

Welton Aggregates Limited

Land at Highfield Quarry,
Welton Le Marsh, Spilsby, Lincolnshire, PE23 5SX

Operational Plan Soil Treatment Facility

STATUS: PERMIT VARIATION APPLICATION

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AA Environmental Limited
Units 4 to 8 Cholswell Court
Shippon,
Abingdon
OX13 6HX
T 01235 536042
F 01235 523849
info@aae-ltd.co.uk
www.aae-ltd.co.uk

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1.0 INTRODUCTION

1.1 Overview

The site is operated by Welton Aggregates Limited (the Operator). This Plan relates to a variation of an existing Standard Rules permit (SR2022 No. 1 – previously SR2008 No. 11 75 kte) to a bespoke environmental permit application to permit the processing of both non-hazardous soils and inert material through washing, crushing and screening.

This plan sets out the infrastructure at the site, the site layout and operating processes and controls. The Permit Boundary Plan and Site Layout Plan are detailed in drawings 233320/D/001, D/002 and D/004, respectively.

2.0 MANAGEMENT

2.1 Management

The operation of the site is in accordance with the following management systems:

- Operational Plan (this document);
- Dust Emissions Management Plan;
- Site Condition Report;
- Spill Response Plan;
- Accident Management Plan; and
- Health and Safety Plan.

The Plans set out the following information:

- Environmental Policy;
- Register of Environmental Effects;
- Operational controls and responsibilities including method of works;
- Site Infrastructure plan;
- Site and equipment maintenance regime;
- Contingency plans;
- Accident plans and procedures;
- Complaints procedure;
- Staff and Training records; and
- Review process.

The site clearly establishes and monitors performance for key objectives, this includes but is not limited to:

- Material and waste compliance;
- Incidents and complaints by category; and
- Non-conformances.

2.2 Staffing

All staff have clearly defined roles and responsibilities with specified skills for each post required.

At all times there is sufficient staff to manage and operate activities on the site without causing a risk to the environment.

In accordance with industry guidance, the site is supervised by a Technically Competent Manager (TCM) (WAMITAB Operator) who is on site for greater than 20 % of the operation of the facility. The Operator notes its duty to notify the EA of any changes to the provision of technical competence.

The site is supervised by the TCM and at least one other member of staff who is fully conversant with the requirements of the permit and this plan:

- Waste acceptance and control procedures;
- Operational controls and environmental monitoring;
- Maintenance;
- Record keeping; and
- Emergency action plans; and notifications to the EA.

Additional expertise from the maintenance contractor, material testing consultants and permitting/planning consultants is sought, as necessary. These additional resources are secured under contract to the Operator.

Technical staff will demonstrate continuing competence by passing periodic assessment. Personal training records are kept providing evidence. All contractors are trained about the relevant working controls and legal responsibilities relating to their area of work.

The Site Supervisor only authorises for works to be undertaken once relevant legal requirements and a site-specific risk assessment has been completed.

2.3 Closure Process

In the event that part, or whole, of the facility ceases to operate under the Permit, the affected proportion of the site will be closed. At cessation of the works, the area is fully cleaned and made safe.

A Site Condition Report (233320/SCR) for the site is submitted with this application.

The data is reviewed with regards to the likely site condition and a closure plan is developed, including a targeted site investigation, to demonstrate that the site condition is acceptable. If remedial works are necessary, then these are developed and agreed with the EA as part of the closure process.

3.0 WASTE MANAGEMENT OPERATIONS

3.1 Overview

This section sets out the waste management processes to be undertaken at the site. The section examines the system wide operations to be applied and the waste specific processing operations at the site.

Schedule 1 details the operating processes and Schedule 2 the accepted wastes. Figure 1 presents the soil washing process flow diagram.

3.2 System-wide Procedures

3.2.1 Overview

Only waste from pre-selected contracts will be permitted at the site. There will be no ad-hoc acceptance of material at the gate. No more than 75,000 tonnes of waste will be accepted at the site per annum. Detailed pre-acceptance controls are set out in Appendix A.

Storage areas for waste feedback and recovered product are shown on drawing 233320/D/004.

Pre-acceptance assessment

Prior to acceptance, the waste will be reviewed to determine its characteristics and assess treatability. The following will be assessed:

- The nature of the process that produced the waste, including variability of the process;
- The composition of the waste, including analysis of a representative sample from the soils and sludges from brownfield sources or waste facilities;
- Each new enquiry (waste producer) will electronically document the material EWC Code and characteristics, including chemical constituents, state (form) and quantity; and
- Material will not enter site until the Operator has reviewed the above and determines whether it is acceptable.

A consolidated list of permitted wastes is detailed in Schedule 2.

The Site Supervisor will only approve acceptance of the waste for treatment or storage for onward transfer if they are satisfied that the characterisation is sufficient, including a consideration of variability. Furthermore, no waste will be accepted unless the facility has a prior defined management process for the treatment or disposal.

Waste Acceptance

All wastes transported to the site will be weighed, the location of the weighbridge is included in drawing 233320/D/004. Only permitted waste that conforms to the type and description in the documentation supplied by the producer and/or holder will be accepted. The waste must conform to its original description.

The following wastes will not be accepted at the site:

- wastes consisting solely or mainly of dusts, powders or loose fibres; and
- hazardous materials.

During vehicular unloading the driver will be supervised by a trained operative and the waste material will be further inspected. If there is any uncertainty regarding the waste type against the expected characterisation then the material and/or the vehicle will be isolated until the assessment can be concluded. If the waste is unacceptable the vehicle will be re-loaded and the waste transfer note rejected from the site.

In the event that potentially unacceptable waste is identified post tipping this will be segregated and taken to the Quarantine Area (as indicated on drawing 233320/D/004). The quarantine area consists of a lockable sealed container for smaller incidental objects. In the event of a soil being quarantined, a storage bay will be set aside. Where further testing is required to determine acceptability, this will be undertaken by the Site Supervisor or delegate. Quarantine controls are set out in Section 3.2.5.

The producer of the waste will be notified of the potential incident and if deemed necessary the importation of the waste stream will be stopped until acceptability can be confirmed. In the event the waste is unacceptable the producer will be notified to remove the material from site. The details of this incident will be recorded in the site's Daily Diary.

3.2.2 Storage over shutdown periods and security

Loaded vehicles will typically be turned away when the area is not operational. In the event that a vehicle cannot be turned away, it will be placed adjacent to the quarantined section. The site will be locked during out of hours.

3.2.3 Cleaning

As determined necessary through the inspection regime, excessive accumulation of soil fines and dust on areas of hardstanding and external haulage roads will be cleaned by sweeping and/or water spraying. During down time and periods of low activity at the site maintenance and cleaning will be undertaken removing any soils.

3.2.4 Storage of waste

The location for the storage of waste from the operations and the quarantine area is set out in drawing 233320/D/004.

3.2.5 Quarantine

The pre-acceptance procedures will be implemented at the site to avoid unacceptable waste being received at the site. Despite these controls, waste streams can contain unexpected waste that is not suitable for processing.

Upon identification these wastes will typically be rejected and returned with the carrier to the producer. The rejection will be notified to the producer and a record maintained in the Daily Diary.

In the event that unacceptable waste is identified the material will be isolated and transferred to the Quarantine Area. Controls are outlined in Table 3.2.1. the quarantine area will have an impermeable base.

Table 3.2.1. Quarantine Controls		
Waste type	Waste processing controls	Storage controls
Hazardous soils or demolition material (e.g. hydrocarbons or asbestos)	Waste treatment in area to immediately stop in the event of identification. Area to be demarcated by fencing. It will not be disturbed until a full characterisation of the waste has been undertaken by competent personnel and review of health and safety requirements undertaken. Transfer to Quarantine Area and placed on impermeable sheeting as required.	Once safe working control developed, wastes will be transferred to Quarantine Area for offsite disposal or recovery. The stockpiled material will be immediately sheeted once the stockpile has been formed. The sheet will be impermeable to prevent leaching. The affected area will be inspected to ensure no cross-contamination has occurred and that it is safe for treatment operations to recommence.

In the event canisters are identified, the Quarantine Area will have a cage for pressurised containers to enable safe storage.

An inventory of wastes within the Quarantine Area will be maintained at all times, detailing the date, waste characteristics and the date for removal.

3.3 Oversize Processing Area

3.3.1 General and Waste Acceptance

The permit boundary is shown in drawing 233320/D/002. The site layout is shown in drawing 233320/D/004 and the soil washing process is shown in Figure 1.

The pre-acceptance assessment will be in accordance with Section 3.2.1 and Schedule 2.

Any soils with a high percentage of oversized inert material (>100 mm) will be directed to the crushing area (hardstanding area in the east). Soils with a low percentage of oversized material will be directed to the feedstock for soil washing. There will be intermittent mobile crushing/screening activity at the site to manufacture an aggregate out of the oversize.

Soils may also be blended, screened and sized through a power screen. This process removes potential foreign items from the soil mix, including metals, plastics and pipework. This material will be manually separated and segregated to the relevant bulking up container.

3.3.2 Crushing and Screening of inert oversize

The stockpiled oversize material will be transferred to the hardstanding area and inspected. Any oversize or evident unacceptable material will be mechanically or manually segregated from the waste. The material will be inspected and will be crushed or screened as determined necessary.

