Project details	Environmental Permit Variation Application – EPR BB3103MJ/A002 Grundon Sand and Gravel Limited – Kennetholme Quarry Recycling Facility
Applicant details	Grundon Sand and Gravel Limited Thames House Oxford Road Benson Wallingford Oxfordshire OX10 6 LX
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1 INTRODUCTION

Grundon Sand and Gravel Limited (the 'applicant') has requested that Reva Environmental Ltd (the 'agent') prepares an Environmental Permit (EP) variation application, for its Kennetholme Quarry Recycling Facility on Colthrop Lane, Thatcham, Berkshire, RG19 4NT. The centre of the site is as NGR SU 54098 66170.

The facility operates in accordance with a Tier 2 bespoke EP (a Waste Operation) for the treatment of inert waste to produce soil, soil substitutes and aggregate up to 15,000 tonnes per year.

The facility is currently authorised by EP ref. EPR/BB3103MJ which was originally granted in February 2014. The EP has not been amended since its original issue.

The current EP allows the following activities to be carried out at the facility:

- R13 – Storage or waste pending any of the operations numbered R3 and R5.
- R3 – Recycling/reclamation of organic substances which are not used as solvents.
- R5 – Recycling/reclamation of other inorganic compounds.

Treatment of waste (as listed in Table 2.1 of the EP) consists only of sorting, separation, screening, and blending of waste as a soil, soil substitute or aggregate. Secure storage of waste is permitted, pending this treatment. The facility currently processes glass and construction and demolition waste and subjects it to screening to produce separate stockpiles of graded secondary aggregate and soils.

An application is being made to vary the EP to:

- Add a new, second, Waste Operation to the EP. This comprises the treatment of inert waste through the existing processing plant to the east of the current activity. This is not permitted as it does not currently process waste materials, only virgin aggregates from the adjacent Kennetholme Quarry. The quarry is at the end of its life; the proposal is to bring inert waste materials through it. The introduction of waste materials brings it into the permitting regime. The existing plant will be augmented by way of additional conveyors and the installation of a wash plant which in turn is supported by a new water treatment plant (WTP) enabling the recycling of the wash water. The WTP is a physical process (a filter press). As for the primary treatment process that is already permitted, the use of the existing processing plant for waste and the wash plant and WTP activities are also a Waste Operation as they facilitate the physico-chemical treatment of non-hazardous waste for the purposes of recovery.
- Increase the throughput of the permitted activities, from 15,000 to 120,000 tonnes per year. The increase in treatment capacity does not change the status of the Waste Operations as both are physico-chemical treatment of non-hazardous waste for the purposes of recovery (this is not covered by either Section 5.4 Part A(1)(a)(ii) or Section 5.4 Part A(1)(b)). This increase allows for the treatment capacity that is gained by the processing of inert waste through the existing processing plant.
- Add seven new waste codes (see details in Section 2.3.1 below).
- Increase the EP Boundary to include the existing (unpermitted) processing plant and stockpile areas.

The existing EP boundary is limited to a small area of the land ownership, in the centre portion of the wider site boundary.

Question 4 of EA application form Part C2 requires the provision of an environmental risk assessment (ERA). The purpose of this variation application is to add a new Waste Operation (the processing of inert waste through the existing virgin aggregate processing plant, and the use of the wash plant and

associated WTP), to add new waste types, and to increase the throughput of the site significantly. Whilst the new waste types do not present any new risks, the inclusion of waste through the existing plant, the addition of the wash plant and WTP, the increase in throughput, and the extension of the EP boundary closer to potentially sensitive receptors require an assessment. This ERA assesses the changes. It comprises an addendum to the existing ERA that was submitted with the application for the current EP (which in turn referred to Appendix G of the 2011 application – no changes considered necessary for the 2014 application). The risk assessment methodology follows the EA source-pathway-receptor model.

It sets out the risks of potential failure or incident scenarios related to the proposed changes and assesses these in terms of the potential impact on any sensitive receptors. The risk assessment concludes that the residual risk of the addition of the processing of waste through the wash plant and the WTP is appropriate and insignificant when managed in accordance with BAT.

