



**Welton Aggregates Limited
Soil and Aggregate Treatment Facility at
Highfield Quarry
Welton-Le-Marsh, Lincolnshire**

EPR/CP3999SJ

Dust Emission Management Plan (DEMP)

Document Ref: 233320/DEMP

July 2025

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REPORT FOR:**Welton Aggregates Limited**

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at
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Welton Le Marsh, Spilsby,
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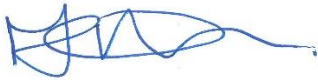
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1.0 INTRODUCTION & SCOPE

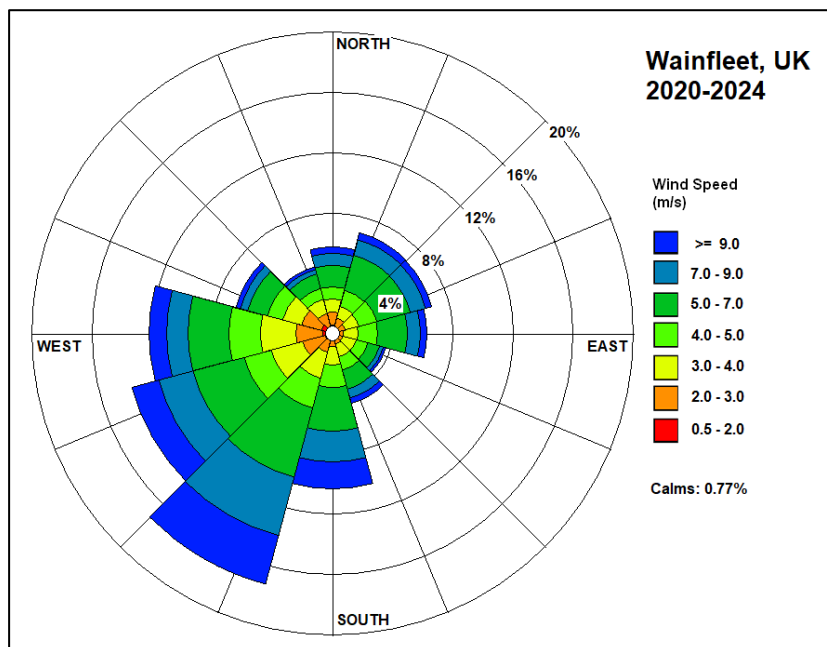
- 1.1 This dust emissions management plan (DEMP) sets out how the risk of poor air quality emissions will be managed at the waste treatment facility by Welton Aggregates Limited. This assessment is for the inert/non-hazardous waste treatment including crushing, screening and washing activity.
- 1.2 The site is located east of Bluestone Heath Road (A1028), within Highfield Quarry (an active quarry). The activity is located within the wider quarry activities. This plan forms part of the dust and emissions management systems for the site.
- 1.3 The purpose of this plan is to:
- minimise the emissions of dust, particulates and NO₂ produced by site activities, as far as is practicable, using appropriate best practice measures; and
 - mitigate the potentially adverse impacts of the residual emissions of dust, particulates and NO₂ after all appropriate control measures have been applied with due regard to the sensitivity of the local surroundings.
- 1.4 This management plan incorporates industry good practice including to ensure the air quality emissions risk remains low during the site's operation. The plan has been developed following the principals set out in the EA dust control guidance, and SPG Mayor of London Guidance and City of London Code of Practice for Deconstruction and Construction Sites¹. The relevant guidance in these plans relates primarily to construction processes which are consistent with those operated at the manufacturing site and present good industry practice.
- 1.5 The movement, storage and placement of waste may generate particulates and litter. The sources of emissions and associated controls are described in Section 3 of this plan. The plan sets out the proactive and reactive measures that will be implemented to control the emissions during standard and abnormal operational circumstances. These controls are described in subsequent sections.
- 1.6 In the event that the implementation of controls fails, corrective actions will be identified and implemented. The Site Manager will be responsible for implementation of the DEMP on site and site operatives will be provided with copies of this plan and trained on its implementation. Additional copies of the latest revision can be found in the site office and welfare area.
- 1.7 The material recycling processes can generate particulates and litter. The associated controls are described in Section 4 of this plan. The plan sets out the proactive and reactive measures that will be implemented to control the emissions during standard and abnormal operational circumstances. These controls are described in subsequent sections.
- 1.8 The scope of this management plan follows the Environment Agency's (EAs) requirements set out in the Dust and Emissions Management template (released October 2018) and Policy SI 8 of the London Plan 2021. Monitoring is in line with EA Guidance M17.

¹ Guidance used as it is the most authoritative for the type of operations at the site.

2.0 SENSITIVE RECEPTORS & BASELINE CONDITIONS

Baseline Conditions

- 2.1 The frequency of exposure and likelihood of any fugitive emissions on sensitive land uses is determined by the magnitude of release, proximity of receptors and prevailing meteorological conditions. Meteorological wind data for five years, has been acquired from ADM Limited. The wind data has been taken from the Met Office Station in Wainfleet, circa 14 km away. This data is considered representative of the site. The dominant wind direction is from the south west.



- 2.2 The permitted area is located within the quarry void, circa 10-12 m below the surrounding ground level in all directions. The immediate land use to all directions (140 m north, 220 m west, 390 m south and 400 m west) is land under quarry activities.
- 2.3 DEFRA Air Quality Management Areas (AQMA) data² shows the site and the surrounding area is not within an AQMA Boundary. There are no AQMAs within 2 km of the permit boundary.

Sensitive Receptors

- 2.4 Table 2.1 sets out the potential sensitive receptors to dusts, by either land use or proximity to the operation. The table supplements drawing 233320/D/003, which provides a visual guide to the area sensitivity.

Land Use Type	Name	Approximate distance from permit boundary
Residential	Pigeon Cottage	127 m south west
	Off Bluestone Heath Road	212 m south
		913 m south
	Bassingham House	320 m south west
	Off Mill Lane	595 m south east
Industrial / Commercial	Cold Harbour	606 m south
	Welton Aggregates Quarry	0 m north, south, east, west
	Bluestone Tree and Arbour Services	245 m south
	Electrical substation and Pylon	800 m south
Recreational	The Paddock Caravan Site	280 m south

² "Department for Environment, Food and Rural Affairs." *AQMA Interactive Map*, uk.air.defra.gov.uk/aqma/maps/. Accessed 1st July 2025

Table 2.1. Sensitive receptor locations relative to the site boundary of the soil wash plant activity		
Land Use Type	Name	Approximate distance from permit boundary
	Millstone Heritage Training	622 m south
Environmental	LNR, NNR, Ramsar Sites, SPA, SAC	None within 2 km.
	Candlesby Hill (SSSI)	1.1 km south east
	Welton High Wood (Priority Habitat and Ancient Woodland)	40 m north east
	Brackenbury Wood (Priority Habitat and Ancient Woodland)	40 m north east
	Bassingham Plantation (Priority Habitat)	400 m west
	Moor Close Holt (Priority Habitat)	678 m south west
	Silver Birches (Priority Habitat)	855 south
	Stone Pit Plantation (Priority Habitat)	976 m west
	Priority Habitat (no name)	917 m east
	Jubilee Plantation	979 m south east
	Priority Habitat (no name)	1 km north east
Agricultural	Fields	To the north, south, south east and west beyond the land ownership boundary
Surface Waters	Statutory main rivers	None within 1 km.
	Surface water drain and lagoon / pond	417 m west
	Spring	628 m south
	Lagoon / pond	982 m south west
Other	Listed Buildings (Mill Farm)	622 m south
	Scheduled Monuments	None within 1 km.
	Schools / nursery	None within 1 km.
	Bus Stops or Train Lines	None within 1 km.
	Church	None within 1 km.
	Hospital	None within 1 km.