Dependent upon the treatment need, the material will be either screened/crushed through standalone mobile plant. The excavator will lift the material into the hopper. This activity will be intermittent dealing with small quantities of oversize weekly, primarily to further process the oversize from the soil washing process.

Oversized inert material will be placed in a stockpile. An excavator will load the hopper of the crusher/screen to re-grade the material. Suppressant sprays will be in operation. The crusher will feed into the power screen which will re-size the material to the required specification.

Dependent upon grade, fines from the screening may be directed into feedstock for the soil washing for further recovery.

Testing to demonstrate recovery will be undertaken in line with section 3.5.

3.4 Soil Washing Area

Overview

The process overview is shown in Figure 1.

The washing plant is located over an impermeable concrete base with curbing around the edges. This kerbing is either compacted earth bunding or concrete lip kerbing. The concrete drains to a sealed catch pit sump located in the western area of the site (shown in drawing 233320/D/005). This sump is next to the wash plant and provides rainwater harvesting and re-use back within the wash system or for dust suppression.

Feedstock management

Soils suitable for soil washing will be stockpiled in front of the hopper.

The excavator driver will assess the stockpile and will remove any obvious material greater than 300 mm for further recovery, including inert material for crushing/screening, incidental timber and metal. Any identified unacceptable waste will be segregated to the skips.

Pre-screen and flotation tank

The excavator will place the material into a pre-screen. The size of the pre-screen will be adjusted but is typically 100 mm. Oversize material is segregated from the material for soil washing and falls to the ground for further segregation. Oversize inerts are transferred to the oversize processing area for further processing.

The smaller fraction of material transfers by belt to the washing plant. The material on the belt is screened by a magnet which removes any ferrous metals.

The sized material is then transferred into a washing flotation tank. Light contaminating material will be segregated from the heavy soil fraction. The light material falls to a recycling skip, which is transferred to a suitably licensed facility for further recovery or disposal.

Aggregate screening and washing

The resultant mineral material is passed through a series of agitation screens. It is subject to washing and agitation removing material less than 5 mm for further processing. The coarse aggregate is then further size segregated into pre-determined fraction for resale as recovered aggregate.

Sand washing

The material less than 5 mm is further washed and screened into two differing grades, a coarse and a fine sand. This removes the silt fraction leaving sand. Different grades of sand are generated.

Slurry processing

The resulting slurry is pumped to a settlement tank. The rate of settlement is controlled through the addition of a flocculant. Sludges fall to the bottom and are transferred to an agitation tank for further processing whilst the cleaned effluent is transferred to a holding tank.

A fines mesh removes light waste, such as fibres from this effluent. The fines are bulked up with the other unacceptable material and transferred for further recovery or disposal at a suitably licensed facility.

Silts

A rotating boom in the agitator tank continuously moves the silt laden water to prevent it settling out. Periodically a pump transfers the water to the centrifuge. Following separation of the water and the fines, the resulting solids are discharged to an area edged by concrete blocks. These materials are removed by loading shovel as required. The waste water is recycled and reused by the wash plant.

3.5 Material Testing and Records

The recovery of aggregate is subject to an inspection and testing regime, including both chemical analysis and engineering tests in accordance with the principals set out in the WRAP protocol, series 600 of the Highways Specification, British Standard aggregates for concrete and/or civils, and British Standard for Topsoil. Engineering tests and chemical analysis is undertaken to ensure that they are suitably certificated for future use. These will include engineering tests in accordance with the Specification for Highway Works and environmental tests at a UKAS accredited laboratory. All testing is carried out in accordance with the MCERTS regime.

The filter cake (clay fraction) is treated as waste (EWC 19 02 06 or 19 13 02) unless a site-specific point of recovery has been agreed with the Environment Agency or a robust self-assessment has been undertaken.

These tests will demonstrate that materials have been recovered to an agreed specification and/or waste characterisation. These records are maintained for a two-year period following recovery.

The process for determining that the wastes have been fully recovered are set out in Appendix B, including environmental criteria.

The water within the soil washing system is routinely inspected each operating day to ensure the process is working satisfactorily and the water is tested routinely to determine whether there is any significant hydrocarbon accumulation.

3.6 Transfer of Material and Waste

Recovered soils will be bulked up for onward use and then stockpiled by grade within the bays shown in drawing 233320/D/004.

If, following testing, soils do not meet the necessary specification, they will either be further processed on site or transferred from the facility for further recovery or disposal at a suitably licensed site. All soils are fully characterised (typically EWC 19 12 09) and accompanied with characterisation data including laboratory test results.

3.7 Operational Controls

Table 3.7.1 sets out the operational controls which apply to the process under normal and abnormal operations.

Table 3.7.1 Operational controls		
Activity (waste activity reference)	Risk	Control/abatement
Standard operation		
Acceptance	Particulates to air and land	Delivery vehicles are periodically monitored to assess for poor maintenance and black smoke. Failing vehicles are removed from site.

Table 3.7.1 Operational controls		
Activity (waste activity reference)	Risk	Control/abatement
		- All vehicles must comply with any legislative requirements including the EC Directive 98/69/EC. - Hardstanding is regularly swept clean.
Storage and handling of wastes and recovered materials	Particulates - (soil) particulates to air	- Fine soils can give rise to dust during handling. Drop heights to be controlled to minimise emissions. In the event of friable materials being imported misting suppression measures are available during unloading as required. - Hardstanding and concrete slab around reprocessing area is regularly swept. - Vehicles transporting recovered materials and waste are sheeted. - A misting system is deployed over the material stockpiles in the event that dust occurs.
Soil processing - screening and crushing	Particulates to air and land	- Drop heights into screen and crusher hoppers is minimised. - Screen and crushing plant are abrasive processes and can give rise to emissions if not suitably controlled. All plant will have suppression systems fitted (in line with former guidance PG3/16) and used as necessary to ensure no fugitive emissions into the wider facility. - Resulting graded stockpiles are managed to prevent slumping and instability. - A misting system is deployed over the material stockpiles in the event that dust occurs.
Soil processing – soil washing	Particulates to air and land	- Drop heights into screen and crusher hoppers is minimised. - Resulting graded stockpiles are managed to prevent slumping and instability. - A misting system is deployed over the material stockpiles in the event that dust occurs.
Soil processing – soil washing	Uncontrolled emission of effluent or waste	- The system is fully automated, with all variables, including pressure, temperature, flow and energy consumption controlled in real time. - In the event of unexpected change to the above variables, the alarm system will go off requiring immediate investigation by trained operatives. - In abnormal operational conditions the plant will automatically shut down in a controlled fashion. - Routine inspection and maintenance regimes are undertaken by trained operatives and manufacturer, under the service agreement.
Full operational system	Health and safety	- The system design restricts access for personnel near moving parts. - Access to the crusher and screen is restricted to trained personnel only. - System is subject to regular inspection and maintenance. - The site operation is subject to a risk assessment detailing health and safety requirements that must be observed at all times.
Abnormal operation		

Table 3.7.1 Operational controls		
Activity (waste activity reference)	Risk	Control/abatement
Fire	Health and safety	In the event of a fire the site Emergency Plan is followed.
Spillage of load	Particulates to land and air and health and safety	In the event that waste becomes mobile following a site accident, the area is fully demarcated. Where possible, waste is collected by front loader and/or by spade. The waste is transferred to the relevant storage bay. Crew will then hand pick litter and sweep affected area. Soils are transferred to the feedstock.
Spillage of oil from plant	Pollution to surface water collection system	The site emergency action plan should be deployed. Oil spillages on site are immediately cleaned up, relevant gullies covered and a clean-up process deployed.
Unacceptable materials identified in waste stream. Potential wastes, asbestos and pressurised containers.	Health risk	All waste processing staff are trained on identification of unacceptable waste. In the event that potential unacceptable wastes are identified in a stockpile, works is suspended. A health and safety risk assessment is undertaken to ensure a suitable safe working method is proposed. The affected area is investigated, segregated, placed in a skip and sent to Quarantine Area. Potential source of waste is assessed. The recovery process will only re-start once the stockpile has been deemed acceptable.

4.0 EMISSIONS AND MONITORING

4.1 Emissions to Air

Fugitive emissions of dust and particulates

The site lies within a predominantly rural, agricultural setting. The nearest residential properties are located circa 50 m west of the site boundary. All works will be undertaken in accordance with the Dust Emissions Management Plan (233320/DEMP).

Odour

The pre-acceptance controls and waste types to be accepted at the site will not generate significant odour. Given the distance to sensitive receptors and the low likelihood occurring no specific controls or monitoring are deemed to be required.

If notified by the EA that the site activities are giving rise to pollution outside the site, the Operator will produce an Odour Management Plan. The plan is implemented until otherwise agreed in writing by the EA.

4.2 Process effluent, site run-off and discharges to land, controlled water and sewer

Site run off & Process effluent

The drainage plan is shown in drawing 233320/D/005. The surface water will be treated via a sealed catch pit chamber and re-used within the soil washing process.

In the wider quarry and for existing arrangements, the hardstanding areas will passively drain as per existing conditions. The wash plant processing and waste storage area will be underlain by impermeable surfacing design running to a water collection lagoon. The water collected in this lagoon is fed back into the soil washing process. The soil washing facility runs at a deficit of water, hence the allocation of water supplies.

