

This Report has been cleared for submission to the Director by Senior Inspector, Brian Meaney.

Signed: *Gráinne Dylesky* Date: 18 May 2017



OFFICE OF ENVIRONMENTAL
SUSTAINABILITY

**INSPECTOR'S REPORT ON A WASTE LICENCE REVIEW APPLICATION,
REGISTER NUMBER W0277-02**

TO: DIRECTOR

FROM: EWA BABIARCZYK

DATE: 18th May 2017

Applicant: Roadstone Limited
CRO number: 11035 (status: normal)
Location address: Huntstown Quarry, Huntstown, Kilshane and Johnstown
Townlands, Finglas, Dublin 11.

The facility is located in a developed area. Nearby there are housing estates and licensed facilities and installations.

Application date: 8th November 2016

Classes of activity (under
Waste Management Act
1996 as amended):

R 5 Recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials (main).

R 3 Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes), which includes gasification and pyrolysis using the components as chemicals.

R 13 Storage of waste pending any of the operations numbered R 1 to R 12 (excluding temporary storage (being preliminary storage according to the definition of 'collection' in section 5(1)), pending collection, on the site where the waste is produced)

European Directives/Regulations relevant to this assessment are listed in the Appendix 2 of this report.

Activity description/background:

Proposal to restore a sand and gravel quarry through the recovery of waste soil & stone. The proposed maximum annual waste intake is 1,500,000 tonnes of soil & stone.

Types of waste sought for acceptance:	
<ul style="list-style-type: none"> • inert soil and stones arising from construction and demolition activities (LoW code 17 05 04); • Dredging spoil (LoW code 17 05 06); • Inert soil and stones arising from garden and parks incl. cemeteries (LoW code 20 02 02). 	
Additional information received:	Two pieces of unsolicited information were received from the applicant on 16 th February 2017 and 10 th March 2017.
No of submissions received:	None
EIS submitted: Yes (8 th November 2016)	NIS submitted: No
Site visit: 5 th January 2017	Site notice check: 5 th January 2017

1. Activity description/background

Roadstone Limited is the owner of the site. The facility is a former sand and gravel quarry located within the townlands of Huntstown, Johnstown and Kilshane, approximately 2.5 km north-west of the Dublin suburb of Finglas and 2 km north-west of the interchange between the N2 Dual Carriageway and the M50 Motorway as shown on Figure 1. The application boundary covers an area of 48.65 hectares and includes the exhausted North Quarry and West Quarry. Backfilling and restoration of the North Quarry commenced in 2002/2003 and backfilling of the West Quarry using waste will become authorised for the first time upon grant of the recommended revised licence. The main infrastructure is shown on Figure 2. It comprises of settlement ponds for storm water arising from the site, weighbridge, office, laboratory, fuel storage and machine maintenance building. Industrial and quarrying activities are conducted by Roadstone Ltd. adjacent to the facility. These include crushing of stones and cement production. The existing waste licence was granted on 11th February 2015. The applicant estimates that 9,450,000 tonnes of waste soil and stones and dredging material are required to complete backfilling of the North and West Quarries. The backfilling of the quarry void will facilitate the restoration of the site and its return to agricultural use.