1.1 Site Setting

The facility is located immediately south of the Kennet and Avon Canal on the former Water and Effluent Treatment Plant site, approximately 2.5 km east of the town Thatcham, within the West Berkshire Council administrative area.

The wider ownership area is a closed landfill site. It is understood that paper sludge was deposited at the site since the 1920s into a series of excavations across the site. The original owners, Colthrop Board Mill Ltd, held a licence (T/W/54/12/4/201) previously under the Control of Pollution Act 1974 to dispose of sludge over the whole area. On 1 May 1994 the licence was deemed to have become a waste management licence (WML) under the provisions of the EPA90. This WML (86026) was transferred to Grundon on 2 September 2002, and the site became the aggregate processing plant. It was formally closed, under the EP regime, ref. EPR/UP3499EV.

The River Kennet is located approximately 200 m south, and Aldershot Water is located directly to the east of the site connecting the River Kennet to the Kennet and Avon Canal. The River Kennet is classed as a Site of Special Scientific Interest (SSSI) due to the river showing a downstream transition from chalk to a lowland clay river with species rich flora and fauna.

The site setting is summarised in Table ERA1.

Table ERA1: Site Setting

Direction	Local Setting
Northern Boundary	• The site is accessed by Colthrop Lane • Colthrop Cottages sit on Colthrop Lane at approximately 60 m • To the north of the site is the Kennet and Avon Canal • A railway line runs west to east in parallel with the site boundary at approximately 100 m • Beyond the canal, in between that and the railway line is Colthrop Industrial Estate • Beyond the railway line is a commercial/industrial estate that extends to the A4, some 800 m away • A church and cemetery lie to the north, in an area of open fields, at approximately 600 m • A number of Local Wildlife Sites are also listed (see Section 1.2.2 below) – the closest to the northern boundary is Long Grove Copse which is also designated as an Ancient Woodland, and it lies approximately 1 km at its closest

Eastern Boundary	• Immediately adjacent is Kennetholme Quarry, owned and operated by the applicant for this Kennetholme facility • Aldershot Water is located to the east, connecting the River Kennet to the Kennet and Avon Canal • The majority of the land to the east comprises open fields and woodland
Southern Boundary	• The River Kennet (SSSI) runs parallel with the southern boundary, at 200 m • The closest residential property is Limberlost Farm, at approximately 700 m • A number of Local Wildlife Sites are also listed (see Section 1.2.2 below) – the closest to the southern boundary is Hanging Lands Gully which is also designated as an Ancient Woodland, and it lies approximately 1.8 km at its closest
Western Boundary	• The Kennet & Lambourn Floodplain Special Area of Conservation (SAC) lies to the west at approximately 600 m at its closest • Greenham and Crookham Commons Site of Special Scientific Interest (SSSI) at approximately 2.5 km at its closest point (Crookham Common side) • A residential property (Crookham Manor) lies to the west-southwest at approximately 400 m • A football ground lies approximately 850 m to the west • The majority of the land to the west comprises open fields and woodland

1.2 Sensitive Receptors

1.2.1 General

Key sensitive receptors are considered to be those within specified distances of the site, depending on the nature of that receptor; the potential impact to these from certain sources will depend on the weather conditions.

Figure ERA1 presents the wind rose for the area. This has been sourced from a met station located at RAF Benson which is the closest to the application site and lies approximately 26 km to the north and is based on data for a 5 year period, 2017 - 2022.

The perceived impact at receptors located down-wind are likely to be more than at those located cross or up-wind for certain sources like dust, litter, odour, noise. Some receptors are more sensitive than others, for example a residential area is likely to be more sensitive than an industrial estate.