Local Dust Contributors

2.5 Table 2.2 sets out the potential dust emitters, by proximity to the soil wash plant activity boundary.

Table 2.2 Potential dust emitter activities within 1 km of the soil wash plant activity			
Company	Address	Type of Business	Approximate distance from site boundary to centre of emitter
Welton Aggregates Limited	Highfield Quarry	Quarry	0 m north, south, west
Bluestone Tree and Arb Services	Bluestone Heath Rd, Spilsby PE23 5SG	Tree and Arb Services	245 m south

3.0 OPERATIONS AT HIGHFIELD QUARRY SOIL TREATMENT FACILITY

Waste Operations

- 3.1 The operations on site involve treatment and storage of non-hazardous, inert mineral based waste to produce recovered aggregates for onward recovery by manual and wet mechanical segregation, screening and washing. These processes are undertaken by excavator, screener, crusher and within the bespoke soil washing facility.
- 3.2 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 in the west. The activity locations are shown in drawing 233320/D/004.
- 3.3 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.
- 3.4 The annual throughput is 75,000 tonnes with a maximum storage capacity at any time of 20,000 tonnes. There is a maximum of circa 500 tonnes of recovered aggregate in the recovered bays ready for re-use. The waste types to be imported to the site are predominantly from construction and development sector, consisting of non-hazardous and inert mineral based materials. The grain size varies from > 100 mm down to < 63 µm. The more friable lower grain size is present in the feedstock and within the sand and filter cake fractions.
- 3.5 Table 3.1 sets out the waste streams, waste management activities and the potential for fugitive particulate emissions. The dust risk derives from the finer fraction which can become airborne during dry conditions and without abatement controls.

Table 3.1 Waste streams and description potential for fugitive particulate emissions without mitigation

Description	Processes	Potential for fugitive particulate emissions without mitigation
Haulage and site operation	Import and export of waste.	Possible exhaust emissions and fugitive dusts from loads from vehicles (NO _x , PM ₁₀ (<10 µm) and Total Suspended Particulates (TSP)).
		Possible: Wind entrainment of dust on operating surface and haul route.
Movement and placement of Inert / Non-Hazardous waste streams	Tipping of waste and temporary storage	Possible: Wind entrainment of dust on operating surface and haul route.
	Loading of material onto hoppers or other vehicles and placement into the ground	Possible wind entrainment of lighter waste fraction. As the material is transferred or dropped onto the ground there is the potential for wind entrainment of fines. Exhaust emissions and fugitive dusts from the vehicles in operation.
	Washing, Screening of waste	Mechanical breaking and abrasion of the waste can cause particulates to be emitted. If these become entrained, they can become airborne.
		As the material is transferred on conveyor or dropped onto the ground there is the potential for wind entrainment of fines.
		Exhaust emissions and fugitive dusts from the plant in operation (NO _x , PM ₁₀ (<10 µm) and Total Suspended Particulates (TSP)).
	Transfer of material and manual segregation into stockpiles	Possible emissions from the movement of plant over the operational area if there is significant build-up of mud and waste.

		Possible emissions during the bulk loading of segregated waste.
Storage of Waste	Storage of material or waste within stockpiles	Possible wind entrainment of waste.

3.6 Dust and emission controls are outlined in Section 4.

Plant and Equipment

3.7 The delivery plant involved are sheeted 8-wheel delivery lorries with an emission rating of Euro 4 and above. The deliveries are with either standard, sheeted tipper lorries, or sheeted skip loaders at a rate per day compliant with planning permission.

3.8 All plant is maintained in line with manufacturer's specification. If plant must be replaced, the replacements will be of the lowest emission standard possible at the time of purchase. There are no generators on site.

Wheel Wash

3.9 There is a wheel wash provision at the site to limit mud on road; as well as long internal haul routes.

3.10 The weighbridge is in use during all seasons of the year, and is compulsory for all existing vehicles to use upon egress.

3.11 The wheel wash is assessed to be effective when HGV vehicles leaving site are visually clean and free of dirt and debris. In turn, this should mean that the haul route and Public Highway should also be free of dirt and debris. Other signs of monitoring will be reviewing the whole wash cycle; as well as condition of the internal haul route surfacing.

3.12 The vehicle will be inspected following use of the wheel wash to ensure that the trackable debris has been removed from the vehicle. Vehicles which still contain significant trackable debris after using the wheel wash will be redirected to go through the passive and active system again.

3.13 In the event that the wheel washes are operational but fails to remove dirt/debris from an HGV due to excessive dirt and debris, excessive dirt and debris will be manually removed by an operative using a shovel and bowser with pressure hose.

3.14 The wheel washes will be inspected regularly by a trained operative to make sure it is fully operational. Where there is failure of a wheel wash, repairs will be made within 48 hours and alternative temporary wheel washing will be sourced. Alternative temporary wheel washing will likely be manual washing by an operative manned with a shovel, bowser and pressure hose.

4.0 DUST & PARTICULATE MANAGEMENT

Sources of Fugitive Particulates and Control Processes

4.1 The potential dusts include fine particulate matter which consist of inhalable fractions (total suspended particulates (<100 µm) and the more dangerous respirable fraction (less than PM₁₀). Such dust types are termed as friable. Friable dusts may occur in hardcore and aggregate waste.

4.2 There will be no point source emissions of air pollutants. Any release will be fugitive. All processing operations and waste storage are screened by design and location within the wider quarry.

4.3 All unloading, loading, storage and waste processing will be completed within the activity boundary. The control measures for dust and particulate management are outlined in Table 4.1.

Table 4.1 Control measures

Ref	Abatement Measure	Description/Effect	Overall Consideration and Implementation	Trigger for Implementation
Preventative Measures				
1	The main site entrance is of impermeable concrete hardstanding, and the remainder of the site is maintained permeable hardstanding.	Only one access point from the site to the public road. Easy visual identification of mud/dust at point of entry /exit. No mud generated and point of exit / entry from the haul route to the access at Mill Road. Any mud/ dust brought to site on HGVs is easy to clean.	The access / egress is regularly cleaned by a road sweeper (which is dedicated) to limit risk of dust from residual waste and dust picked up on the tyres. The sweeper on site at all times. A trained operative will inspect the access / egress with the external road daily to determine whether there is beginning to be an accumulation of dust/mud on the access, as well as inspection of maintained impermeable hardstanding.	Excess mud/ dust will be identified in daily visual inspections.
2	All operations within an existing quarry void	The soil wash plant is located within a quarry void which is circa 10-12 m below the surrounding landscape. This provides a very good screen from surrounding land and nearby receptors. The location of the soil wash plant and existing operations acts as a screen to reduce the effects of wind whipping and disturbance of particulates. In the event that wind whipping and disturbance occurs, it is likely that the particulates will remain within the permit boundary.	This is inherent in the location of the wash plant operational area.	Always implemented.
3	Soil wash plant operations are a wet process.	The soil wash plant is a wet process which is unlikely to cause a dust nuisance with the exception of the hopper. The means all materials have a as produced moisture content. This lasts longer in the sands/clay. The 10 mm, 20 mm, 40 mm and 75 mm aggregates do not have any friable fraction and are of low dust potential.	The wet processing is inherent in the soil wash plant design.	Implemented at all times.