The operation of the soil washing plant is undertaken on a circular effluent system. The aggregate retains moisture content and, in conjunction with evaporation, it actively removes water from the system, necessitating a daily 'top-up' of circa 20 cu m.

The integrity of the concrete surface and all site wide drainage is maintained at all times and is inspected during daily inspections. In the event of damage, the EA is notified with details of the repair.

Leaks and spillages from vehicles and fixed tanks

The Operator maintains its vehicles, plant and equipment in accordance with relevant legislation. This ensures the manufacturers' schedules are followed and ensures the vehicles, plant and equipment are fit for purpose. The Operator trains and authorises its staff to operate the vehicles, plant and equipment to uphold the above.

The storage of diesel fuel for the re-fuelling plant is located outside of the green line boundary on the wider Highfield Quarry. Any fuel or oil is stored in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001 and the appropriate Pollution Prevention Guidelines (for example, PPG 2 or PPG 26). Spill kits are located on the mobile tanker and within the storage containers.

The site supervisor will ensure that only authorised and trained staff carry out activities involving the refuelling of plant or associated maintenance.

The maintenance schedule and fuel tank inspections are carried out by the site manager and recorded in the Site Diary.

Procedures for control and remediation of leaks and spillages

There is no import of hazardous waste.

Leaks and spillages from operational equipment and plant on site are controlled in accordance with the spill procedure.

All site staff is trained to deal with leaks and spillages according to the above procedures. The site supervisor and TCM will ensure that any required remedial actions are completed to an appropriate standard.

In the event of a significant spillage, the EA is notified as soon as possible. All significant spillages and leaks are recorded in the Site Diary.

4.3 Noise and Vibration emissions

Given the standards rules tonnage throughput and location within its locale, it is considered that a Noise Management Plan is not required.

Given the nature of the works and nearest receptors, vibration is unlikely to be an issue during operation.

4.4 Mud and debris

The following measures ensure that mud and debris is controlled from leaving the site and impacting on local roads.

The site is accessed by a surfaced access road circa 50 m from the wider Highfield Quarry entrance to the permitted site. A wheel wash is located at the wider Highfield Quarry site entrance/exit.

All vehicles are inspected for compliance prior to tipping to avoid any unnecessary mud/debris. Manual clearance of critical areas of the site will prevent the build-up of mud/debris.

Should it become apparent that debris and mud is being deposited onto a public highway, sweeping of the relevant areas will be organised immediately. Any routine inspections and subsequent actions are recorded in the Site Diary.

4.5 Pests

The waste types accepted at the site are unlikely to attract pests. In the event that pests are identified, a specialist pest control company is appointed and will deploy the necessary controls.

4.6 Litter

The waste streams processed at the site are unlikely to generate litter. No specific controls are proposed.

In the event that litter is identified around the site, it is recorded in the Daily Diary and action is undertaken to remove the litter to the general waste skips.

4.7 Fire Prevention and Control

No fires or burning of waste is permitted at the site. The risk associated with the occurrence of fire on the site is anticipated to be very low. Any occurrence of fire at the site is regarded as an emergency and acted upon immediately upon discovery.

The operations involve the recovery of soils and aggregates with low burning potential.

The following actions are undertaken in the event of a fire:

- Notify the fire brigade immediately and the EA as soon as practicable;
- Isolate the burning area and attempt to extinguish the fire if this can be undertaken without placing any member of staff or the public at risk; and
- Evacuate the site if the fire is not containable.

All instances of fires (or suspected fires resulting from arson or vandalism) is recorded in the site diary.

5.0 RAW MATERIALS

The Operator will maintain an inventory of the raw materials utilised within the recovery and transfer operations. Procedures are put in place to maintain the quality of materials used and ensure processing of raw materials is undertaken in an efficient manner, minimising wastage.

Table 5.1 sets out those resources used in the processing of waste within the facility. As part of the quarterly management review the consumption of raw materials is assessed and improvement measures implemented.

Table 5.1. Raw material consumption		
Resource	Usage	Improvement measure
Water	Suppression of dusts Water for the soil washing process	The site design and processes primarily utilise water re-circulated in the process and rainwater harvested from the site runoff.
Flocculants	Treatment of suspended solids in flocculation tank	Minimise useage and adhere with manufacturer recommendations
Fuel/Electricity	Power supply to main processing plant	Refer to section 7.

6.0 WASTE

The processes at the site generate small quantities of residual waste. These are set out in table 6.1.

Table 6.1. Waste types	
Resource	EWC
Clay (if not deemed to be recovered)	19 02 06 or 19 13 02
Mineral (in the event aggregate is deemed not fully recovered)	19 12 09
Mixed waste (made up of isolated non-hazardous materials)	19 12 12
Metal	19 12 02
Paper/cardboard	19 12 01
Office waste	20 03 01

All recyclable waste material is sent for onward recovery. Where recovery is not possible the waste is assessed for suitability to be recovered for energy regeneration. Only those materials which cannot be re-used is sent for disposal.

Records of all waste movements is recorded in accordance with the Duty of Care regulations and Section 8 of this plan.

7.0 ENERGY

The processing system has been designed to minimise energy consumption as far as possible. All pumps and control systems are state of the art to minimise power demand.

Fuel and electrical consumption are monitored to determine areas of consumption/expenditure against the processing being undertaken. Regular maintenance of plant ensures maximum efficiency is obtained.

8.0 SITE INFRASTRUCTURE

8.1 Signage

A visible notice board is maintained at the site entrance. This will detail:

- The permit holder's (and operator's) name;
- The operator's telephone number;
- The permit number; and
- The EA's contact details.

The board is constructed of durable materials and maintained in a clearly legible condition throughout the entire duration of operations.

The board is inspected weekly by the site manager to ensure it is clearly legible from the site boundary and free from damage or vandalism. The site manager will record all inspections in the site diary.

8.2 Vehicle Guidance and Traffic Management

Where necessary, signs are positioned to guide traffic in and out of the site, and to the appropriate parking and waste receiving areas. Pedestrians are directed to the site office. The site management will ensure that all signs are maintained in a good order.

A trained operative (banksman) will direct internal traffic and vehicles, as required.

8.3 Site office

The site office location is shown in drawing 233320/D/004.

All vehicles and pedestrians are directed to report to the site office upon entry to the site.

Vehicles (importing materials) is inspected in accordance with the site requirements and Duty of Care paperwork checked.

8.4 Site security, fencing and gates

The wider Highfield Quarry site's gates are locked outside of operational hours. The perimeter of the wider Highfield Quarry site operational area is fully secured by fencing and monitored by CCTV.

The integrity of the fencing and gate is maintained by the Operator. Any damage or defects that reduce security at the site is repaired as soon as possible. Damage to the site fencing and gates is recorded in the site diary, along with any required repairs.

The site staff is instructed that, in the event of finding evidence of unauthorised access and/or vandalism, the matter must be reported to the Site Manager and, if necessary, the Police and who will then take the appropriate action.

Security is provided at the site office which controls the only access into and out of the site.

8.5 Lighting

There is fixed lighting at the site. Lighting will only be used in accordance with the Planning Permission and will be turned away from local receptors. If required, mobile temporary lighting is provided in the operational area for winter evening periods to create a safe and secure working area. Any lights are angled to avoid spillage and is regularly inspected and repaired as necessary. All repairs are recorded in the Site Diary.

9.0 RECORDS

9.1 Inspections

The site is inspected by the TCM or Site Supervisor at least daily. The inspection will assess environmental controls, permit requirements and operational performance. The results are written up in the daily diary.

9.2 Records

In line with documented procedures, and the statutory requirements, records are maintained in relation to the following:

- Characteristics and volumes of waste accepted and waste dispatched (and all other records required by the Duty of Care);
- Emissions monitoring data (air quality monitoring, odour monitoring and drainage inspections);
- Recorded environmental effects including minor and significant pollution incidents;
- Complaints from the public;
- Daily site inspection reports (including severe weather conditions adversely affecting site activities, where necessary);
- Maintenance schedules and records (including breakdown repairs);
- Daily log of extra-ordinary events at the facility including rejected waste loads;
- Non-conformances to the EMS, mandatory and voluntary standards;
- Emergencies;
- TCM attendance at site; and
- Records of training.

A copy of the permit and this management plan and supporting documents is kept available on site.

All records, to be held in electronic or paper form, is available to the relevant authorities on site and kept for a minimum of two years.

The Operator also keeps all records relating to the site at the company head office: Welton Aggregates Limited, Welton House, Welton Quarry, Bluestone Heath Road, Welton-Le-Marsh, Spilsby, Lincolnshire, PE23 5SG.

9.3 Reporting

Within one month of the end of each quarter, the operator shall submit to the EA the tonnages of the waste received, material recovered and waste to landfill. The weight is assessed in accordance with the EA Generic Operator Returns (GOR) guidance conversion factor of 1.5 tonnes per cu m for soil, construction and demolition wastes (or by weighbridge if installed).

Any other requirements of the permit is reported accordingly, this includes: notification when plant has broken down resulting in a potential to pollute; when a condition of the permit has been breached; or where a limit in the permit has been breached and there is considered significant adverse impact.

9.4 Notifications

In the event of a change, all notifications will be in accordance with the conditions in the permit.

9.5 Testing Standards

All testing of wastes and monitoring of emissions is undertaken in accordance with industry accepted standards and accreditation.