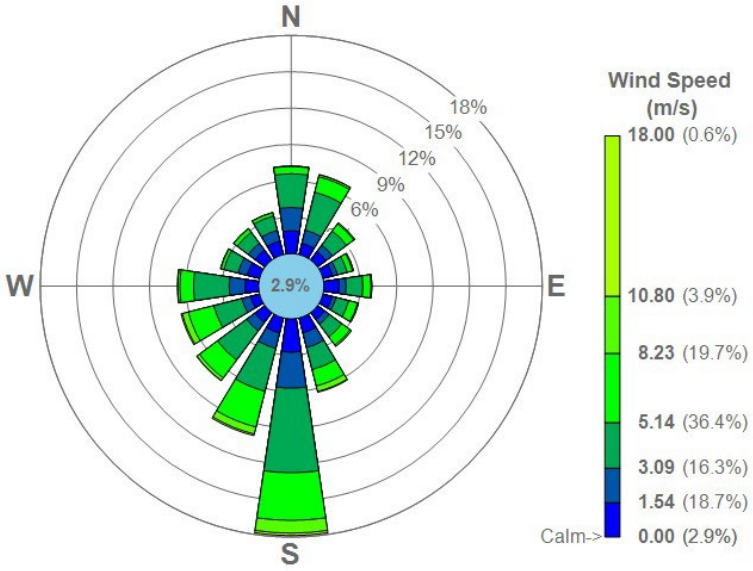

Figure ERA1: Wind Rose

Table ERA2: Sensitive Receptors within 2 km

Receptor	Distance at closest point	Direction	Receptor Type	Relative Risk of Impact
Residential Properties – Colthrop Cottages. Down-gradient	60 m	North	Residential properties – potential all-day presence	High
Residential Properties – Limberlost Farm. Up-gradient	700 m	South	Residential properties – potential all-day presence	Low
Residential Properties – Crookham Manor. Up-gradient	400 m	Southwest	Residential properties – potential all-day presence	Low
Workers in nearby Colthrop Industrial Estate. Down-gradient	50 m	North	Commercial/industrial workplace - working hours presence	Moderate
Workers in premises in the other Industrial Estate. Down-gradient	100 m	North	Commercial/industrial workplace - working hours presence	Moderate
Kennet and Avon Canal. Downgradient	Immediately adjacent	North	Waterway – potential transient use by public	Moderate
River Kennet SSSI. Up-gradient	200 m	South	Waterway – potential transient use by public	Moderate
Local Wildlife Site / Ancient Woodland – Long Grove Copse. Down-gradient	1 km	North	Natural site with footpath - transient use, walkers/public	Moderate
Local Wildlife Site / Ancient Woodland – Hanging Lands Gully. Up-gradient	1.8 km	South	Natural site with footpath - transient use, walkers/public	Low
The Kennet & Lambourn Floodplain Special Area of Conservation (SAC). Cross-gradient	600 m	West	Open space – wildlife habitat	Low

1.2.2 Nature Conservation Sites

The pre-application advice from the EA included a habitat screening assessment. The following features were identified as being within the applicable screening distance and have therefore been considered in this ERA:

- Kennet & Lambourn Floodplain Special Area of Conservation (SAC). This is an area comprising inland water bodies, bogs, marshes, water fringed vegetation, fens, humid grassland, and mesophile grassland covering an area of approximately 112 hectares. The primary reason for the designation is that it supports one of the most extensive known populations of Desmoulin's whorl snail in the UK and is one of two sites representing the species in the south-western part of its range in the important chalk stream habitat.

  Given that the area supports wildlife, it is considered that this site would be sensitive to dust, litter, odour, noise and vibration, water contamination (through deposition or groundwater), fire and pests/scavengers.

- Valley Alderwoods (SAC). This is an area spanning approximately 57 hectares and comprises broad-leaved deciduous woodland (alder-ash) with wet areas dominated by herbs, sedges, and reeds. The drier areas comprise base-rich woodland flora. It is located to the west of the site at approximately 9.5 km at its closest point.

  It is considered that this would be sensitive only to dust, litter, and fire. The SAC is not designated as a habitat for wildlife.