Figure 1: Location of the facility

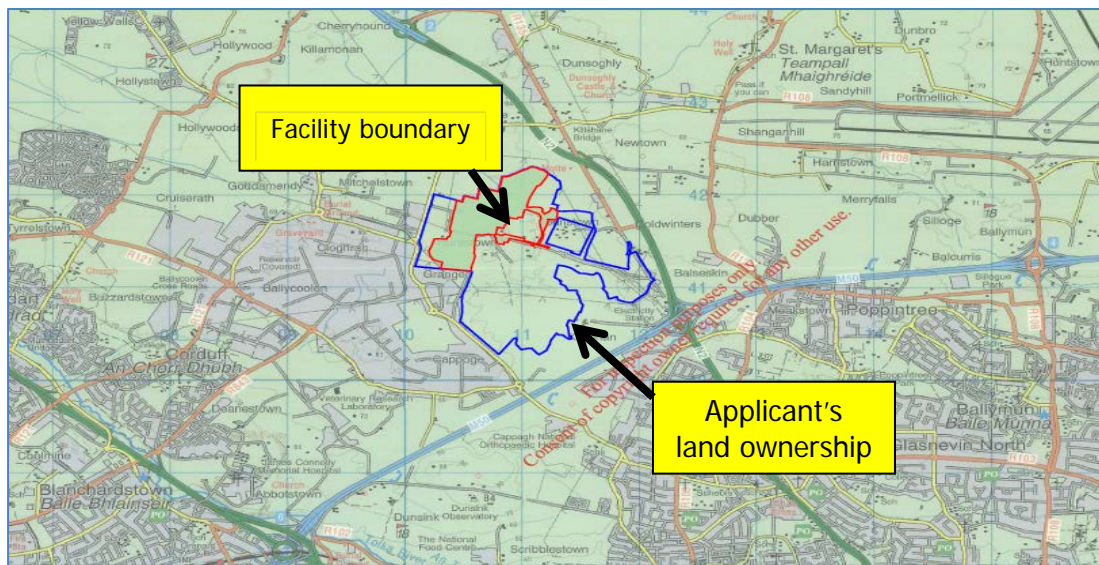
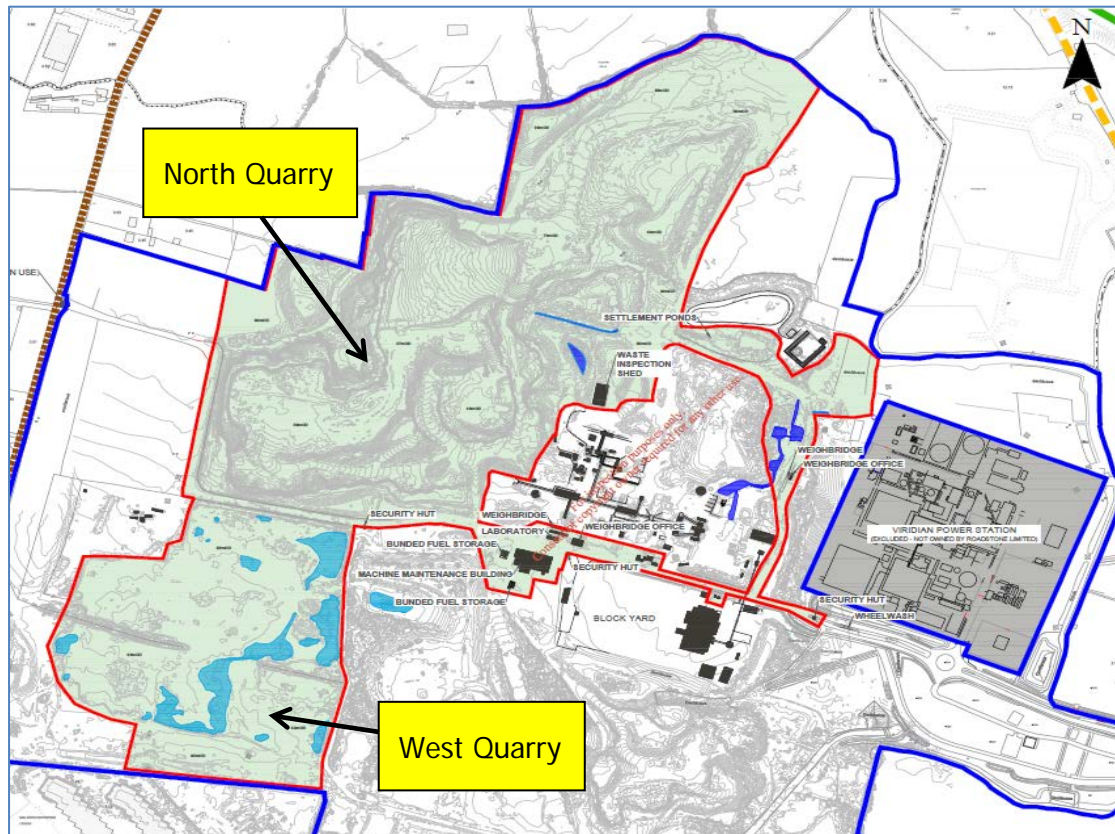


Figure 2: Site plan



2. Scope of Review

Scope of Licence Review

Proposed change	Details/comment
Waste acceptance change	The applicant proposes to increase the maximum annual waste intake from 750,000 tonnes of soil and stones per annum to 1,500,000 tonnes of soil and stones and dredging material per annum.
Site related change	The applicant seeks inclusion of the West Quarry into the site boundary. The applicant seeks also to exclude a small part of the site at the North Quarry and change the site boundary layout at one of the on-site roads.