Table 4.1 Control measures

Ref	Abatement Measure	Description/Effect	Overall Consideration and Implementation	Trigger for Implementation
Preventative Measures				
4	Fixed wheel wash	Maintenance of vehicles leaving the site reduces the buildup and distribution of fine particles and mud on access points and haul routes. The wheel wash removes debris from the wheels and undercarriage of vehicles. It comprises a passive water-bath, and an active water spray system. It uses the passive action of the tyre movement and jet nozzle sprays.	The wheel wash is located on concrete near the weighbridge. The wheel washes uses water re-circulation to minimize water loss therefore much easily maintained during drier periods. The system can also achieve some level of rainwater harvesting within the winter wetter months.	All HGVs leaving the site must use the wheel washes. Excess mud/ dust will be identified in daily visual inspections. Cleaning of the silt tank and cleaning of the infrastructure is undertaken as per manufacturer's recommendations. HGVs leaving the site and the site internal haul route; as well as the external road will be monitored/inspected to provide visual feedback on effectiveness and use of the wheel wash. The before and after visual condition of HGVs will also be reviewed. The inspection will be by a trained operative.
5	Integrated misting systems on crusher / screener	Dampening of the soil / atmosphere during processing will reduce the amount of particulates released during the activity.	The screener and crusher will be fit with an integrated misting system to allow dampening of the soil / atmosphere during processing.	The integrated misting systems will be operation during the crushing and screening during dry or windy conditions. The site conditions will be assessed during the daily visual inspection. Dry conditions will include periods of drought defined as > 35 °C over 3 days consecutively or no rainfall in 14 days) and high winds (defined as > 25mph on any day).
6	Stockpiles will be at natural angle of repose and compacted at the end of each day.	Stockpiled material will be stockpiled lower than their natural angle of repose, which increases the stability of the stockpile. Increased stability reduces the effect of wind whipping and of material slumping which has the potential to cause sporadic dust clouds.	The angle of repose is the critical angle at which a material can be stockpiled without slumping. The stockpiled material should be compacted using an excavator bucket at the end of each day to reduce the impact of wind and rain against the material.	Always implemented.
7	Controlled stockpile height and location.	Stockpile heights will be limited to minimize the distance over which dust, debris and particulates could be dispersed by wind.	All stockpiles will be well screened by either the soil bund around the operational area or the height of the former quarry face. In the event of identified wind whipping on site,	Always implemented. To note, the bays are for stockpile delineation only and are not a dust control.

Table 4.1 Control measures

Ref	Abatement Measure	Description/Effect	Overall Consideration and Implementation	Trigger for Implementation
Preventative Measures				
			access to stockpiles will be made available by excavator to reduce stockpile height. Stockpiles height will be visually monitored in line with the housekeeping checklist in Appendix C.	
8	Water suppression using mobile water bowsers with jet nozzle attachments.	Dampening down of stockpiles, haul routes and during the tipping of waste reduces the suspension and re-suspension of dust and particulates. Dampening down of waste being loaded into the hopper.	This method of dust suppression will be implemented during dry and windy conditions where excessive dust emissions are observed to be leaving the site boundary. Visual observation will be conducted by all employees on the site and will be noted in the Site Diary. This will minimise dust emissions.	Implemented during dry, dusty conditions. The site conditions will be assessed during the daily visual inspection. Dry conditions will include periods of drought defined as > 35 °C over 3 days consecutively or no rainfall in 14 days) and high winds (defined as > 25mph on any day). Dry conditions will also include visual observations of dust leaving the site boundary.
9	All delivery lorries or other vehicles will be sheeted.	All lorries will be 8-wheel enclosed, sheeted lorries or vehicle with equivalent dust controls. Vehicles will be sheeted upon arrival, departure and during transit. This prevents the escape of debris, dust and particulate from vehicles as they travel.	Operative responsible for ticket collection will enforce compliance with sheeting/ equivalent dust controls if dust control is inadequate.	This is always implemented with the exception that vehicles will temporarily uncover for visual inspection at the weighbridge or gate, then re-cover for the transit to the designated tipping location. If non-compliance is observed, a strike will be given, which when tallied up to 3 strikes for repeat offenders, the haulier will be contacted and driver banned from site.
10	Drop heights and double handling minimised.	Drop heights and double handling minimised at all times. Minimising drop height and handling will reduce the distance over which debris, dust and particulates disperse by wind.	Operatives who drive front loader and excavator will be briefed on the need to minimize drop heights.	Always implemented.
11	Site wide speed limit set at 10 mph for all HGVs	Minimisation of fugitive emissions from site surfacing/ vehicle wheels/ loads by keeping vehicle speed low. Reduced speed will also minimise the disturbance of any dust, debris or particulates on the haul routes.	All drivers delivering waste will be subject to signage reminders of speed limit, dust controls and by the operator at the ticket office. Driver's under the Operator's primary control will be subject to a site induction and toolbox talks.	Always implemented. If non-compliance is observed, a strike will be given, which when tallied up to 3 strikes for repeat offenders, the haulier will be contacted and driver banned from site.

Table 4.1 Control measures

Ref	Abatement Measure	Description/Effect	Overall Consideration and Implementation	Trigger for Implementation
Preventative Measures				
12	Anti idling policy	Limit the fugitive emissions from vehicles by implementing an anti-idling policy. An anti-idling policy reduces the emissions from a vehicle by limiting emissions to during activities only.	All drivers delivering waste will be subject to reminders of the anti-idling policy by the Operator at the ticket office. Driver's under the Operator's primary control will be subject to a site induction and toolbox talks.	The site operates an anti-idling policy which is implemented at all times. If non-compliance is observed, a strike will be given, which when tallied up to 3 strikes for repeat offenders, the haulier will be contacted and driver banned from site.
13	Visual monitoring inspection	Visual monitoring will be completed daily by nominated site operative, where wind direction, airborne dust, dust soiling and weather conditions will be monitored. The visual monitoring results will be recorded in the Site Diary. These conditions will be monitored using online weather internet sources (Met Office website). Notes of weather conditions off site may also be noted if different from on site notes. This will inform the need to use additional preventative measures. To note, all staff including site operatives have a duty to check for identifiable or potential dust risk all of the time.	The number of visual inspections will be increased in accordance with the weather conditions and following an emissions incident or complaint. The inspections will be undertaken during normal operating hours, not during breaks. The inspection will include check of concrete surfacing, access point at Bluestone Heath Road, acceptance of loads and tipping/loading activities.	At least one visual inspection will be undertaken per location per day. During dry / windy conditions more inspections will be undertaken per day. The observations from the visual inspection should be recorded in the Site Diary. In the event of dust identification, the procedure and actions set out in Section 5 of this DEMP will be implemented.
14	Air emissions awareness training	All staff receive internal air emissions awareness training at site induction and through regular toolbox talks to engender awareness on emissions reduction.	All staff receive internal air emissions awareness training at site induction and through regular toolbox talks	All staff receive internal air emissions awareness training at site induction and through regular toolbox talks
15	Routine servicing of plant and equipment.	All plant and equipment will be routinely serviced in line with manufacturers' guidance.	All plant and equipment will be routinely serviced in line with manufacturers' guidance.	Frequency of servicing will take be undertaken in line with manufacturer's guidance, or as faults or excessive emissions are identified.
16	Plant and equipment will be switched off when not in use	Plant and equipment will be switched off when not in use to reduce excessive emissions.	The importance of this measure will be reinforced during the daily briefing, site induction and during site walkovers (as part of the daily site inspection) by the Site Manager and the site operative nominated for visual dust monitoring.	During site walkovers (as part of the daily site inspection) by the Site Manager and the site operative nominated for visual dust monitoring, operatives will be reminded to switch off their engines if idling is identified. Incidences will be recorded in the visual monitoring checklist (Appendix C) and