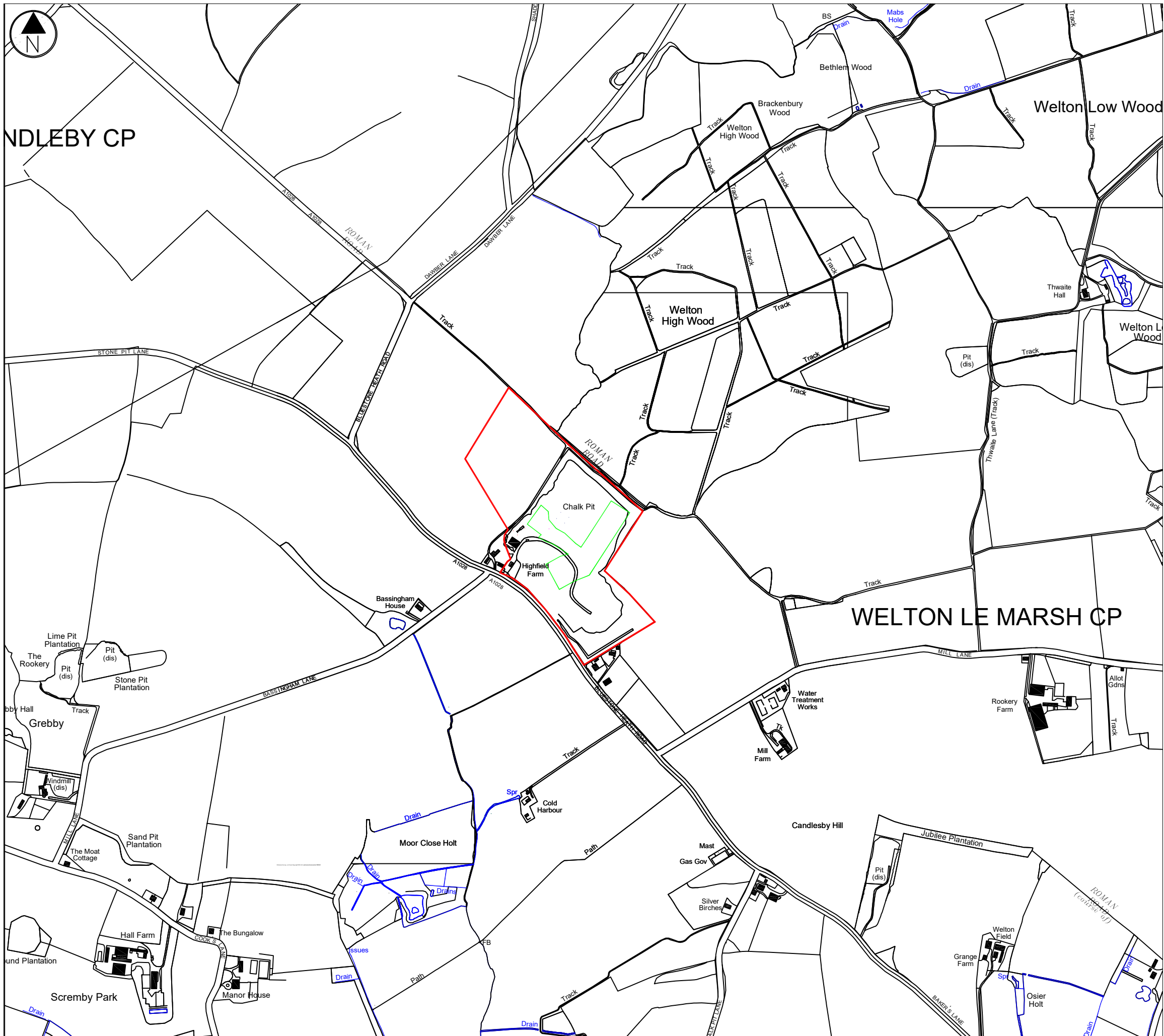
Only laboratories and equipment which are suitably accredited is used.

A schedule of equipment, calibration and testing accreditation is maintained by the site.

233320/EB
July 2025

AA Environmental Limited

DRAWINGS



KEY

Permit Boundary (EPR/CP3999SJ)

Land Ownership Boundary (Highfield Farm)

The permit area is centered at National Grid Reference TF 45273 69097.

Rev.	Details	Drawn Chkd.	Date
Project			
233320 Welton Aggregates Limited Highfield Quarry, Welton Le Marsh Spilsby, Lincolnshire, PE23 5SX			
Title			
Site Location Plan			
 AA Environmental Ltd Units 4-6 Cholswell Court Shippon Abingdon Oxon OX13 6HX T: (01235) 536042 F: (01235) 523849 info@aae-ltd.co.uk www.aae-ltd.co.uk			
Scale	Date	July'25	Org. No.
1:10,000@A3	Drawn	VM	233320/D/001
	Chkd.	EB	
			Rev.