- River Lambourn (SAC). This is an inland water course with an approximate area of 28 hectares. The primary reason for the designation is that it is a chalk stream discharging into the Thames system and is one of the least-modified rivers of this type with a flora dominated by pond water-crowfoot. It also represents Bullhead (Cottus gobio) populations, and its good water quality, coarse sediments and extensive beds of submerged plants provide an excellent habitat for this bottom-living fish species. An additional qualifying feature of the SAC is the presence of brook lamprey. It is located to the west of the site at approximately 5 km at its closest point.

  Given that the area supports wildlife, it is considered that this site would be sensitive to dust, litter, odour, noise and vibration, water contamination (through deposition or groundwater), fire and pests/scavengers.

- Greenham and Crookham Commons Site of Special Scientific Interest (SSSI). This is an area of approximately 500 hectares which was created through the restoration of the Greenham Common airbase and comprises open heath land with extensive areas of sparsely vegetated ground on which Little Ringed Plover, Ringed Plover, and Lapwing breed. Areas of gorse alongside the old (airbase) runways provide breeding sites for Dartford Warblers. The entire common is access land for the public. It is located to the west of the site at approximately 2.5 km at its closest point (Crookham Common side).

  Given that the area supports wildlife and can be accessed by the public, it is considered that this site would be sensitive to dust, litter, odour, noise and vibration, water contamination (through deposition or groundwater), fire and pests/scavengers.

- River Kennet (SSSI). The designation applies to 72 km of the River Kennet, specifically Freemans Marsh and Chilton Foliate Meadows. The river flows through substantial undisturbed areas of marshy grassland, wet woodland, and reed beds. The flora is species-rich and diverse, having the highest average number of species per site surveyed of any other lowland river in Britain. Aquatic invertebrates are abundant, and it also supports good populations of kingfisher, grey wagtail, mute swan, and little grebe, as well as sedge and reed warblers. The Kennet has a varied and mixed fishery including health, self-sustaining populations of wild brown trout, grayling, perch, chub, dace, roach, pike, gudgeon, and bullhead. It is located to the south of the site at approximately 200 m.

  Given that the area supports wildlife and can be accessed by the public, it is considered that this site would be sensitive to dust, litter, odour, noise and vibration, water contamination (through deposition or groundwater), fire and pests/scavengers.

- Local Wildlife Sites (LWS). The pre-application advice lists seventeen separate sites that fall within 2 km of the applicant site. The closest of these is Hanging Lands Gully which lies at approximately 1.8 km to the south. This is also designated as Ancient Woodland.

  Given that the area supports wildlife, it is considered that this site would be sensitive to dust, litter, odour, noise and vibration, water contamination (through deposition or groundwater), fire and pests/scavengers.

- Ancient Woodland. The pre-application advice lists thirteen separate sites which fall within 2 km of the applicant site. Of these, eight are also LWSs. The closest of these is Hanging Lands Gully which lies at approximately 1. 8 km to the south.

  Given that the area potentially supports wildlife, it is considered that this site would be sensitive to dust, litter, odour, noise and vibration, water contamination (through deposition or groundwater), fire and pests/scavengers.

These sites have been taken into consideration in the risk assessment below.

2 RISK ASSESSMENT

Table 3: Risk Screening

Receptor	Source	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
Local human population / presence, ecological receptors. The closest residential receptors are 60 m to the north of the site (Colthrop Cottages); the closest commercial receptors are within 50 m to the north; the closest ecological site is the River Kennet SSSI at 200 m to the south of the site	Releases of particulate matter (dusts) and micro-organisms (bioaerosols)	Harm to human health - respiratory irritation and illness; harm to ecological features through toxic contamination or smothering	Air transport then inhalation	Low	There are no discernible changes to the type of waste as a result of the variation. The existing permitted C&D/glass waste activity will operate unchanged other than it is fixed plant not mobile. The existing processing and screening plant will operate in the same way and under existing controls, albeit with a significantly larger throughput and processing waste rather than virgin aggregates. This will be within the existing operating constraints i.e. hours of operation. The storage of waste, and secondary aggregate/product will increase. The EP boundary change brings the operational area closer to potentially sensitive receptors, increasing the likelihood of impact. Vehicle movements will increase, but within limited hours during the day, and vehicle wash down is available. The wash plant WTP is a physical (not biological or chemical) process, which is fully	Y See DMP in Appendix 9

