see figure 1 below.

Map 4 – Source Protection Zone (Taken from Environment Agency – Groundwater Source Protection Zone Map)



For wind rose and prevailing wind direction please see figure 1 below.

5.3 Historic Wind Direction

Table 12 - Wind Direction Data collected at RAF Northolt

Wind Direction (from)	N	NNE	NE	ENE	E	ESE	SE	SSE	
% Occurrence	3	6	6	5	4	4	4	6	
Wind Direction (from)	S	SSW	SW	WSW	W	WNW	NW	NNW	Calm
% Occurrence	6	10	11	17	5	3	4	0	7

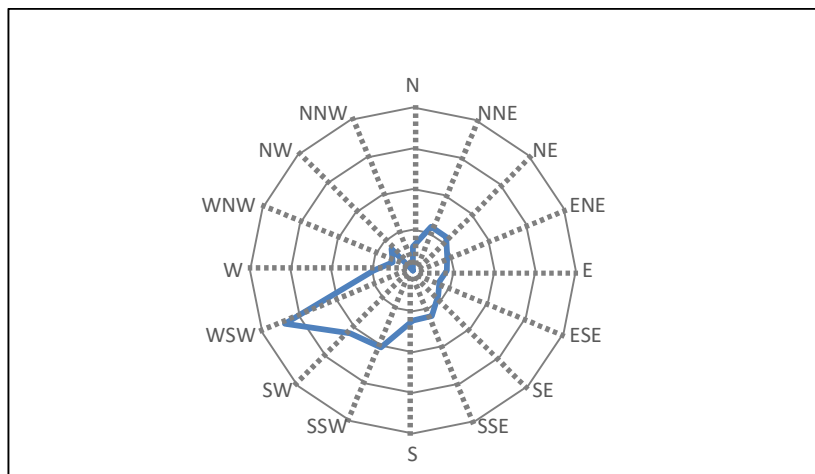


Figure 1 – 5-year average of wind direction for AF Pinkerton (Data source: RAF Northolt)

6.0 FIRE SAFETY DEFICIENCIES TO BE RECTIFIED

Deficiency/Rectification	Priority	Date to be rectified	Date rectified
To be outlined once the site is operational and a Fire Risk Assessment has been undertaken by a trained external contractor.			

6.1 Significant Findings

Significant Finding	Control Measures/Action

ANNEX A – FIRE SAFETY MANAGEMENT PLAN

FIRE SAFETY MANAGEMENT PLAN

Fire Safety Plan

Person with overall responsibility for fire safety

Person responsible:
Graham Choake

Position:
Site Manager

Fire Risk Assessment

Person responsible for:

Carrying out & review

Person responsible:
Graham Choake

Position:
Site Manager

Maintenance Programme

Person Responsible for:

- Maintenance of fire safety provisions
- Fire alarm
- Emergency lighting
- Firefighting equipment
- Escape routes
- Fire safety signs/notices

Person responsible:
Graham Choake

Position:
Site Manager

Emergency Action Plan

Person responsible for:

Production & review

Person responsible:
Graham Choake

Position:
Site Manager

AF Pinkerton & Partners

Fire Emergency Procedure

Assembly Point – Site Gate.

If you discover a fire:

1. Raise the alarm immediately. Shout FIRE, FIRE or use the two-way radios.
2. Tackle the fire using the appropriate firefighting equipment (only if you feel safe and are trained to do so).
3. Leave the premises by the nearest safest available exit.
4. Report to the assembly point.
5. Call 999 for the fire brigade by mobile phone, if not already done.
6. Do not re-enter until cleared to do so by the fire and rescue service.

If you hear the alarm:

1. Leave the premises by the nearest safest route.
2. Do not stop to collect personal belongings.
3. Ensure any one you meet on the way out is aware of the fire.
4. Report to the assembly point.
5. Call 999 for the fire brigade by mobile phone, if not already done.
6. Do not re-enter until cleared to do so by the Fire and Rescue Service.

Machine / Mobile Plant Operators:

1. Clear area of vehicles if safe to do so.
2. If possible and safe to do so, commence active firefighting measures such as moving unburning waste material to the quarantine area.
3. Remove mobile plant from site to facilitate access for the Fire and Rescue Service, save for any equipment that is deemed safe and appropriate to be used in tackling any fire, e.g. shovels and excavators.
4. Report location of relevant vehicles remaining on site to the Fire and Rescue Service at the assembly point.

Site Management:

1. Site manager, site supervisor or delegated person to collect visitor book and take to fire assembly point.
2. Site manager or site supervisor to supervise the evacuation of all persons on site.
3. Site manager to report to the scene of the fire.
4. Site manager, site supervisor or delegated person to carry out roll call at assembly point.
5. Liaise with Fire and Rescue Service upon arrival.
6. Brief Fire and Rescue Service of any danger areas on site.

7. Do not allow anyone to re-enter any building until advised that it is safe to do so, by the Fire and Rescue Service.

ANNEX B – SITE LAYOUT PLAN

ANNEX C – SITE DRAINAGE PLAN

**ANNEX D - CORRESPONDENCE FROM HERTFORDSHIRE FIRE AND RESCUE
SERVICE REGARDING HYDRANT LOCATION**

WRM Limited
18 Manor Square, Otley, LS21 3AY

Tel: 01943 468138

Email: info@wrm-ltd.co.uk Web: www.wrm-ltd.co.uk

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