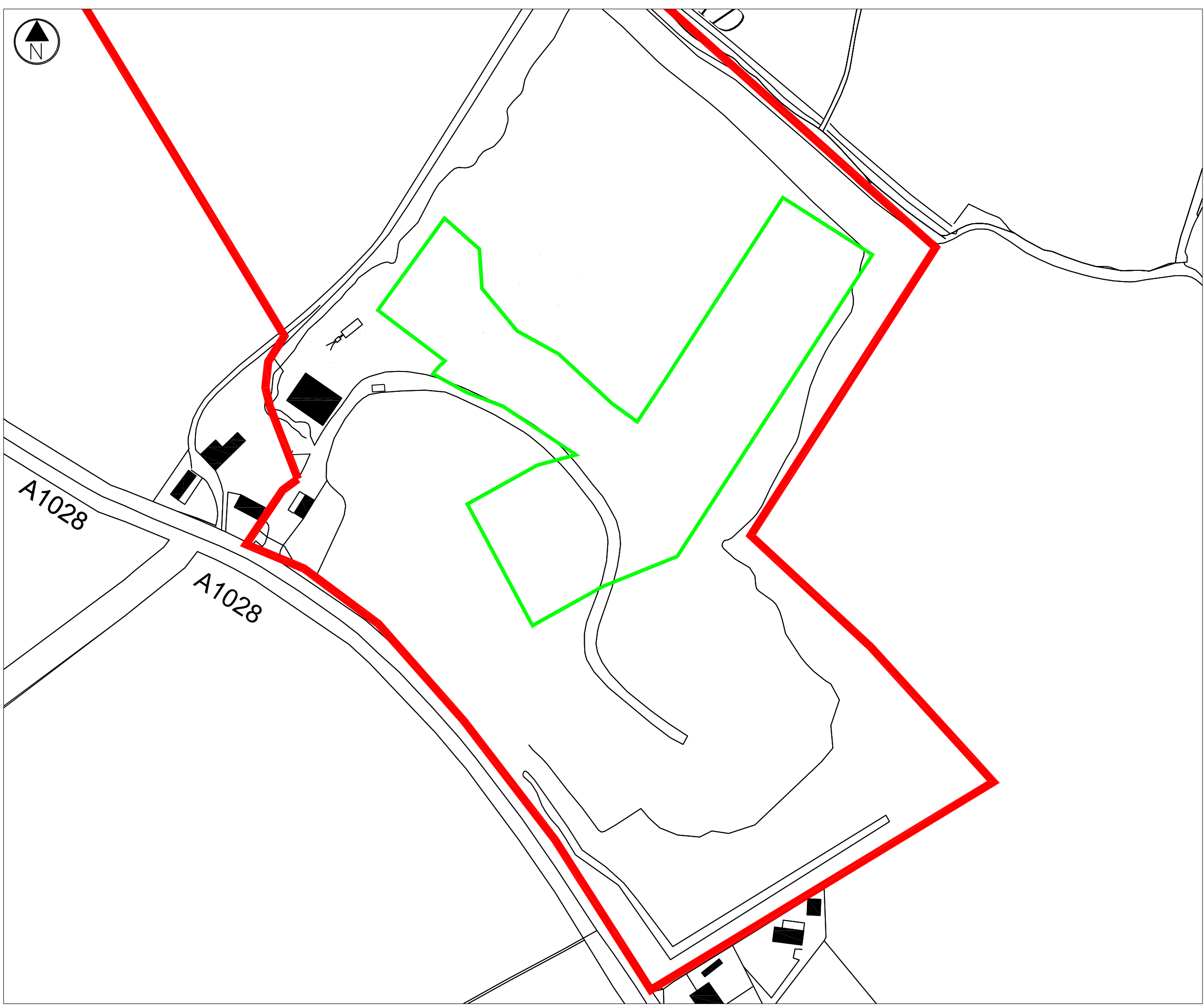


KEY

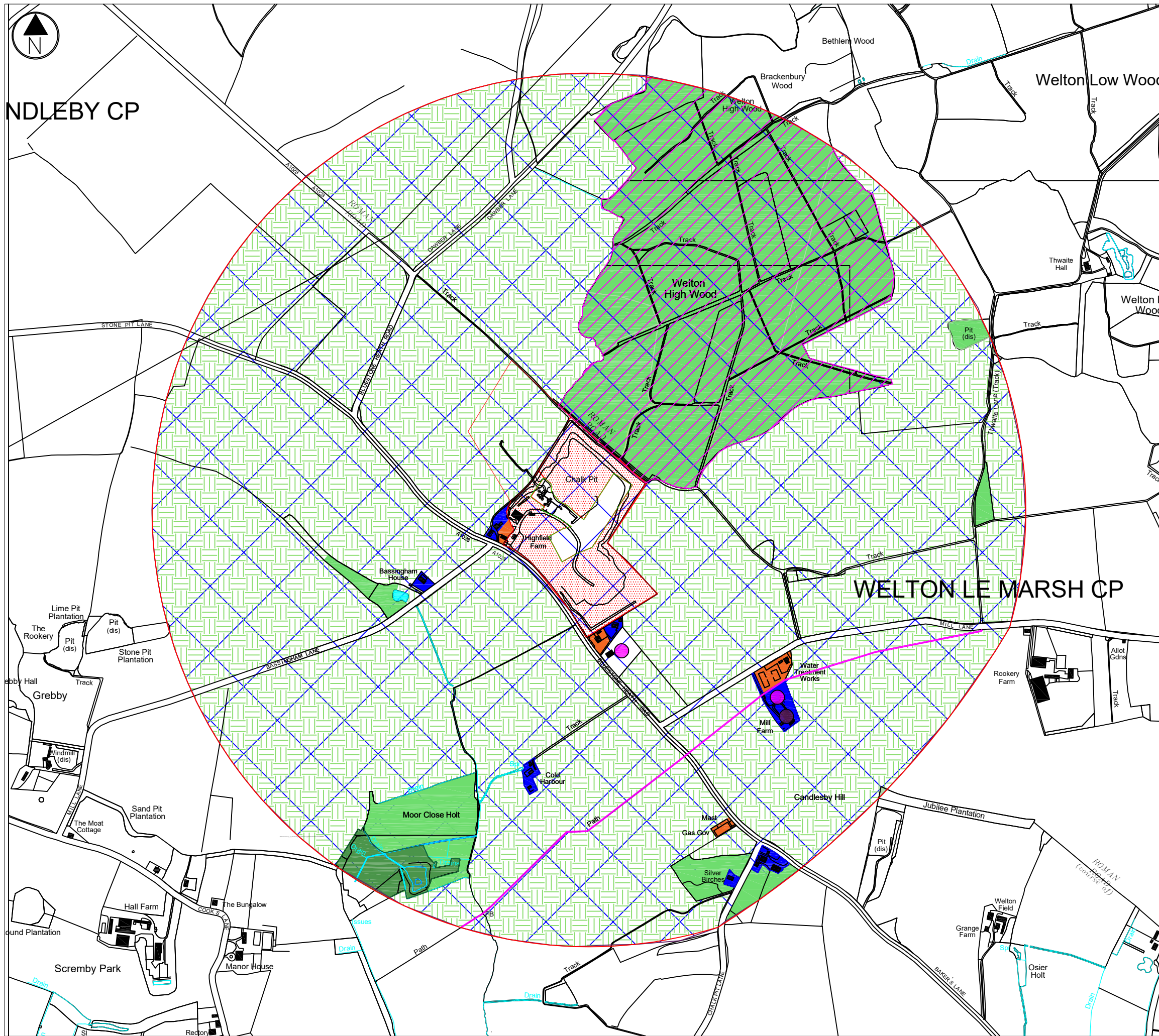
Permit Boundary (EPR/CP3999SJ)

Land Ownership Boundary (Highfield Farm)

The permit area is centered at National Grid Reference TF 45273 69097.

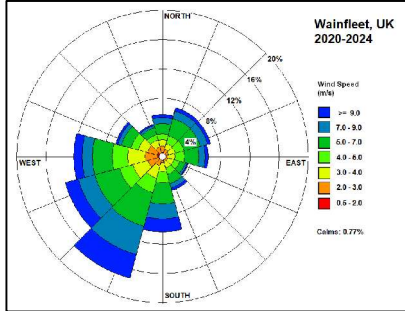


Rev.	Details	Drawn Chkd.	Date
Project			
233320 Welton Aggregates Limited Highfield Quarry, Welton Le Marsh Spilsby, Lincolnshire, PE23 5SX			
Title			
Permit Boundary Plan (Variation 004)			
Environmental Consultants AAe AA Environmental Ltd Units 4-6 Cholswell Court Shippon Abingdon Oxon OX13 6HX T: (01235) 536042 F: (01235) 523849 info@aae-ltd.co.uk www.aae-ltd.co.uk			
Scale	Date	Org. No.	Rev.
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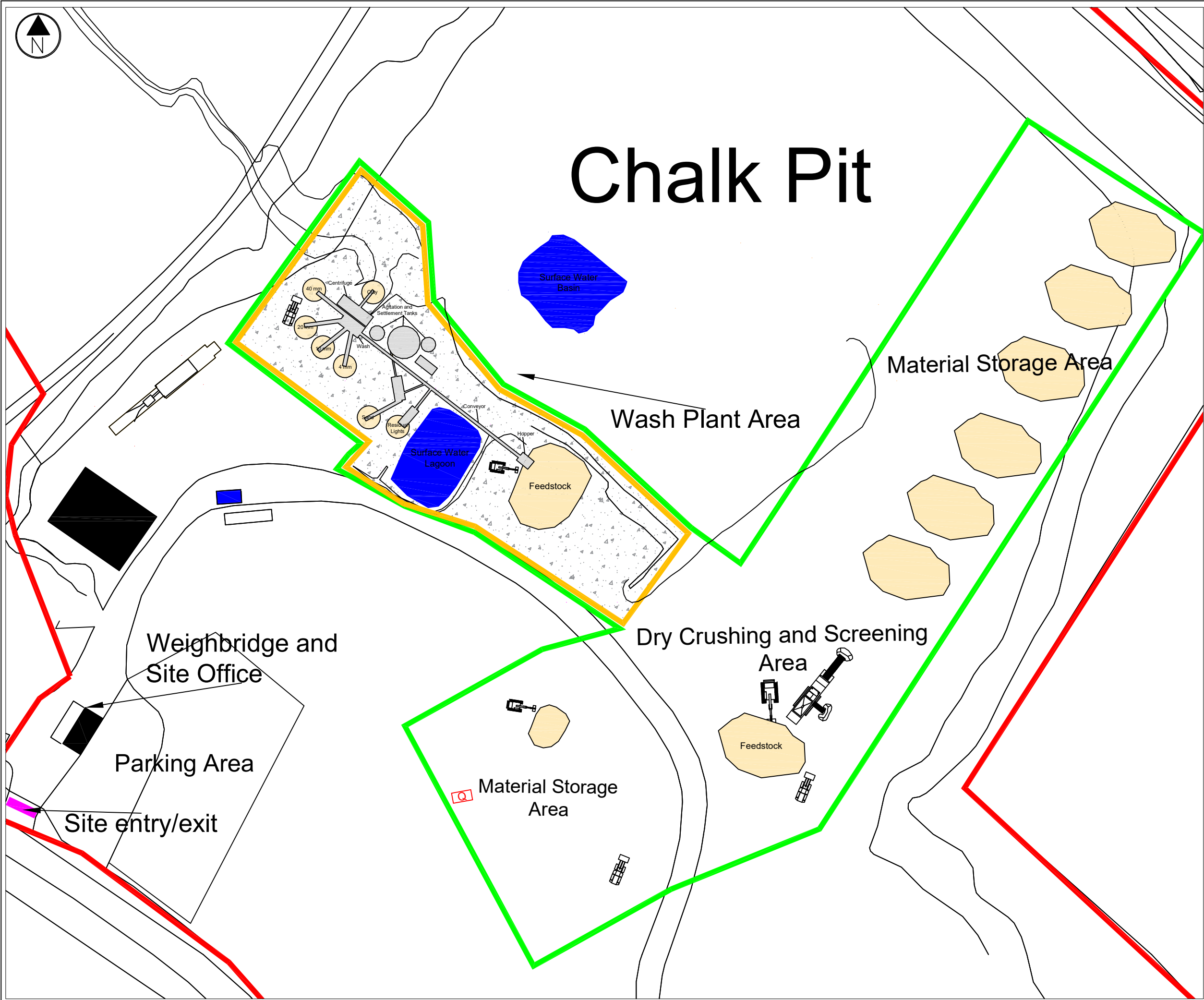


- KEY**
- Permit Boundary (EPR/CP3999SJ)
 - Land Ownership Boundary (Highfield Farm)
 - 1 km radius
 - Quarry / Chalk Pit
 - Agricultural Land Use
 - Residential Land Use
 - Commercial/Industrial Land Use
 - Environmental Land Use
 - Priority Habitat (Deciduous Woodland)
 - Ancient Woodland
 - Area of Outstanding Natural Beauty (Lincolnshire Wolds)
 - Public Rights of Way
 - Surface Water
 - Listed Building
 - Recreational Land Use

Meteorological wind data for five years (2020-2024), has been acquired from ADM Limited and is shown below.