Receptor	Source	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
					enclosed and operated in accordance with the supplier manual. It is a wet process so does not introduce a particulate matter emission source.	
Local human population / presence, ecological receptors. The closest residential receptors are 60 m to the north of the site (Colthrop Cottages); the closest commercial receptors are within 50 m to the north; the closest ecological site is the River Kennet SSSI at 200 m to the south of the site	Releases of particulate matter (dusts) and micro-organisms (bioaerosols)	Nuisance - dust on cars, clothing etc.	Air transport then deposition	Low	There are no discernible changes to the type of waste as a result of the variation. The existing permitted C&D/glass waste activity will operate unchanged other than it is fixed plant not mobile. The existing processing and screening plant will operate in the same way and under existing controls, albeit with a significantly larger throughput and processing waste rather than virgin aggregates. This will be within the existing operating constraints i.e. hours of operation. The planning statement for the site confirms no increase in vehicular movement on existing levels (taking into account use of back haulage to avoid 'empty' vehicle movements). The storage of waste, and secondary aggregate/product will increase. The EP boundary change brings the operational area closer to potentially	Y See DMP in Appendix 9

Receptor	Source	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
					sensitive receptors, increasing the likelihood of impact. The wash plant WTP is a physical (not biological or chemical) process, which is fully enclosed and operated in accordance with the supplier manual. It is a wet process so does not introduce a particulate matter emission source.	
Local human population, livestock, and wildlife. The closest residential receptors are 60 m to the north of the site (Colthrop Cottages); the closest commercial receptors are within 50 m to the north; the closest ecological site is the River Kennet SSSI at 200 m to the south of the site	Litter	Nuisance, loss of amenity and harm to wildlife (disturbance)	Air transport then deposition	Very Low	There are no discernible changes to the type of waste as a result of the variation. The waste, by nature, is not litter-generating. The existing permitted C&D/glass waste activity will operate unchanged other than it is fixed plant not mobile. The existing processing and screening plant will operate in the same way and under existing controls, albeit with a significantly larger throughput and processing waste rather than virgin aggregates. The wash plant and WTP does not introduce any new sources of potential litter.	N
Local human population / presence.	Waste, litter, and mud on local roads	Nuisance, loss of amenity, road traffic accidents	Vehicles entering and leaving site	Low	There are no discernible changes to the type of waste as a result of the variation. The waste, by nature, is not litter-generating.	N

Receptor	Source	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
The closest residential receptors are 60 m to the north of the site (Colthrop Cottages); the closest commercial receptors are within 50 m to the north. Site access is off Colthrop Lane to the north.					The existing processing and screening plant will operate in the same way and under existing controls; there will be no increased risk of waste or litter generation from the use of this for waste processing, nor from the wash plant or WTP. The latter is fully enclosed, and water captured for re-circulation into the wash plant (generation of mud is unlikely). The planning statement for the site confirms no increase in vehicular movement on existing levels (taking into account use of back haulage to avoid 'empty' vehicle movements). Existing controls apply (wheel wash, appropriate road surfacing, regular cleaning, and visual assessment). The EP boundary change brings the operational area closer to potentially sensitive receptors; however, the haul road and access remains the same as for current operations.	
Local human population / presence. The closest residential receptors are 60 m to the north of the site (Colthrop Cottages);	Odour	Nuisance, loss of amenity	Air transport then inhalation	Very Low	There are no discernible changes to the type of waste as a result of the variation. The waste, by nature, is not odorous. The existing processing and screening plant will operate in the same way and under existing controls, albeit with a significantly	N