Table 4.1 Control measures

Ref	Abatement Measure	Description/Effect	Overall Consideration and Implementation	Trigger for Implementation
Preventative Measures				
				appropriate action taken upon repeat offences.
17	Higher Tier generators used where possible (currently no generators used on site – this measure is only in the event generators are required and not fed by mains electricity supply).	There are currently no generators on site. For permanent infrastructure requiring constant power, in the very unlikely event it is not fed by main electric power, Tier 4 compliant generators will be used. For short term operations, as a minimum, Tier 2 or 3 will be used (where electricity cannot be provided).	Any procurement of generators will be aware of the classification and the need for the more suitable Tier 4 standard, where practically possible.	Any procurement of generators will be aware of the classification and the need for the more suitable Tier 4 standard, where practically possible.
18	Dusty load response procedure	Upon entering the site, loads are inspected on the weighbridge by staff member responsible for waste ticket collection/examination. Waste composition information is relayed onto machine driver and yard manager via two-way radio. A second inspection is undertaken during tipping. If an unacceptably dusty load is identified at either of these stages, the load will be returned to the waste producer. If the load has been tipped, it will be re-loaded under suppression from handheld hoses adsorbing any dust generated. To note, it is the overall responsibility of the Site Manager to implement the dusty load response procedure.	The inspection at weighbridge should not overly disturb the dusty load. In the event dust is identified at the weighbridge stage, additional handheld misting can be applied using mobile bowser and hose. In the unlikely event that a dusty load is accepted, the load will be dealt with under dust controls. The waste producer will be notified, and an investigation initiated to prevent recurrence.	Inspection and identification of dusty loads undertaken at ticket office and during tipping.
19	Good housekeeping	A daily litter pick will be undertaken by a nominated site operative. This will prevent build up of debris and airborne emissions of waste.	If litter has migrated offsite as identified, litter pick will also cover external highway. In the event that there is an escape of litter from the confines of the site and into the local environment, it will be the responsibility of the site staff to arrange for litter picking of the affected areas within the working day. The operation or delivery generating the escape of litter will be stopped and thereafter controlled to minimise further releases and any container releasing fugitive material will be covered or	Visual Inspections will identify unacceptable conditions and trigger the litter pick in addition to the daily scheduled litter pick. Records of inspections or remedial actions will be made in the site diary.

Table 4.1 Control measures

Ref	Abatement Measure	Description/Effect	Overall Consideration and Implementation	Trigger for Implementation
Preventative Measures				
			removed from site immediately. An excessive spillage of materials anywhere within the site or on the adjacent highway will be dealt with immediately by sweeping of the surface and litter picking if required. Such a spillage and the action taken will be recorded in the site diary. The EA can inspect the daily site diaries during inspections.	
20	Records of visual site inspections recorded	Records of visual site inspections recorded in Site Diary and on visual monitoring checklist (Appendix C).	Records allow for easy review and identification of dust sources in the event of complaints/ emission incident etc.	Results and checklist of visual inspections are to be filled out and recorded each time.
21	Cease and/or reduce operations during high winds and/or prevailing wind conditions.	Operation during high winds and / or peak prevailing wind conditions would result in the mobilization of dust and particulates in greater proportion than under normal conditions. Ceasing operations during these times would reduce peak pollution events.	This will reduce the dust and particulate pollution in the short term but is not a long-term solution.	This will be implemented as a result of the daily visual inspections by the nominated operative and is dependent on the local weather conditions and proposed activities for the day.

- 4.4 Water for suppression will be primarily sourced from onsite mains supply source (conservatively assessed as 50 m³ per day) and on site water bodies (at least 40 m³).
- 4.5 The estimated worst-case water consumption of on-site operations is calculated below. The worst case scenario is likely to be during hot, dry and windy conditions.

Table 4.2 Onsite worst-case water consumption	
Dust suppression Activity	Worst Case Water Consumption (per day)
Maintenance (cleaning, washing down)	Estimated at 0.5 m ³
Road Sweeper	0.9 m ³ water tank re-filled 10 times per day = 9 m ³
Wheel wash	20 m ³ needed. Top up of 1 m ³ per day (estimated)
Dust suppression for tipping, loading hopper and dust suppression of haul routes	1,000L water bowser empties x 10 refill = 10 m ³
Total	40.5
1. Water consumptions taken from WRAP 'Case Study: Water Efficiency on construction site'.	
2. The operating working hours are taken from the Operational Plan. These are conservative and do not include break times.	

- 4.6 Based on the worst-case scenario in Table 4.2, the water capacity at the site can accommodate site operations.
- 4.7 The total worst-case water consumption is assessed to be 40.5 m³ per day. The available water from mains supply source is conservatively assessed to be 90 m³ per day. This does not include any on site contained water sources.
- 4.8 In the event water supply fails, the Operator will cease all operations. This would occur in liaison with the Local Authority and Environment Agency.

5.0 FUGITIVE EMISSIONS MONITORING

- 5.1 A daily site inspection will be undertaken by the Operator including potential sources that day, the control of dusts and the provision of controls. This information will be recorded in the Site Diary. To note, any site operative can report incidents to their line manager and appropriate actions will be taken immediately. The inspection will be undertaken by the Site Manager and/or a nominated site operative who has been given appropriate internal training by Site Manager and/or Technically Competent Person (TCP), and/or environmental consultant. In the event the Site Manager is not at the site, the On-Duty Manager and/or nominated site operative will be expected to undertake the site inspection. The Site Diary is kept in the site office / welfare unit. Corrective actions are outlined in Section 6 and will be recorded in the Site Diary and effectiveness monitored.
- 5.2 The visual inspection will be performed on foot, allowing adequate opportunity to identify emission sources. A visual inspection will be performed within the activity boundary and main site entrance. The Site Manager and/or nominated site operative should observe at each location for a minimum of 2 minutes. The visual monitoring will be undertaken prior to ceasing operations each day. Inspection of static objects (cars, storage containers, plant) will be used to gauge the extent of dust soiling and will be wiped clean so an accurate judgement can be performed on the subsequent inspection. To note, no out of hour visual monitoring provision is deemed necessary given control measures applied.
- 5.3 Weather conditions (temperature, precipitation and wind speed/direction) will be recorded in the Site Diary using a value obtained from on-site weather station or from internet source daily (Met Office website). After completion of the inspection, the inspected wind directions will be compared against the desktop inspection. The comparison will be for information only.
- 5.4 A minimum of 2 visual inspections will be undertaken per day. During dry / windy conditions, 3 inspections will be undertaken per day. One of the checks will be before cessation of works each day. The inspections will be undertaken during normal operating hours, not during breaks. The inspections will include check of impermeable hardstanding, acceptance of loads, crushing / screening and tipping/loading activities. To ensure this system is operating effectively, it will be reviewed monthly by the Site Manager. If found to be ineffective (e.g. recurring identification of dust sources on site, poorly

filled out forms), the methodology and frequency of the monitoring will be reviewed, revised and briefings will be implemented. This is the responsibility of the Site Manager.

- 5.5 The daily inspections will have a trigger threshold of visual dust in the form of a visible dust (this may be in plume form or separated, this may also just be felt on your skin rather than visible) within the site, as a result of vehicle movements, wind whipping or material handling. This trigger threshold is an internal site action threshold only and not a compliance threshold. There is no severity to visual dust: if it is seen, the response procedure (set out in section 5.6 to 5.9 below) must be implemented.
- 5.6 In the unlikely event this threshold is breached, the Site Manager or nominated site operative will notify the Site Team and the response procedure will be initiated. The Site Manager is responsible for the implementation of the incident response procedure. The response procedure actions are set out below. When triggered, the Site Manager and/or nominated site operative will assess the operations, waste type being handled and deliveries immediately prior to the alarm being activated;
- If the source cannot be ascertained with certainty, the Site Team will temporarily cease the most likely operation;
 - If the source is within the site's control, the Site Team will take appropriate action in terms of dust/particulate abatement to ensure further observations do not encounter the same emissions for a similar activity. Actions will include:
 - Review of the activity's dust control measures;
 - Increased frequency of the existing control measures; and
 - Temporarily suspending likely works until suitable abatement can be introduced.
 - If an effective control measure cannot be identified and the internal trigger level is identified again within 30 minutes of the first identification raised; and the wind direction indicates it could be from the site; the source activity will be temporarily suspended. The activity will not resume until sufficient controls have been achieved (i.e. no visible identification). Visual inspection frequency will be every half an hour during the response procedure, until incident is closed out.
 - If there are more than three incidents within a month, further targeted quantitative dust monitoring will be undertaken to establish source and effective control measures. Details of the quantitative monitoring is set out in section 5.7.
- 5.7 Quantitative monitoring will be undertaken within 10 working days (this covers consultant lead in times and procurement) of when the final of three incidents is identified. The quantitative monitoring will be one of the following and will be in accordance with the standard set out in M8 EA guidance:
- Pumped (active) sampling of PM10 onto filter paper; Gravimetric analysis; or
 - Light-scattering optical particle counter
- 5.8 The monitor will be set up in accordance with supplier recommendations and environmental consultant's procedures. The focus of the monitoring will be on determining the source activities and measurements will be collated within 10 m, within 30 m and at boundary in upwind and downwind locations. This will only be undertaken in dry conditions (to recreate similar conditions to the breaches and to preserve integrity of the equipment). Monitoring will also be undertaken at specific receptors to account for any complaints/concerns.
- 5.9 The monitoring equipment and consultant will be carried out under MCERTS accreditation. The quantitative dust monitoring PM10 threshold will be 75 µg/m³ over a 5-minute period average. If the quantitative action threshold is exceeded; and the wind direction indicates it could be from the site; the site will identify and cease the likely source operation until measured PM10 concentrations drop below the action threshold for a 30-minute period.
- 5.10 The internal action observation exceedance will be logged in the Site Diary and a report of the exceedance and corrective action response to the local EA officer via email within 1 week. To note, these are internal identifications of dust on site. Any exceedance which is not from the site but from an adjacent third-party activity, will be noted in the Site Diary.