Rev.	Details	Drawn Chkd.	Date
Project			
233320 Welton Aggregates Limited Highfield Quarry, Welton Le Marsh Spilsby, Lincolnshire, PE23 5SX			
Title			
Site Receptor Plan			
AA Environmental Ltd Units 4-6 Cholswell Court Shippon Abingdon Oxon OX13 6HX T: (01235) 536042 F: (01235) 523849 info@aae-ltd.co.uk www.aae-ltd.co.uk			
Scale	Date July'25	Org. No.	Rev.
1:10,000@A3	Drawn VM	Chkd. EB	233320/D/003

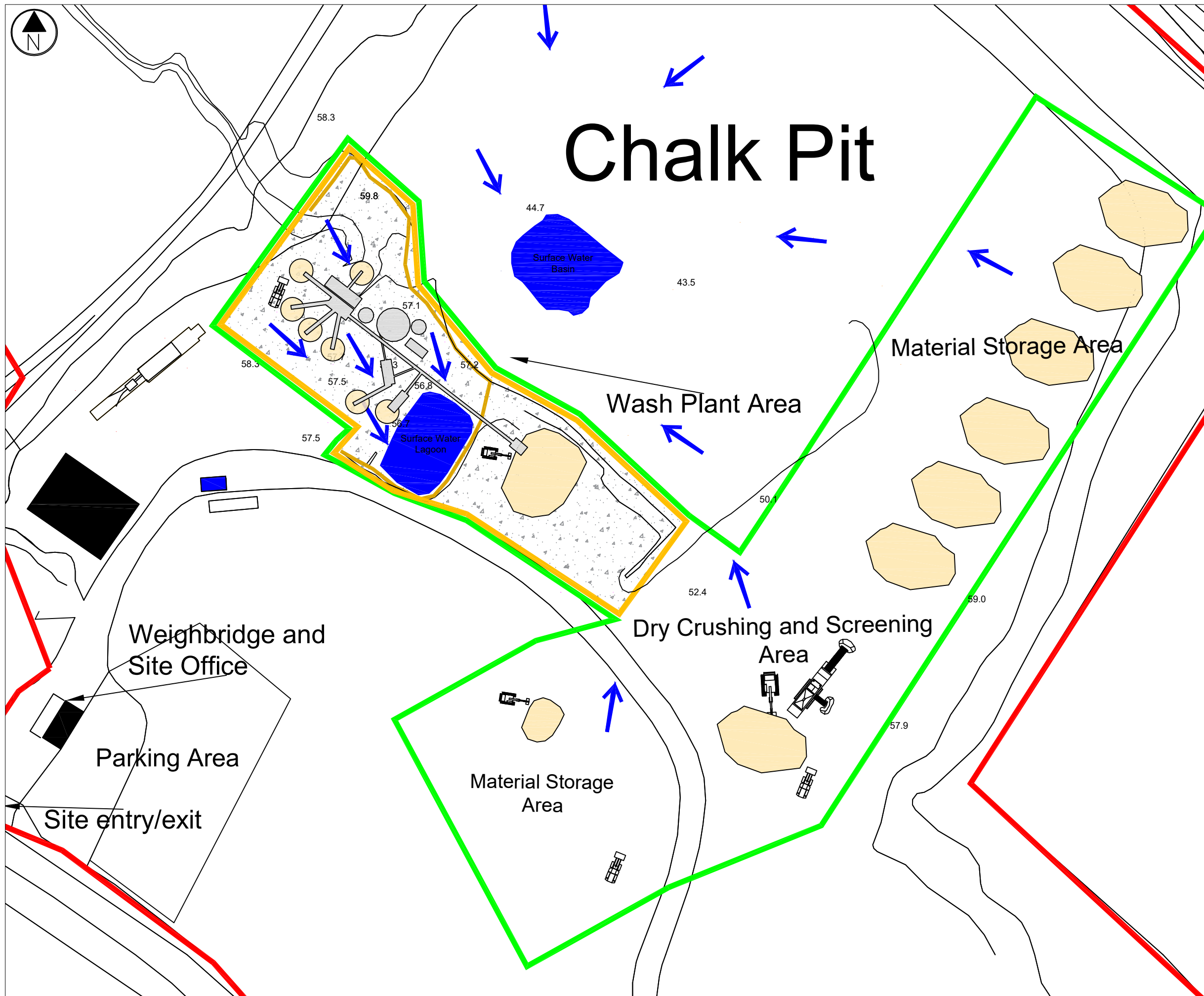


Chalk Pit

- KEY**
- Permit Boundary (EPR/CP3999SJ)
 - Land Owner Boundary (Highfield Farm)
 - Soil Wash Plant Area
 - Impermeable Surfacing or Hardstanding
 - Wheel Wash
 - Quarantine Skip
 - Gate and Access Point

Note
 All COSHH storage is located outside of the permit boundary within the wider quarry.

Rev.	Details		Drawn Chkd.	Date
Project 233320 Welton Aggregates Limited Highfield Quarry, Welton Le Marsh Spilsby, Lincolnshire, PE23 5SX				
Title Site Layout Plan				
		AA Environmental Ltd Units 4-6 Cholswell Court Shippon Abingdon Oxon OX13 6HX T: (01235) 536042 F: (01235) 523849 info@aae-ltd.co.uk www.aae-ltd.co.uk		
Scale 1:1,000@A3	Date July'25	Drawn VM	Chkd. EB	Drg. No. 233320/D/004 Rev.



- KEY**
- Permit Boundary (EPR/CP3999SJ)
 - Land Owner Boundary (Highfield Farm)
 - Soil Wash Plant
 - Impermeable Surfacing or Hardstanding
 - Wheel Wash
 - Surface Water Runoff*¹
 - Clay Kerbing*²
 - 57.1 Ground Levels (m AOD)

Notes

*¹ Arrow denotes flow direction.

*² Clay kerbing contains all surface water runoff in the wash plant area. The surface water runoff is collected in the lagoon and re-used within the wash plant area.

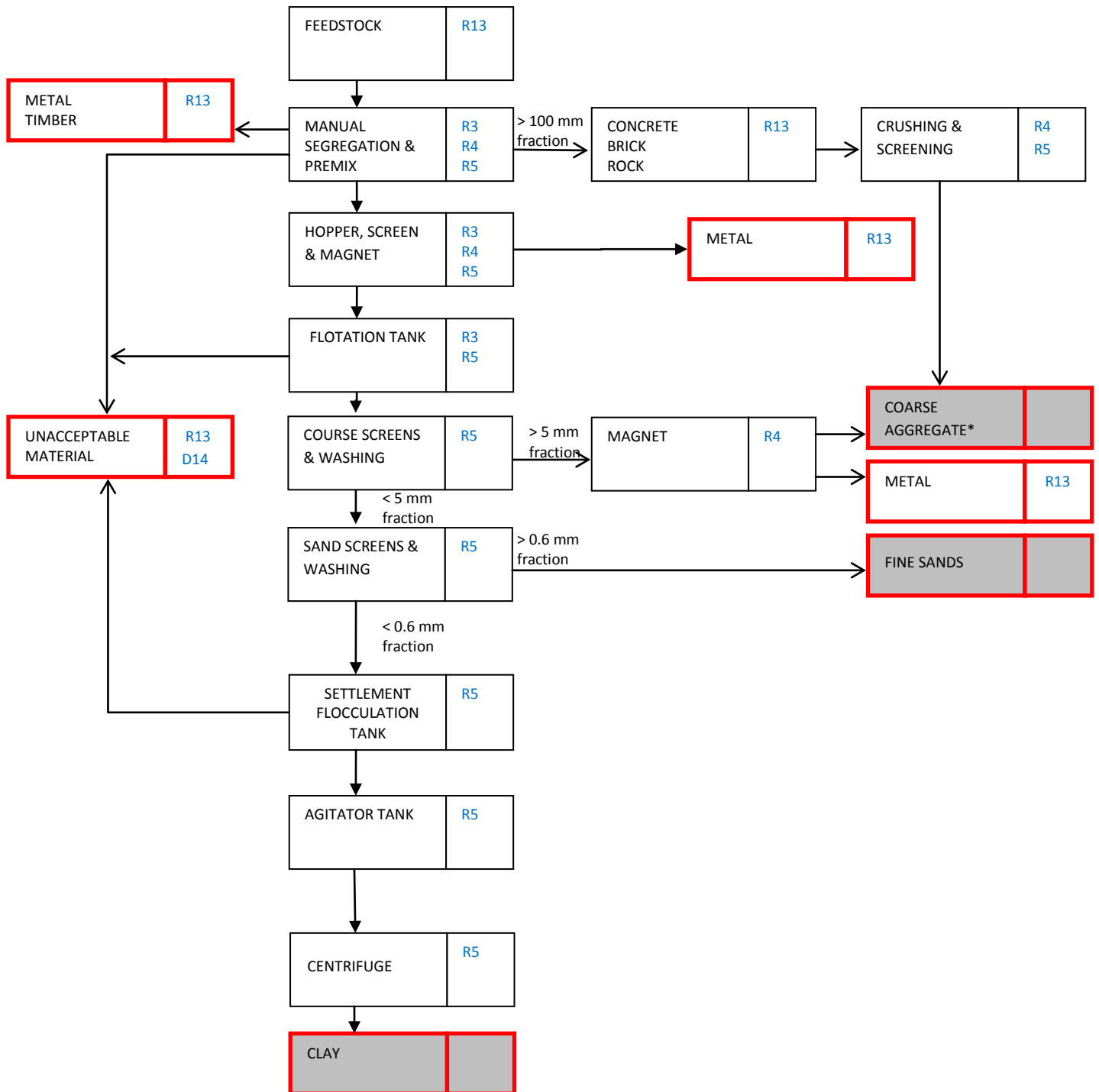
Surface water runoff within the wider site falls to the surface water basin.