Receptor	Source	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
the closest commercial receptors are within 50 m to the north.					larger throughput and processing waste rather than virgin aggregates. The wash plant utilises water (no additives). The WTP is a physical (not biological or chemical) process, the only additive being a flocculent which is not odorous. The process is fully enclosed and operated in accordance with the supplier manual. There are no point source emissions to air from the treatment plant.	
Local human population/presence, livestock, and wildlife. The closest residential receptors are 60 m to the north of the site (Colthrop Cottages); the closest commercial receptors are within 50 m to the north; the closest ecological site is the River Kennet SSSI at 200 m to the south of the site	Noise and vibration	Nuisance, loss of amenity; harm to ecological features through disturbance	Noise through the air and vibration through the ground	Low	The existing permitted C&D/glass waste activity will operate unchanged other than it is fixed plant not mobile. The existing processing and screening plant will operate in the same way and under existing controls, albeit with a significantly larger throughput and processing waste rather than virgin aggregates. This will be within the existing operating constraints i.e. hours of operation. The planning statement for the site confirms no increase in vehicular movement on existing levels (taking into account use of back haulage to avoid 'empty' vehicle movements). The wash-water treatment plant is a physical (not biological or chemical) process. The	Y See NIA and NMP in Appendix 10

Receptor	Source	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
					process is fully enclosed and operated in accordance with the supplier manual. The filter press has been identified as a primary noise source. Vehicle movements will increase, but within limited hours during the day, The EP boundary is increased by the variation; however, the new treatment plant is still within the wider applicant owned site which comprises other permitted operations.	
Local human population/presence, livestock, and wildlife. The closest residential receptors are 60 m to the north of the site (Colthrop Cottages); the closest commercial receptors are within 50 m to the north; the closest ecological site is the River Kennet SSSI at 200 m to the south of the site	Scavenging animals and scavenging birds	Harm to human health -from waste carried off site and faeces Nuisance, loss of amenity, harm to ecological features through predation	Air transport and over land	Very Low	There are no discernible changes to the type of waste as a result of the variation. The additional waste types are all inert/non-hazardous and will not attract scavengers. The increase in throughput does not impact this. The additional processing/screening activities, and the wash plant and WTP do not introduce any new materials that would attract scavengers.	N

Receptor	Source	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
Local human population/presence, livestock, and wildlife. The closest residential receptors are 60 m to the north of the site (Colthrop Cottages); the closest commercial receptors are within 50 m to the north; the closest ecological site is the River Kennet SSSI at 200 m to the south of the site	Pests (e.g., flies)	Harm to human health, nuisance, loss of amenity, harm to ecological features through predation	Air transport and over land	Very Low	There are no discernible changes to the type of waste as a result of the variation. The additional waste types are all inert/non-hazardous and will not attract pests. The increase in throughput does not impact this. The additional processing/screening activities, and the wash plant and WTP do not introduce any new materials that would attract pests.	N
Local human population/presence, livestock, and wildlife. The closest residential receptors are 60 m to the north of the site (Colthrop Cottages); the closest commercial receptors are within 50 m to the north; the closest ecological site is the River Kennet SSSI at	Flooding of site	Waste and/or raw materials washed off site may contaminate downstream receptors	Flood waters flowing over land and soaking into the ground	Very Low	The pre-application advice noted the presence of the Kennet and Lambourn Floodplain (a SAC) within 10 km of the site. The variation does not however change the type of waste being processed. The increase in material processed has a minor impact on the quantity of waste being stored at the site but this is all inert so any waste washed off site during flooding will only add to the volume of clean-up, not to any hazard.	N

Receptor	Source	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
200 m to the south of the site						
Local human population and / or livestock gaining unauthorised access	All on-site hazards: wastes; machinery and vehicles	Bodily injury	Direct physical contact	Low	The existing permitted C&D/glass waste activity will operate unchanged other than it is fixed plant not mobile. The existing processing and screening plant will operate in the same way and under existing controls, albeit with a significantly larger throughput and processing waste rather than virgin aggregates. The wash plant and WTP is fully enclosed and operated in accordance with the supplier manual. The existing established management system will be followed which includes site security measures to prevent unauthorised access.	N
Local human population/presence, livestock, and wildlife. The closest residential receptors are 60 m to the north of the site (Colthrop Cottages); the closest commercial receptors	Arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land	Respiratory irritation, illness, and nuisance to local population. Injury to staff, fire fighters or arsonists/vandals. Pollution of water or land. Harm to ecological features through toxic	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and	Low	The pre-application advice noted the presence of several SACs within 10 km of the site, SSSIs within 2 km of the site, and Local Wildlife Sites within 2 km of the site. There are no discernible changes to the type of waste as a result of the variation. The existing processing and screening plant will operate in the same way and under existing controls, albeit with a significantly larger	N