3. Licence/Permit History

Licence/Permit	Details	Grant Date
W0277-01	Waste licence to backfill the North Quarry with natural soil and stone including use of secondary aggregate, produced from imported inert C&D waste and which achieved end-of-waste status, for construction of haul roads at the facility.	11 th February 2015
WPW/F/075	Effluent Discharge Licence from Fingal County Council	7 th December 2012
WFP-FG-09-0006-01	Waste Facility Permit	22 nd January 2010
WPT 96	Waste Permit for soil recovery and quarry restoration activities	2006
WPT 21	Waste Permit for soil recovery and quarry restoration activities	2002

4. Compliance and Complaints Record

Compliance and complaints under existing licence

There have been five non-compliances with licence register number W0277-01. These relate to the bunding and materials handling, monitoring, documentation and procedures, unapproved alterations to the activity and failure to provide infrastructure.

There have been no complaints in relation to this facility under the current licence (W0277-01).

5. Best Available Techniques

BAT for Waste facilities

Even though the facility is not a landfill (i.e. it is not a waste disposal activity) BAT for the activity is taken to be best represented by the guidance given in the Agency's Guidance Note on Best Available Techniques for the Waste Sector: Landfill Activities (2011), insofar as it relates to the backfill activities at this facility.

I have examined and assessed the application documentation and I am satisfied that the site, technologies and techniques specified in the application and as confirmed, modified or specified in the attached Recommended Decision comply with the requirements and principles of BAT. I consider the technologies and techniques as described in the application, in this report, and in the Recommended Decision (RD), to be the most effective in achieving a high general level of protection of the environment having regard - as may be relevant - to the way the facility is located, designed, built, managed, maintained, operated and decommissioned.

6. Planning Permission, EIS and EIA Requirements

6.1 EIA Screening

In accordance with Section 40(2A) of the Waste Management Act 1996 as amended, the Agency must ensure that before a licence or revised licence is granted, that the application is made subject to an environmental impact assessment (EIA), where the activity meets the criteria outlined in Section 40(2A)(b) and 40(2A)(c). In accordance with the EIA Screening Determination, the Agency has determined that the activities are likely to have a significant effect on the environment, and accordingly is carrying out an assessment for the purposes of EIA.

6.2 Planning Status

A number of planning applications have been made by the licensee for the area within the facility boundary. Details of these planning applications and permissions have been provided in the application form and are summarised below.

Planning reference	Purpose of planning application	Date of grant
FW16A/0120	To increase waste intake at the facility from 750,000 tonnes to 1,500,000. EIS submitted with this application.	4 th October 2016
FW12A/0022 (ABP ref. 06F.241693)	To continue operation of quarry, including restoration by backfilling with imported soil. EIS was required. The maximum soil intake authorised was 750,000 tonnes.	26 th August 2014
Fingal Co. Co. ref. F03A/1430 ABP ref. P06F.206789	Continuation of quarrying and related activities and restoration	2004
Fingal Co. Co. ref. 93A/1134 ABP ref. P06F.092622	Permission for 10 years for continued quarrying and production of aggregate and concrete materials; backfilling of the quarry	1994

Fingal County Council required an Environmental Impact Statement (EIS) in support of planning applications ref. FW12A/0022 and FW16A/0120. The licensee has, with the licence review application, submitted the EIS that relates to planning application reference FW16A/0120. Having reviewed the reports for previous planning permissions, it is considered that the EIS submitted with the licence review application, along with the licence review application and the further information received, adequately identifies, describes and assesses the direct and indirect effects of the entire activity and that the EISs relating to previous planning permissions are not required for the Agency's assessment.

6.3 Content of EIS and licence application

I have considered and examined the content of the licence application, the EIS and other relevant material submitted with it.

Further information was sought from the applicant on the following issues:

1. Monitoring results associated with storm water discharge to water.
2. Location of the groundwater monitoring point GW04.

On receipt of further information from the applicant, all of the documentation received was examined and I consider that the information as submitted contains a satisfactory description of the project, the alternatives studied by the applicant, the aspects of the environment likely to be significantly affected by the activity, the likely effects of the activity on the environment, the prevention and mitigation measures envisaged, the lack of difficulties and deficiencies encountered and a non-technical summary.