- 5.11 All complaints will be logged and dealt with appropriately in accordance with the Operator's complaint procedure (shown in Appendix B). Operations and additional controls are in accordance with Appendix B.
- 5.12 All monitoring data will be made available to the Local Authority and Environment Agency, upon request or as specified within the Environmental Permit. This will include any reporting or notification response or contextual information regarding the monitoring data. This will be undertaken within 10 working days of when the monitoring data is issued.

Controls in the Event of Abnormal Fugitive Emissions

- 5.13 In the event that abnormal fugitive particulate emissions (including during accident, emergencies or adverse weather conditions) are identified during site inspections the following controls should be applied:
- Take immediate action to cease operations;
 - Investigate the incident;
 - Record the incident and the remedial site action in the site diary; and
 - The demp will be updated accordingly and issued to the ea for review.
- 5.14 Remedial actions are dependent on the source but may include, but not limited to:
- Increase the frequency of road sweeping along the operational hardstanding and public roads;
 - Deploy more misting systems, including manual hosing down, specifically targeting certain locations;
 - Limit activities to fewer hours each day (in addition to the standard controls being implemented);
 - Stop accepting waste types which are likely to have more friable dust potential; and
 - Remove the dusty waste from site under dampened conditions immediately (under suppression systems);
 - Consider sheeting or removing targeted stockpiles.
- 5.15 In periods of drought (defined as > 35 °C over 3 days consecutively or no rainfall in 14 days) and high winds (defined as > 25mph on any day), operations will be limited in the following ways:
- Limit activities to fewer hours each day;
 - Limit the number of activities at any one time;
 - Wet down loads and stockpiles;
 - Limit the number of loads accepted proportional to the reduction in activities;
 - Deploy more misting systems, specifically targeting tipping and loading activities, including manual hosing down of stockpiles; or
 - If no limited or no water is available, the Operator will operate in accordance with section 4.8 of this DEMP.
- 5.16 In the event that these controls do not resolve fugitive particulate emissions at the site, key source activities will be suspended until suitable arrestment systems are implemented. These systems will be implemented in agreement with the Local Authority and the EA. The systems may include permanent use of remedial actions or alternative measures, as agreed. In the event that the implemented systems change, the DEMP will be reviewed and amended accordingly.

6.0 DEMP MANAGEMENT, TRAINING & RESPONSIBILITIES

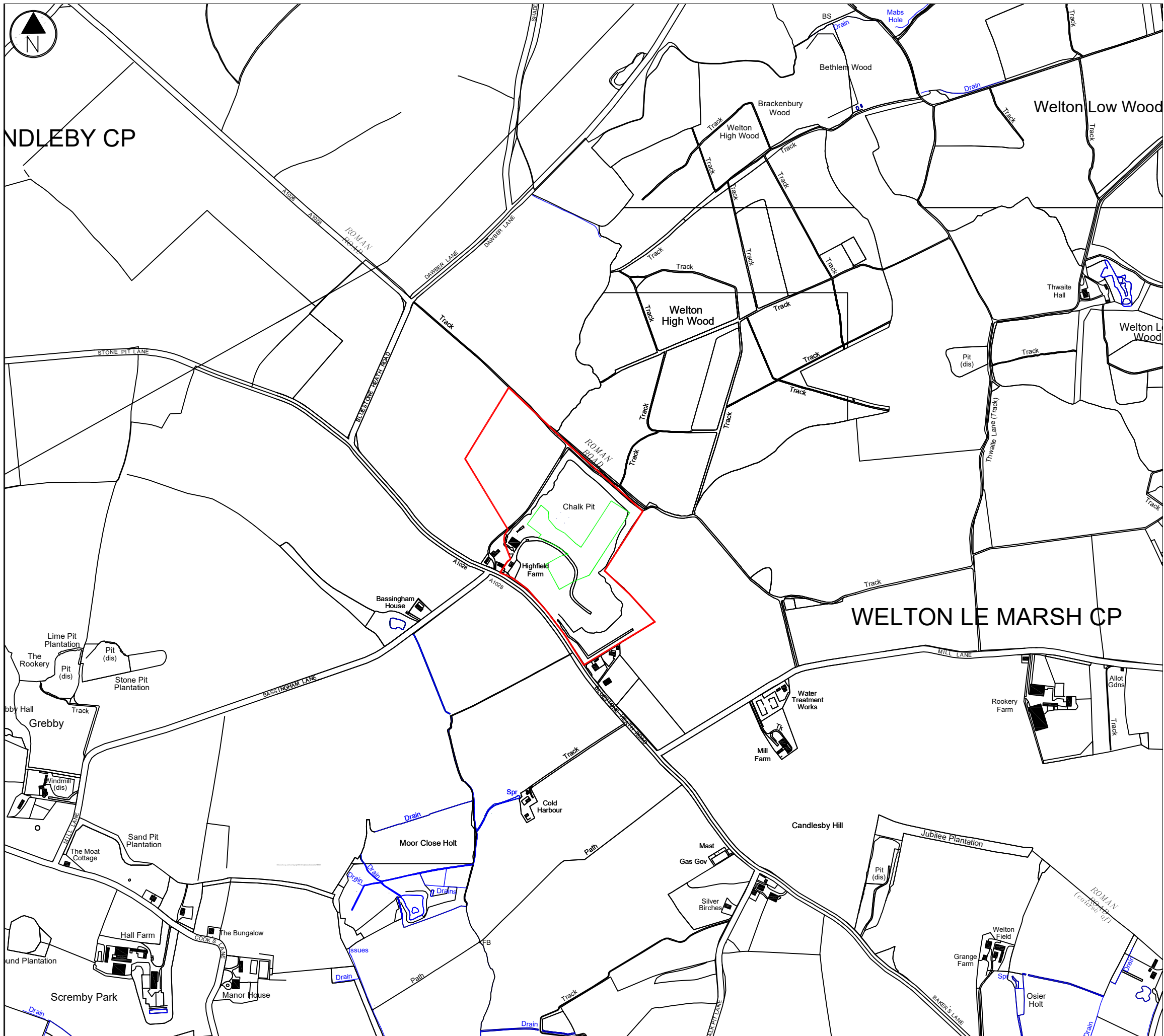
Management Responsibilities

- 6.1 The staff member responsible for implementation, updating and review of this document is the site manager. The site manager is given appropriate training regarding this document upon induction. Upon each document revision and review by site manager, a final review of the document and evaluation of training will be undertaken by senior management. Site Managers are outlined below and one will always be on site and on call.