There is no wet screening outside of the wash plant area.

Rev.	Details	Drawn Chkd.	Date
Project 233320 Welton Aggregates Limited Highfield Quarry, Welton Le Marsh Spilsby, Lincolnshire, PE23 5SX			
Title Drainage Plan			
 AAe Environmental Consultants AA Environmental Ltd Units 4-8 Cholswell Court Shippon Abingdon Oxon OX13 6HX T: (01235) 536042 F: (01235) 523849 info@aae-ltd.co.uk www.aae-ltd.co.uk			
Scale 1:1,000@A3	Date July'25	Drawn VM	Chkd. EB
Drg. No. 233320/D/005		Rev.	

FIGURES

Figure 1. Soil Washing Process Flow Diagram



Key

Waste activity	Activity code
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Waste Operation

Waste type	Activity code
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Off site recovery or disposal

Waste type	
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Recovered Material



Normal process through put

* If not required, material will return to feedstock for washing

Schedules

Schedule 1. Manufacture of soil and aggregate		
Activity Listed in schedule 1 of EP Regulations	Description	Limits of waste
N/A	R3 - Recycling/reclamation of organic substances R4 - Recycling/reclamation of metals and metal compounds R5 - Recycling of other inorganic compounds R13 – storage pending onward recovery. D15 - Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced).	Annual through put limited to 75,000 tonnes. Manual and mechanical sorting, separation, soil/mineral washing, screening or crushing of waste into different components for recovery or disposal. Permitted waste types set out in Schedule 2.

Schedule 2. Permitted Wastes	
EWC	Description
01 04 08	Waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	Waste sand and clays
17 01 01	Concrete
17 01 02	Bricks
17 01 03	Tiles and ceramics
17 01 07	Mixtures of concrete, brick, tiles and ceramics
01 01 02	Waste from non-metalliferous excavation
10 02 01	Wastes from the processing of slags
10 11 12	Clean glass other than those mentioned in 10 11 11
10 12 08	Waste ceramics, bricks, tiles and construction products (after thermal processing)
10 13 14	Waste concrete only
15 01 07	Glass packaging
17 01 07	mixtures of concrete, bricks, tiles and ceramics
17 02 02	Glass
17 03 02	bituminous mixtures
17 05 04	Soil and stones
17 05 06	Dredging spoil other than those mentioned in 17 05 05
17 05 08	track ballast
19 12 05	Clean glass only
19 12 09	Minerals (including soil and stone)
19 12 12	Other waste: silts and grits from waste transfer sites
19 13 02	Solids from soil remediation
20 01 02	Clean glass only
20 02 02	Soil and stones
20 03 03	Street-cleaning residues Street sweepings, Litter, Gully emptyings, Road sweepings (solids only)

Appendix A

Pre-acceptance and acceptance controls

- A1. Materials for import will be pre-assessed to determine suitability against the wastes types permitted to be imported under the permit. An assessment will also be made regarding suitability. This pre-assessment will include assessing both physical properties and chemical properties. The assessment will be initiated during the review of the waste stream at desktop level.
- A2. The assessment will ensure that only treatable wastes are accepted at the site for treatment.
- A3. Table A1 sets out the pre-acceptance controls to be applied.

Table A1. Pre-acceptance controls	
Physical assessment	The form the waste is in. To note: no liquid wastes or hazardous wastes are permitted. Assessment of the process the material has been derived from. volume of waste to be received.
	The size distribution in the material stream. To note for treatment, the clay fraction (treated as < 1mm diameter) proportion must be no more than 25 % w/w. If not readily discernible from a visual assessment, a grading will be undertaken at an accredited laboratory.
Chemical assessment	Desktop review: All soils from brownfield land must be supported by the following information: land use information and associated potential contamination types or full details of the producing process. Test results will include a weight by weight percentage. The typical contaminants tested are set out in the tables in Appendix B. This suite may be increased depending upon the contamination sources.
	The producer must provide a full waste characterisation detailing the range of contamination. This sampling and waste characterisation must be undertaken by competent personnel in accordance with quality protocol.
	The review must ensure the data is sufficient to enable treatability to be assessed. In the event of sufficient information further testing must be undertaken before the material stream can be accepted.
	If insufficient data is available, prior to import further testing will be undertaken by the operator or requested from the producer.
	Treatability will be reviewed by the operator prior to acceptance to ensure that it will be effective. A visual assessment will be undertaken to determine composition. The following materials will not be permitted to be within the material to be processed: • Free hydrocarbon product; • No evidence of coal tar within the soil matrix; • Any recorded asbestos fragments; • Pesticides; and/or • Chlorinated solvents, VOC (other than BTEX) and SVOC (other than PAH).
	If these materials are identified from the desktop review as being present, then they must be proven to be absent through testing before acceptance.

- A4. If the result of the pre-acceptance assessment is inconclusive, the material will be either further tested at the producer's site or a limited amount (circa 20 tonnes) will be transferred and treated. The results of this trial will include further assessment of the impacts upon both the process and quality of recovered materials.

-
- A5. The assessment of acceptability of each waste stream imported to the site will be fully recorded digitally. Until this is agreed by Operator, the waste stream will not be permitted to be imported. The waste acceptance details will be filed on site with all associated reports and accompanying data.
- A6. Staff and operators of the processing plant will all be made aware of the importation and pre-acceptance procedures.

Appendix B

Point of recovery and Environmental Testing

- B1. The determination of recovery will be undertaken through a defined management process. Material streams will have a predetermined specification that must be attained. This will include pre-selection of materials before treatment (as per Appendix A), managed processing and quality testing. The waste imported to the site will only be determined as recovered when it can be demonstrated to comply with pre-determined geotechnical and environmental standards. The decision-making process is set out in Figure B1.
- B2. Geotechnical standards will be as per series 600 of the Highways Specification or other recognised engineering specification as requested by the Client. Standard routine tests required for the recovered aggregate are set out in Table B1.

Table B1. Aggregate geotechnical testing requirements (unbound)		
Test	Standards and Specification	Frequency
Aggregate & Cohesive fill Gradings	British Standard BS EN 13242 Unbound and hydraulically bound Aggregates' for use in civil engineering work'	1 per production week per product.
Aggregate > 5mm Constituents		1 per production month per product
Aggregate > 5 mm LA Coefficient (10-16 mm only) Class of Aggregate Density Water soluble Sulphate	• Gradings EN 933-1 • Classification of constituents EN 933-11. • Density EN 1097-6. • Water soluble sulphate EN1744-1. • LA coefficient EN 1097-2. • Water soluble sulphate EN1744-1. • LA coefficient EN 1097-2. • OMC/MDD EN 1377-4:3 • BS1377-2:4 – 5 & BS EN ISO 17892-12	As specified by Client
Cohesive fill Optimum Moisture Content / Maximum Dry Density Atterberg (PL/LL/PI)		1 per production month per product

- B3. To be deemed recovered the material will not only have to attain the geotechnical specification but also be proven to be acceptable in environmental terms, protective of both human health and controlled waters. Representative samples will be taken of each stockpile (at least monthly) and tested for the contaminants shown in Tables B2a and B2b. The Human Health Standards are based upon Generic Assessment Criteria (GAC) standards. To note, where the material is not to be used within 1.0 m of any formation, human health standards are no longer applicable. The standards for the protection of controlled waters include both the Environmental Quality Standards (EQS) and Drinking Water Standards (DWS).
- B4. As the data gathering progresses, further risk assessment will be undertaken against the proposed land uses. The risk assessments will follow Environment Agency guidance and be used in determining suitability.
- B5. In the event that a waste stream is not considered recovered then it will be either reprocessed on site or disposed of offsite in accordance with the waste regulatory regime.