I consider that the EIS, when considered in conjunction with the additional material submitted with the application, also complies with the requirements of the *Waste Management Licensing Regulations, 2004, S.I. 395 of 2004, as amended*.

6.4 Environmental Impact Assessment Directive

Having specific regard to EIA, this Inspector's report as a whole is intended to identify, describe and assess for the Agency the likely significant direct and indirect effects of the proposed activity on the environment, as respects the matters that come within the functions of the Agency, for each of the following environmental factors: human beings, flora, fauna, soil, water, air, climate, the landscape, material assets and cultural heritage.

This Inspector's report addresses the interaction between those effects and the related development forming part of the wider project. The cumulative impacts, with other developments in the vicinity of the activity have also been considered, as regards the combined impacts of emissions. The main mitigation measures proposed to address the range of predicted significant impacts arising from the activity have been outlined. This Inspector's report proposes conclusions to the Agency in relation to such effects.

In preparing this Inspector's report I have considered and examined:

- the existing licence, Register Number: W0277-01;
- the review application, Register Number: W0277-02;
- the EIS associated with the most recent planning permission, reference FW16A/0120 ; and,
- the planning documentation.

While the environmental factors have been considered throughout my entire assessment, the following table identifies, for ease of reference, the sections of this report where each environmental factor has been specifically discussed.

Table of likely significant effects

Environmental Factor	Addressed in the following Sections:
Human Beings	Greenhouse gases and Climate Impact, Air Emissions, Discharges to Water and Ground, Noise, Waste Generation, Other matters relating to EIA
Flora and Fauna	Greenhouse gases and Climate Impact, Air Emissions, Discharges to Water and Ground, Noise, Waste Generation, Other matters relating to EIA
Soil	Greenhouse gases and Climate Impact, Discharges to Water and Ground, Air Emissions, Other matters relating to EIA
Water	Greenhouse gases and Climate Impact, Discharges to Water and Ground, Other matters relating to EIA
Air	Greenhouse gases and Climate Impact, Air Emissions, Other matters relating to EIA
Climate	Greenhouse gases and Climate Impact, Air Emissions, Other matters relating to EIA
Landscape	Other matters relating to EIA
Material Assets	Greenhouse gases and Climate Impact, Use of Resources, Air Emissions, Discharges to Water, Noise, Waste Generation, Other matters relating to EIA
Cultural Heritage	Greenhouse gases and Climate Impact, Other matters relating to EIA

6.5 Consultation with Competent Authorities

The Agency consulted with Fingal County Council and An Bord Pleanála under the relevant section of the Waste Management Act.

Neither Fingal County Council nor An Bord Pleanála provided observations to the Agency on the licence application and EIS.

7. Submissions

There were no submissions received on this application.

8. Air Emissions

This section addresses the following:

- greenhouse gases and climate impact
- dust
- odour

8.1 Greenhouse gases and Climate Impact

Climate change is a significant global issue which affects weather and environmental conditions (air, water and soil) which consequently affects human beings and amenities (material assets and cultural heritage) as well as biodiversity and habitats (flora and fauna). Climate change is caused by warming of the climate system by enhanced levels of atmospheric greenhouse gases due to human activities.

Operation of vehicles and machines at the facility will generate exhaust gases with greenhouse gas potential.

The operation of the facility as a soil recovery facility is a finite undertaking. At the waste deposition rates proposed to be authorised in the RD (1,500,000 tonnes per annum, see Schedule A of the RD), the facility (North and West Quarry) will be full in approximately 6 years. Vehicles and machines used in the licensed soil recovery activity will cease operation at that time.