Table 6.1 Site Management	
Name	Position
Zack Waites	Operations Director

- 6.2 All site operatives will receive internal dust and emissions training. Training is included within the site induction (upon the start of employment), during daily site briefings, and through tool box talks.
- 6.3 As a minimum, this plan will be reviewed by the site manager on an annual basis to ensure that it is up to date, addressing the dust risks of the operations at any time. The plan will be reviewed by Senior Management either following an emissions incident quantified by a substantiated complaint, a monitoring threshold exceedance or observed emissions over the boundary or change to the processing plant. The review procedure will be undertaken within 1 month of the incident to allow any further data to be interpreted. The review will ensure mistakes are learnt from and new/improved methods will be integrated.
- 6.4 The main site telephone number, including site emergency number is displayed on the exterior of the site boundary on signage and the site telephone number and email are found on the website. Complainants are readily able to contact site management through different avenues, allowing their concerns to be addressed in a timely manner.
- 6.5 The operator regularly engages with the local parish council by means of attending meetings, email correspondence and phone calls. In the event there are significant changes to the site processes the local council will be contacted to discuss these details and provide further information to the residents of the locality. The Operator has previously invited local groups and local MP for site tours to raise awareness of the good work. Invitation is granted on a case by case basis and would be subject to the Operator's discretion.

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.

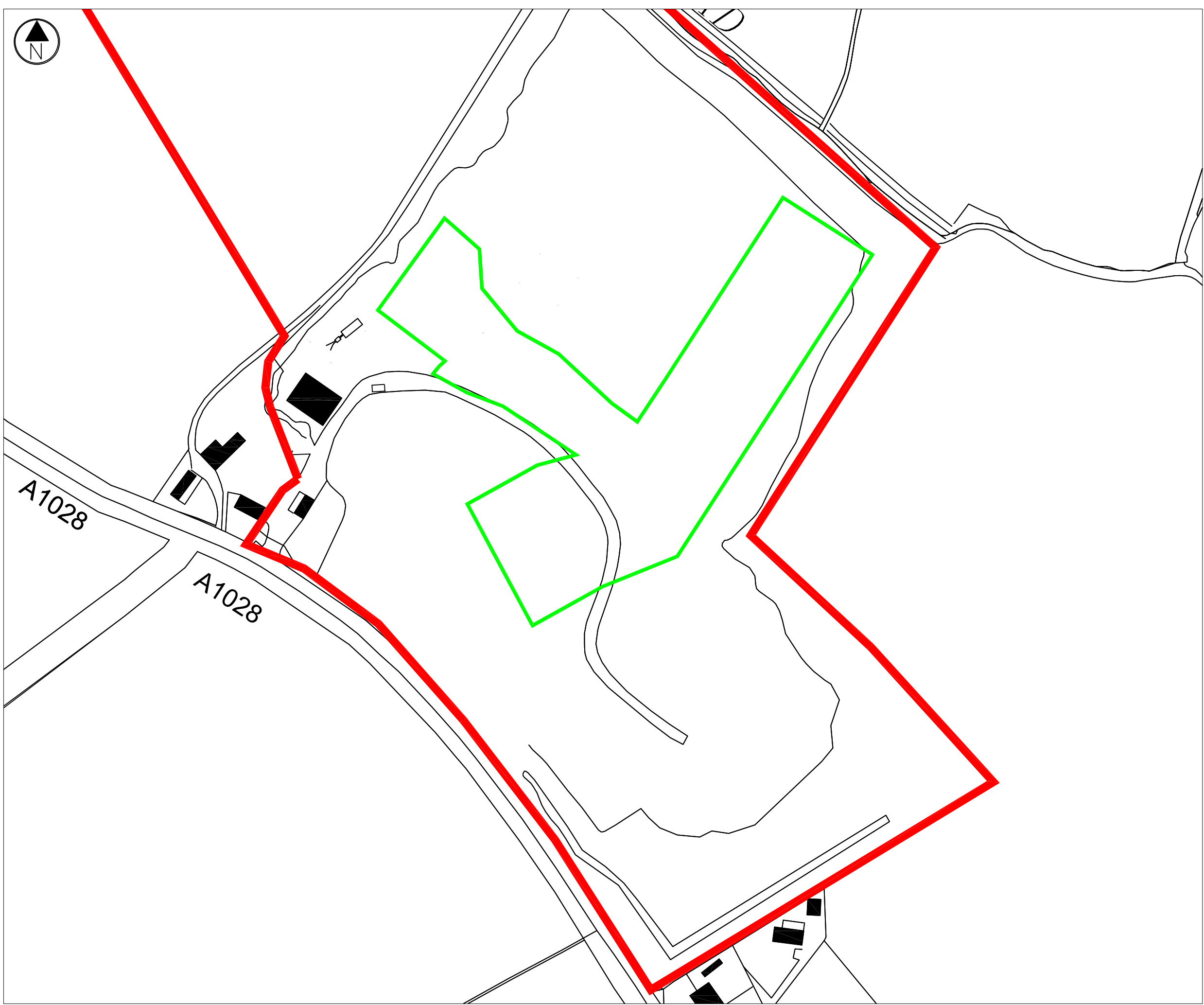


KEY

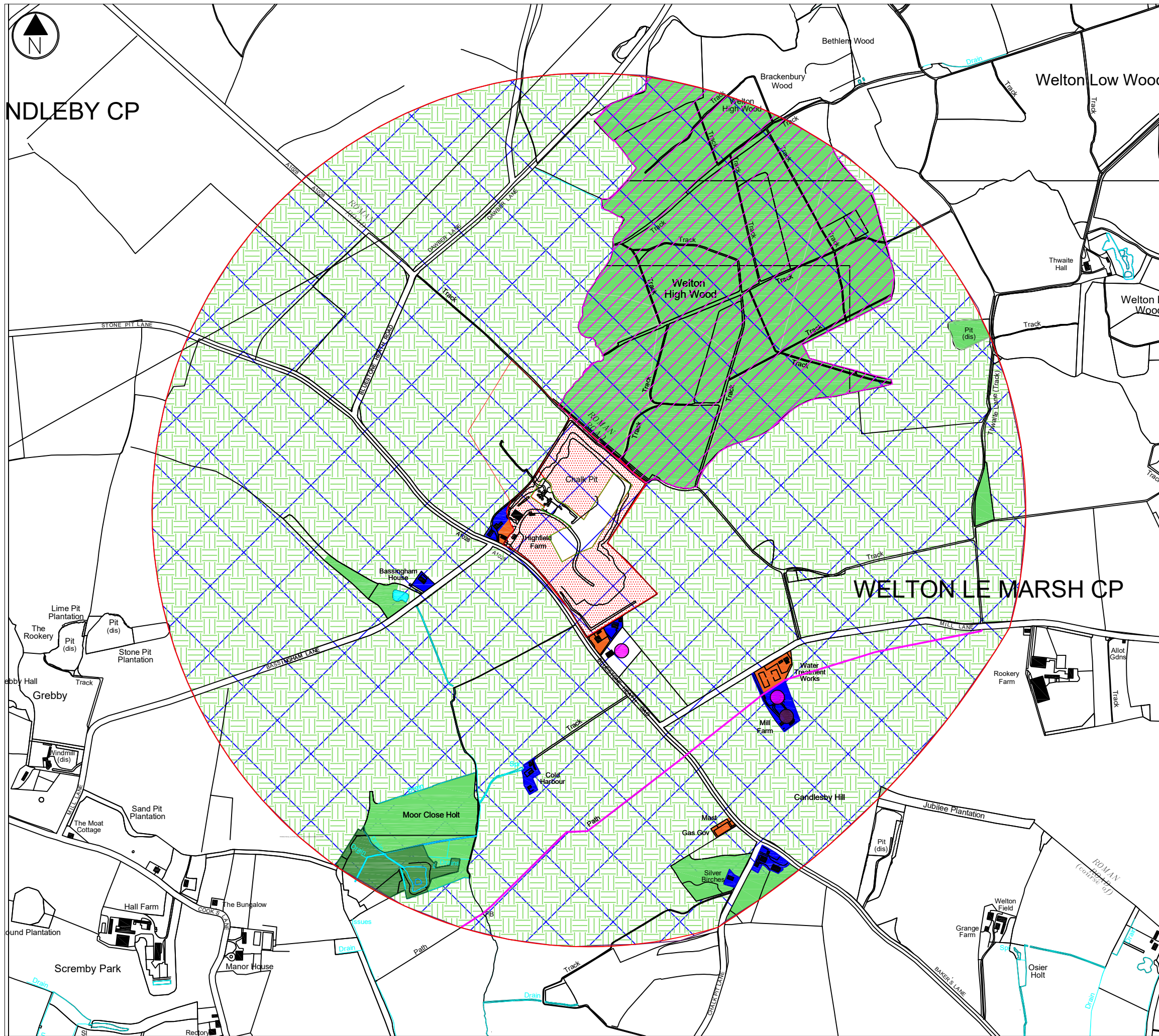
Permit Boundary (EPR/CP3999SJ)