Receptor	Source	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
are within 50 m to the north; the closest ecological site is the River Kennet SSSI at 200 m to the south of the site		contamination or smothering	ditches		throughput and processing waste rather than virgin aggregates. The additional processing/screening activities, and the wash plant and WTP do not introduce any new materials that would present a pollution hazard in the event of a fire. The only additive being a flocculent which is dosed into the WTP; this is held on site in small quantities, in proprietary containment and in a secure building. Whilst the EP boundary is being increased by this variation, it remains within the existing Grundon ownership boundary which benefits from security measures. The existing established management system will be followed which includes site security measures (including CCTV) to prevent unauthorised access.	
Local human population/presence, livestock, and wildlife. The closest residential receptors are 60 m to the north of the site (Colthrop Cottages); the closest commercial receptors	Accidental fire causing the release of polluting materials to air (smoke or fumes), water or land	Respiratory irritation, illness, and nuisance to local population. Injury to staff or fire fighters. Pollution of water or land. Harm to ecological features through toxic contamination or smothering	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and	Low	The pre-application advice noted the presence of several SACs within 10 km of the site, SSSIs within 2 km of the site, and Local Wildlife Sites within 2 km of the site. There are no discernible changes to the type of waste as a result of the variation. The existing processing and screening plant will operate in the same way and under existing controls, albeit with a significantly larger	N

Receptor	Source	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
are within 50 m to the north; the closest ecological site is the River Kennet SSSI at 200 m to the south of the site			ditches		throughput and processing waste rather than virgin aggregates. The additional processing/screening activities, and the wash plant and WTP do not introduce any new materials that would present a pollution hazard in the event of a fire. The only additive being a flocculent which is dosed into the WTP; this is held on site in small quantities, in proprietary containment and in a secure building. It is not a combustible material and is dosed into a wet process. Whilst the EP boundary is being increased by this variation, it remains within the existing Grundon ownership boundary which benefits from security measures. The existing established management system will be followed which includes site security measures (including CCTV) to prevent unauthorised access.	
All surface waters close to and downstream of site. The closest ecological receptor is the River Kennet SSSI at 200 m to the south of the site	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g. containing	Acute effects: oxygen depletion, fish kill and algal blooms Chronic effects: deterioration of water quality	Direct run-off from site across ground surface, via surface water drains, ditches etc.	Very Low	The pre-application advice noted the presence of several SACs within 10 km of the site, SSSIs within 2 km of the site, and Local Wildlife Sites within 2 km of the site. There are no discernible changes to the type of waste as a result of the variation. The additional waste types are all inert/non-	N

Receptor	Source	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
	suspended solids		Indirect run-off via the soil layer		hazardous. The existing processing and screening plant will operate in the same way and under existing controls, albeit with a significantly larger throughput and processing waste rather than virgin aggregates. The additional processing/screening activities, and the wash plant and WTP do not introduce any new materials that would present a pollution hazard in the event of a spillage. The only additive being a flocculent which is dosed into the WTP; this is held on site in small quantities, in proprietary containment and in a secure building. The process is fully enclosed and operated in accordance with the supplier manual. There are no point source emissions to water as the treated water is re-used in the wash plant.	
Abstraction from watercourse downstream of facility (for agricultural or potable use).	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g. containing suspended solids	Acute effects, closure of abstraction intakes.	Direct run-off from site across ground surface, via surface water drains, ditches etc. then abstraction	Very Low	There are no discernible changes to the type of waste as a result of the variation. The existing processing and screening plant will operate in the same way and under existing controls, albeit with a significantly larger throughput and processing waste rather than virgin aggregates. The additional processing/screening activities, and the wash plant and WTP do not introduce any new materials that would	N