Figure B1.
Recovery decision flow diagram

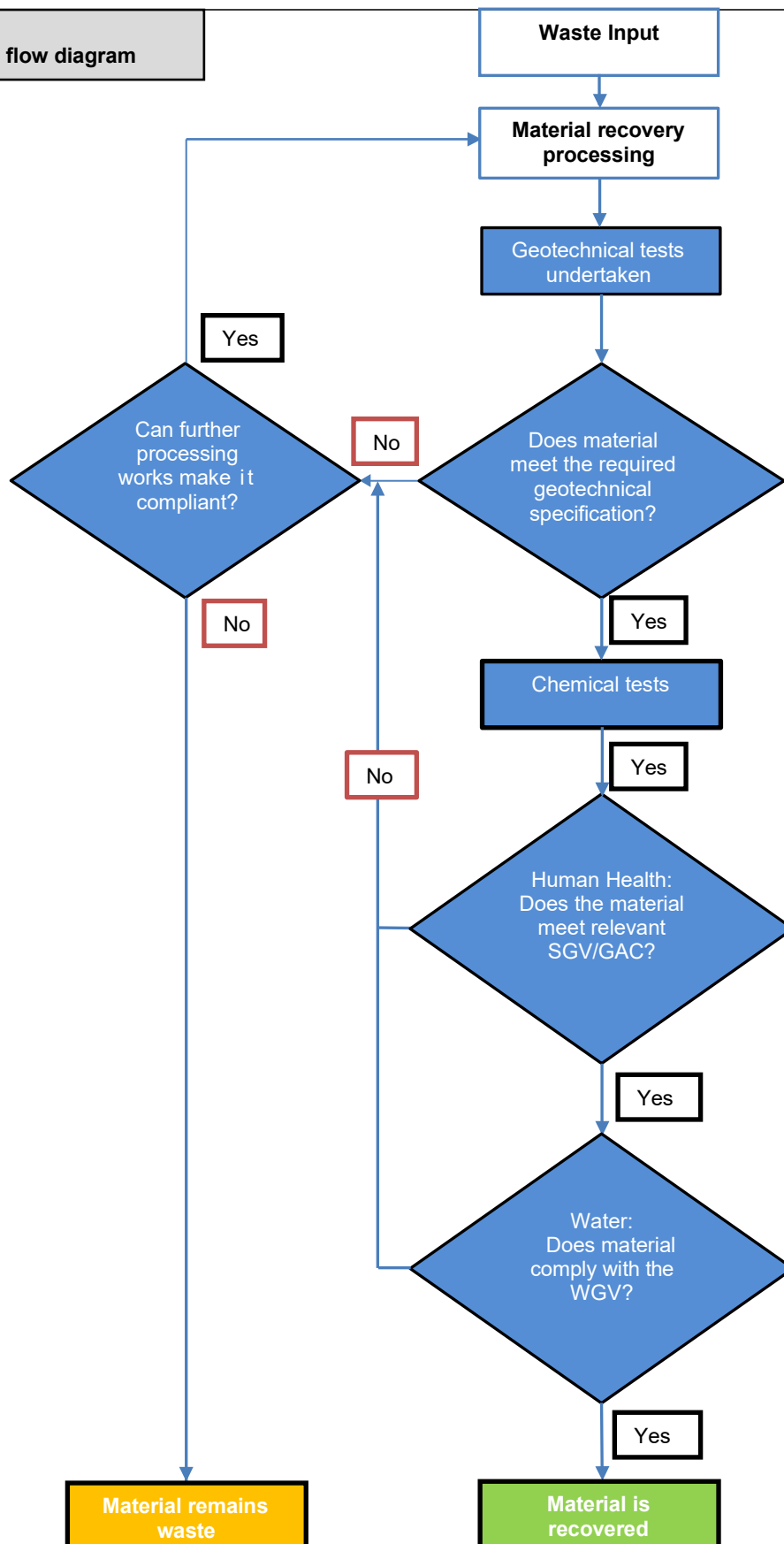


Table B2a– GAC Soil Guidance Values (Note WM3 limit to be applied)

Determinant	Land-Use Scenario					
	Residential with Homegrown Produce	Residential without Homegrown Produce	Public Open Space (POS) Residential	Public Open Space (POS) Park	Allotment	Commercial and Industrial
Arsenic	37	40	79	170	43	640
Boron	290	11000	21000	46000	45	240000
Cadmium	11	85	120	532	1.9	190
Chromium (Hexavalent)	6	6	7.7	220	1.8	33
Chromium	910	910	1500	33000	18000	8600
Copper	2400	7100	12000	44000	520	68000
Lead (C4SL Criteria)	200	310	630	1300	80	2330
Elemental Mercury	1.2	1.2	16	30	21	58
Inorganic Mercury	40	56	120	240	19	1100
Nickel	180	180	230	3400	230	980
Selenium	250	430	1100	1800	88	12000
Vanadium	410	1200	2000	5000	91	9000
Zinc	3700	40000	81000	170000	620	730000
pH	>5 and < 11.5 pH Units					
Asbestos	<0.001 % w/w					
Cyanide (AtRisk)	34	34	34	34	34	34
Phenol (Total)	280	750	760	760	66	760
Aliphatic (5-6)	42	42	570000	95000	730	3200
Aliphatic (6-8)	100	100	600000	150000	2300	7800
Aliphatic (8-10)	27	27	13000	14000	320	2000
Aliphatic (10-12)	130	130	13000	21000	2200	9700
Aliphatic (12-16)	1100	1100	13000	25000	11000	59000
Aliphatic (16-35)	65000	65000	250000	450000	260000	1600000
Aliphatic (35-44)	65000	65000	250000	450000	260000	1600000
Aromatic (5-7 benzene)*	0.087(70)	0.38(370)	72(56000)	90(76000)	0.017(13)	27(26000)
Aromatic (7-8 toluene)	130	860	56000	87000	22	56000
Aromatic (8-10)	34	47	5000	7200	8.6	3500
Aromatic (10-12)	74	250	5000	9200	13	16000
Aromatic (12-16)	140	1800	5100	10000	23	36000
Aromatic (16-21)	260	1900	3800	7600	46	28000
Aromatic (21-35)	1100	1900	3800	7800	370	28000
Aromatic (35-44)	1100	1900	3800	7800	370	28000
Benzene	0.087	0.38	72	90	0.017	27
Toluene	130	880	56000	87000	22	56000
Ethylbenzene	47	83	24000	17000	16	5700
m-Xylene	59	82	41000	17000	31	6200
p-Xylene	56	79	41000	17000	29	5900
o-Xylene	60	88	41000	17000	28	6600
Naphthalene	2.3	2.3	4900	1200	4.1	190
Acenaphthene	210	3000	15000	29000	34	84000
Acenaphthylene	170	2900	15000	29000	28	83000
Fluorene	170	2800	9900	20000	27	63000
Anthracene	2400	31000	74000	150000	380	520000
Fluoranthene	280	1500	3100	6300	52	23000
Phenanthrene	95	1300	3100	6200	15	22000

Determinant	Land-Use Scenario					
	Residential with Homegrown Produce	Residential without Homegrown Produce	Public Open Space (POS) Residential	Public Open Space (POS) Park	Allotment	Commercial and Industrial
Pyrene	620	3700	7400	15000	110	54000
Benzo(a)anthracene	7.2	11	29	49	2.9	170
Chrysene	15	30	57	93	4.1	350
Benzo(b)fluoranthene	2.6	3.9	7.1	13	0.99	44
Benzo(k)fluoranthene	77	110	190	370	37	1200
Benzo(ghi)perylene	320	360	640	1400	290	3900
Benzo(a)pyrene	2.2	3.2	5.7	11	0.97	35
Dibenzo(ah)anthracene	0.24	0.31	0.57	1.1	0.14	3.5
Indeno(123-cd)pyrene	27	45	82	150	9.5	500
All values in mg/kg unless stated otherwise						
References <i>LQM/CIEH Suitable 2 Use Levels (S4UL) for Human Health Assessment – Land Quality Management Limited (LQM) and Chartered Institute of Environmental Health (CIEH) Land Quality Press (2015)</i> <i>SP1010: Development of Category 4 Screening Levels (C4SL) for Assessment of Land Affected by Contamination - Department for Environment, Food and Rural Affairs (2014)</i>						

Table B2b– Controlled Water Standards

Determinant	Groundwater - Drinking Water Standard (DWS)	Surface Water – Environmental Quality Standard (EQS)
-Arsenic	10	50
-Boron	1000	2000
-Cadmium	5	0.25
-Chromium (III)	50	4.7
-Copper	2000	1
-Iron	200	1000
-Lead (inorganic – dissolved)	10	1.2
-Mercury	1	0.07
-Nickel	20	4
-Selenium (total)	10	
-Vanadium		60
-Zinc	5000	10.9
-Potassium	12000	
-Magnesium	50000	
-Sodium	200000	
-TPH by GC >C8-C10	1 ¹	10 ¹
-TPH by GC >C10 - C20	10	
-TPH by GC >C20-C40	10	
TPH aliphatic > C10-C12	10 (300 ²)	
TPH aliphatic > C12-C16	10 (300 ²)	
TPH aliphatic > C16-C21	10 (300 ²)	
TPH aliphatic > C21-C35	10 (300 ²)	
TPH aromatic > C5-C7	1 ²	
TPH aromatic > C7-C8	1 ²	
TPH aromatic > C8-C10	3 ²	
TPH aromatic > C10-C12	10 (100 ²)	
TPH aromatic > C12-C16	10 (100 ²)	
TPH aromatic > C16-C21	10 (100 ²)	
TPH aromatic >C21-C35	10 (100 ²)	
Anthracene		
Benzo(a)pyrene	0.01	
Fluoranthene		0.0063
-Naphthalene		2
-Benzo(a)Pyrene	0.01	0.00017
-PAH (total) If PAH not speciated	0.1	0.00017
-benzene	1	10
-toluene	700	74
-ethylbenzene	300 ²	
-xylene (total)	500 ²	30
-trichloromethane (chloroform)	200 ²	2.5
-vinyl chloride (chloroethene)	0.5	
-Chloride	250000	250000
-Ammoniacal Nitrogen	500	
-Nitrite	100	
-Nitrate	50000	
-Cyanide	50	1
-Sulphide	0.25	
-Phenols	0.5	7.7
-Sulphate	250000	400000

Notes

All values are measured in µg/l unless stated otherwise. Groundwater guidance values are assumed from UK Drinking Water Standards unless specified.

Surface water guidance values are assumed from EQS freshwater standards – Water Framework Directive 2015.

¹ Based upon conservative value for benzene

² Based upon World Health Organisation *Guidelines for Drinking Water Quality*

³ Conservative screen for whether further assessment required. No EQS.

Where a range of values is given the acceptable concentration depends on water hardness. Where two values are given they relate to an acceptable annual average concentration followed in brackets by a maximum admissible peak concentration.