Land Ownership Boundary (Highfield Farm)

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

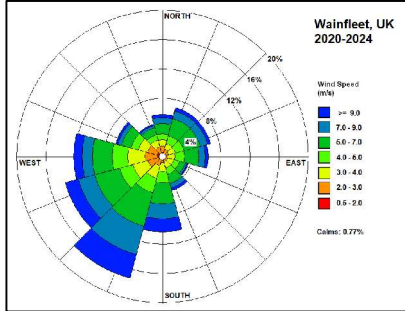


Rev.	Details	Drawn Chkd.	Date
Project			
233320 Welton Aggregates Limited Highfield Quarry, Welton Le Marsh Spilsby, Lincolnshire, PE23 5SX			
Title			
Permit Boundary Plan (Variation 004)			
Environmental Consultants AAe AA Environmental Ltd Units 4-6 Cholswell Court Shippon Abingdon Oxon OX13 6HX T: (01235) 536042 F: (01235) 523849 info@aae-ltd.co.uk www.aae-ltd.co.uk			
Scale	Date	Org. No.	Rev.
1:2,000@A3	July'25 Drawn VM Chkd. EB	233320/D/002	

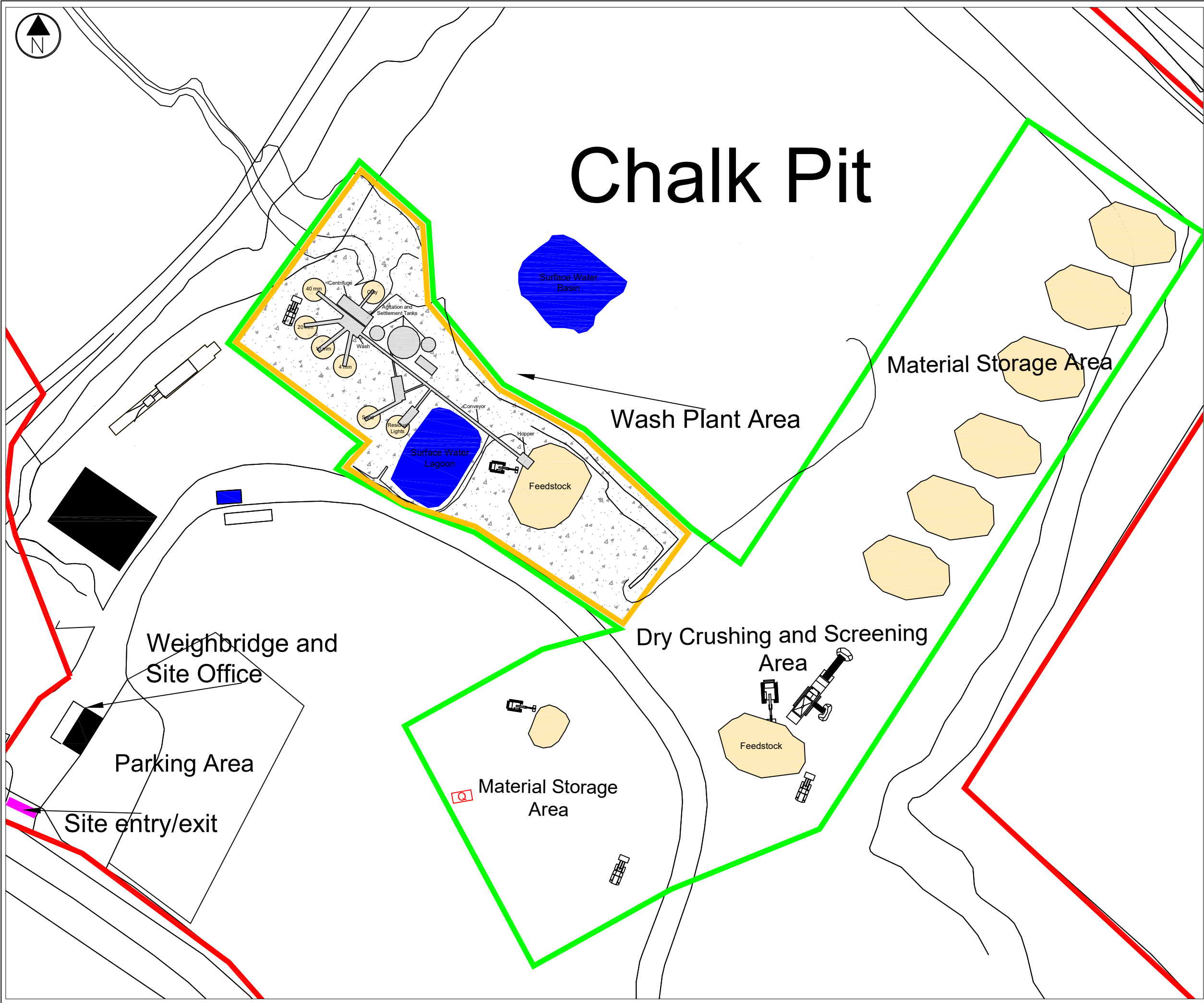


- KEY**
- Permit Boundary (EPR/CP3999SJ)
 - Land Ownership Boundary (Highfield Farm)
 - 1 km radius
 - Quarry / Chalk Pit
 - Agricultural Land Use
 - Residential Land Use
 - Commercial/Industrial Land Use
 - Environmental Land Use
 - Priority Habitat (Deciduous Woodland)
 - Ancient Woodland
 - Area of 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	Org. No.	Rev.
1:10,000@A3	July'25 Drawn VM	233320/D/003 Chkd. EB	