Receptor	Source	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
					present a pollution hazard in the event of a spillage. The only additive being a flocculent which is dosed into the WTP; this is held on site in small quantities, in proprietary containment and in a secure building. There are no point source emissions to water as the treated water is re-used in the wash plant. The EP boundary is increased by the variation; however, it is still within the wider applicant owned (and operational) site and no closer to the closest surface water abstraction point; the change does not take the EP area into a groundwater protection zone.	
Groundwater	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g., containing suspended solids	Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole	Transport through soil/groundwater then extraction at borehole	Very Low	There are no discernible changes to the type of waste as a result of the variation. The existing processing and screening plant will operate in the same way and under existing controls, albeit with a significantly larger throughput and processing waste rather than virgin aggregates. The additional processing/screening activities, and the wash plant and WTP do not introduce any new materials that would present a pollution hazard in the event of a spillage. The only additive being a flocculent	N

Receptor	Source	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
					which is dosed into the WTP; this is held on site in small quantities, in proprietary containment and in a secure building. The process is fully enclosed and operated in accordance with the supplier manual. There are no point source emissions to water as the treated water is re-used in the wash plant, following storage in existing permitted tanks. The EP boundary is increased by the variation; however, it is still within the wider applicant owned (and operational) site and no closer to the closest surface water abstraction point; the change does not take the EP area into a groundwater protection zone.	
Local human population / presence. The closest residential receptors are 60 m to the north of the site (Colthrop Cottages); the closest commercial receptors are within 50 m to the north	Contaminated waters used for recreational purposes	Harm to human health - skin damage or gastro-intestinal illness	Direct contact or ingestion	Very Low	There are no discernible changes to the type of waste as a result of the variation. The existing processing and screening plant will operate in the same way and under existing controls, albeit with a significantly larger throughput and processing waste rather than virgin aggregates. The additional processing/screening activities, and the wash plant and WTP do not introduce any new materials that would present a pollution hazard. The only additive being a flocculent which is dosed into the	N

Receptor	Source	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
					WTP; this is held on site in small quantities, in proprietary containment and in a secure building. The process is fully enclosed and operated in accordance with the supplier manual. There are no point source emissions to water as the treated water is re-used in the wash plant.	
Protected sites – European sites and SSSIs The closest ecological site is the River Kennet SSSI at 200 m to the south of the site	Any	Harm to protected site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.	Any	Low	The pre-application advice noted the presence of several SACs within 10 km of the site, SSSIs within 2 km of the site, and Local Wildlife Sites within 2 km of the site. There are however no discernible changes to the type of waste as a result of the variation. The existing processing and screening plant will operate in the same way and under existing controls, albeit with a significantly larger throughput and processing waste rather than virgin aggregates. The WTP is a physical (not biological or chemical) process, the only additive being a flocculent. The process is fully enclosed and operated in accordance with the supplier manual. There are no point source emissions to water as the treated water is re-used in the wash plant. Whilst the EP boundary is being increased, it remains within the wider applicant site	N

Receptor	Source	Harm	Pathway	Current Residual Risk	Addendum Comments	Residual Impact affected Y/N?
					boundary – no works are required that would require the movement of any species (or licence to do so). A dust management plan (DMP) and NIA & noise management plan (NMP) are provided in Appendices 9 and 10 respectively and consider the habitat sites identified within specified search limits.	

3 CONCLUSION

On the basis of the assessment above, which follows the H1 approach for risk assessment, it is considered that the control measures, that are either already in place at the site for the current permitted activities or are proposed to be implemented for the new activities, are appropriate.

Given the proximity of the closest residential receptors, and ecological receptors, and the nature of the operations, the need for further assessment of noise and dust has been identified. This is documented in the separate specific management plans, the DMP (Appendix 9) and the NMP (Appendix 10).

The ERA is a live document and will be subject to regular review throughout the life of the permitted operations. It will also be amended, if required, following any significant change to operations, an incident resulting in an environmental impact, and/or any substantiated complaints.