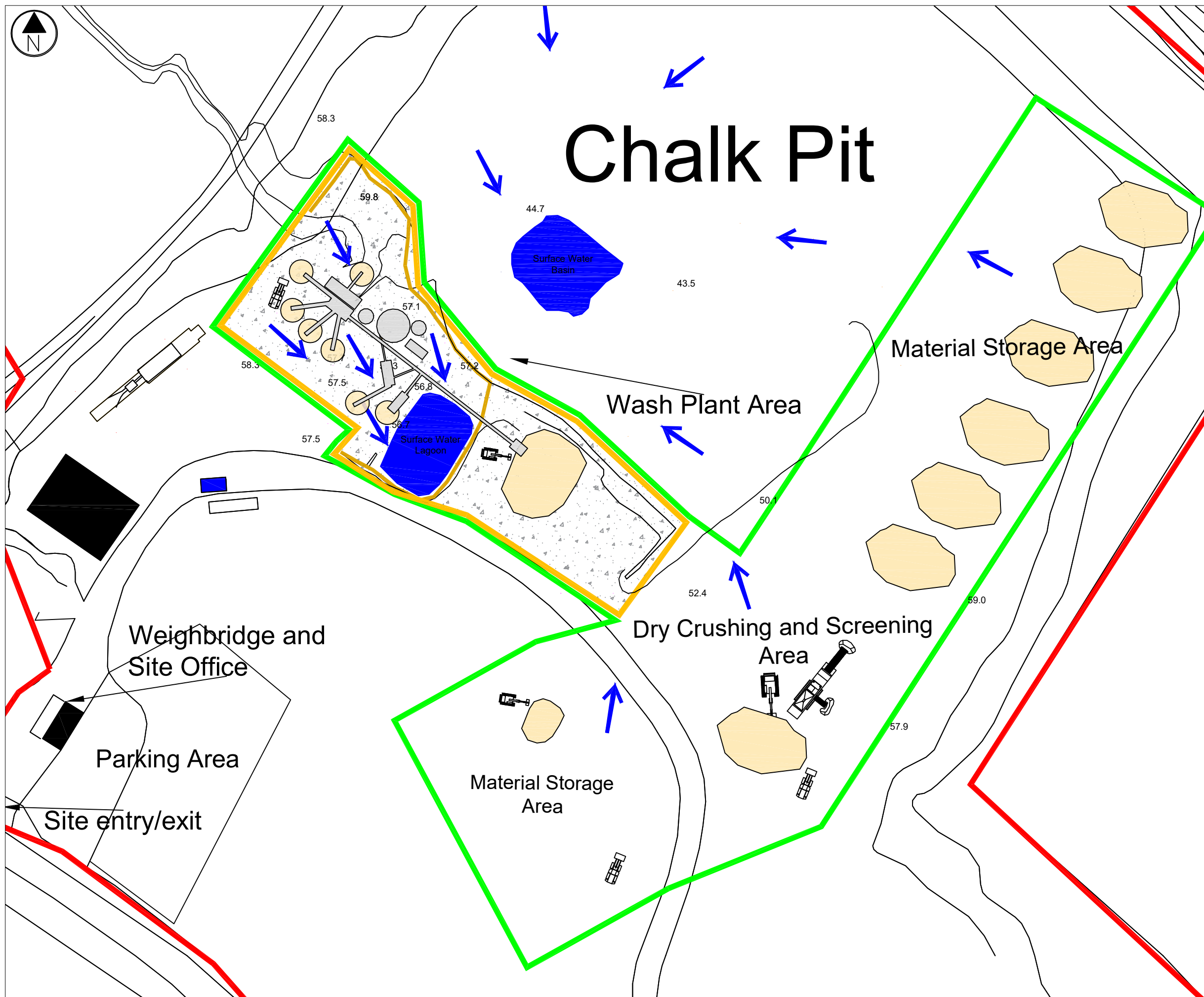


Chalk Pit

- 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	Drg. No. 233320/D/004	Rev.
Drawn VM	Chkd. EB		



- 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.	

Appendix A

Source, Pathway Receptor Table

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
Dust, mud and debris from vehicle operations	Tracking dust on wheels and vehicles, then mud dropping off wheels/vehicles when dry Debris falling off lorries Re-suspension of particles during movement ; atmospheric dispersion	Surrounding receptors listed in Table 2.1	Visual soiling, resuspension as airport particulates	Site wide speed limit set at 10 mph for all HGVs. Hand sweeping and road sweeping implemented, with access point swept and maintained daily. Weather will be monitored and site operations limited accordingly./ higher frequency of implemented dust, debris and particulate controls. Clearing of debris by front loader and manual sweeping at the start and end of each shift and as identified during visual inspection. Road sweeper to maintain integrity of the impermeable hardstanding at the access/egress point of the haul route. All HGVs leaving the site must use the wheel wash. Lorries covered at arrival, exit and during transit on site – they will only unsheet at the inspection point of the weighbridge, and again when tipping / loading.
Tipping, storage, sorting, crushing, screening, washing and loading of waste.	Atmospheric dispersion	Surrounding receptors listed in Table 2.1	Airborne particulates	Main process is inherently a wet screening process with 10 % water minimum added to the products (clay and sands). The 10 mm, 20 mm, 40 mm and 75 mm are heavy aggregates with no friable fraction and are of low dust potential. Minimising drop heights and design of internal layout to minimise double handling. Stockpiles will be compacted before the end of each day. All stored material will be stored at less than the angle of repose for that material.
Vehicle exhaust emissions	Atmospheric dispersion	Surrounding receptors listed in Table 3.1	Airborne particulates	Regulatory controls and best-practice measures to minimise source strength. Regular maintenance in line with manufacturer guidance.

Appendix B

Complaints Procedure & Form

Complaint Form

Complaint Form Reference No.	
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Date of Complaint	
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Details of Complainant			
Name			
Address			
Contact Number		Email Address	
Nature of Complaint			
Reported To		Date of Incident (if different to date of complaint)	
Corrective Measure Taken			
Follow up Communication with Complainant			
Preventative Measure Taken (if any)			
Sign off		Close out Date	

Complaints Procedure

233320/CP

INTRODUCTION

This Complaints Procedure outlines how the Operator will respond in the event of a complaint. A complaint may arise relating to the site permitted activities involving a nuisance (dust, noise, odour, pests). This procedure contains information on how any complaint will be investigated and any actions taken as a result of the complaint.

KEY CONTACTS

The key contacts will be shown on the site notice board at the site entrance. Alternatively, any complaints can be made at the site to any site operative and/or the Site Manager.

PROCEDURE

1. Any complaints made will be immediately logged by the Site Manager and/or Site Operative. In the event a complaint is made to a Site Operative, the Site Operative will refer the complaint to the Site Manager. If able to do so, the complainant details will be taken on initial contact either by phone or in person. The response time is typically within 1 hour.
2. The Site Manager (or nominated operative) will discuss any concerns with the complainant directly within 1 working day of the complaint being made; and request contact details to notify the complainant of any updates/corrective measures. The complaint will be logged using the Complaint Form (attached) and given a unique reference number.
3. The Site Manager will review the site activities and ensure control measures are in accordance with the Site's Management Systems. This review will typically happen in conjunction with point 1 and review will be undertaken within 2 working days of complaint being made.
4. Once initial contact and review of the site has been undertaken, the Site Manager will investigate the location of concern raised in relation to the site i.e. at a local receptor location and/or public highway to inspect the impact on the receptor. This will occur within 3 working days.
5. The Site Manager will notify the complainant of any updates to the control measures / site operations. Control measures may be corrective and/or preventative and include additional control measures and/or increase the frequency of an existing control measure. Alternatively, the design of the site operations may change to decrease nuisance to that receptor. The notification will be within 1 week of the complaint being made.
6. In the event the same issue persists, the Site Manager will further review site operations and control measures. This may require a temporary cessation of certain operations whilst additional measure is implemented. The works will not recommence until further control measures have been incorporated and a review of effectiveness has been agreed / witnessed by the Site Manager. The complainant will be kept abreast of further measures. This is likely to be within 1-2 weeks subject to what the complaint is, severity of complaint and associated activity taking place.
7. In the event of an out of hour complaint, the complaint will be picked up on the next working day and dealt with as per point 1-6 above.

RECORDS

On site Records

Complaints Procedure

233320/CP

A copy of this procedure is kept on site and briefed to all site operatives upon site induction. Any identified complaints, incidents or accidents, as well as corrective measures, are recorded in the Complaint Form. Copies of the complaint forms are kept on site.

Review

This procedure is reviewed on a yearly basis or post-incident to ensure it remains up-to-date with the site operations. The review procedure would involve the Senior Management Team and site team collectively to establish the root cause and the best available control techniques. The review will take place within 1 month of the incident.

Appendix C

Visual Monitoring Checklist

Visual Monitoring Checklist

Date		Wind Speed (m/s)		Completed by		Site Manager	
Start Time	Site Entrance	Centre of Yard		Conveyors		External Location	
Wind Direction							
Extent of Dust Soiling (1 – 5)							
Airborne Dust Level (1 – 5)							
Notes							
Action Required ?							
Weather							