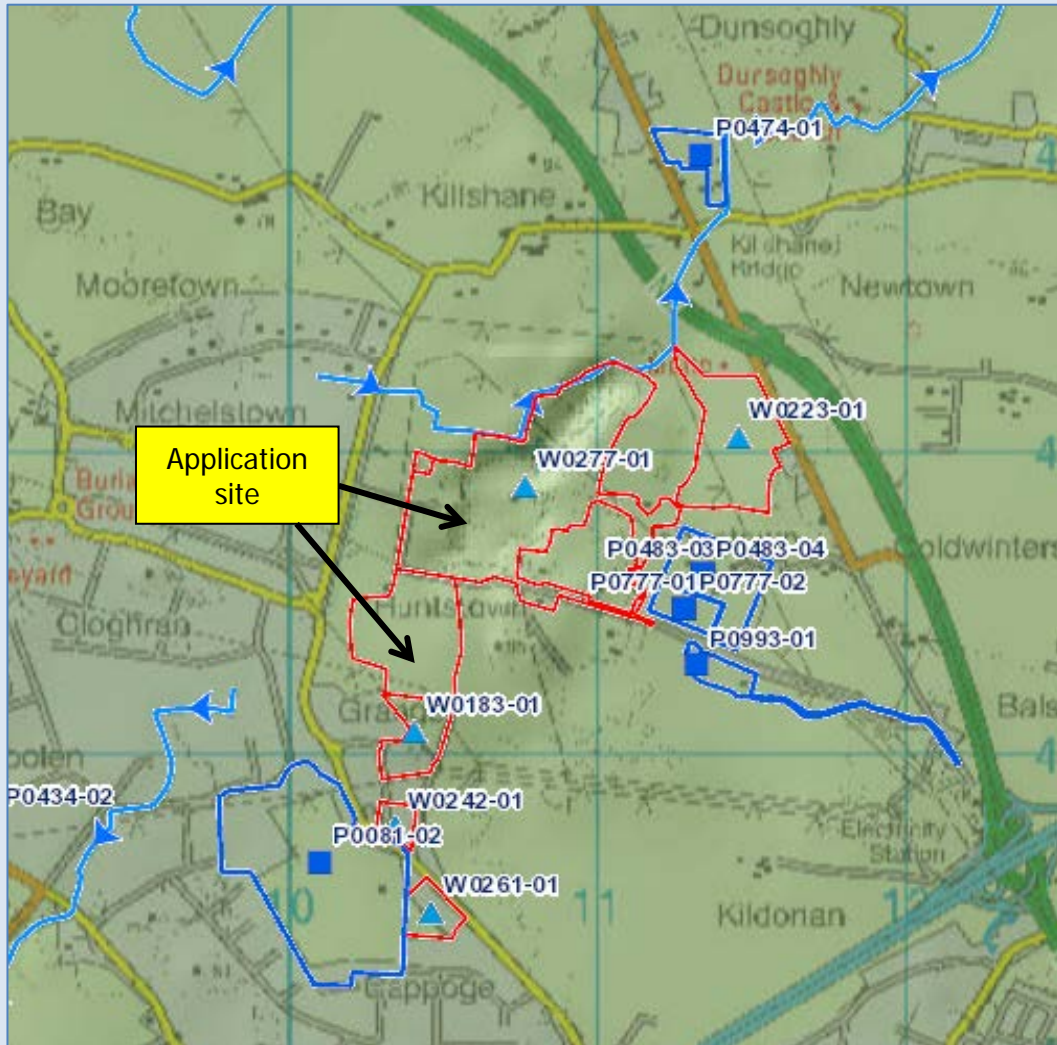
With regard to reducing the climate impact of the facility, the RD requires an energy efficiency audit and an assessment of resource use efficiency to be undertaken in accordance with Condition 7.

It is considered that the likelihood of accidental emissions occurring which could impact on climate is low in light of the measures outlined in the "Prevention of Accidents" section below and the proposed conditions in the RD.

Given the small quantity of climate altering substances that could be released from the activity, in a national context, I consider that the impact of any emissions from the facility on climatic considerations should be minimal.

The facility is located in a developed area adjacent to licensed activities as shown on Figure 3 below.

Figure 3: Adjacent licensed sites



Legend:

Licence Reg. No.	Facility's/Installation's name	Activity
P0777-02	- Viridian Power Limited	Gas turbine power plant
P0483-04	- Huntstown Power Company Limited	Combined cycle gas turbine
P0993-01	- Huntstown BioEnergy Limited	Anaerobic digestion facility – not yet constructed
W0183-01	- Starrus Eco Holdings Limited	Waste recycling and transfer facility
W0261-02	- Nurendale Limited	Materials recovery facility
P0081-02	- Irish Asphalt Limited	Production of materials for use in road construction and maintenance industry, including recovery of road planings
P0474-01	- Kelly Timber Frame Limited	Wood treatment facility

- Two nearby licensed activities, Viridian Power Limited (Licence Reg. No. P0777-02) and Huntstown Power Company Limited (Licence Reg. No. P0483-04), are regulated by Greenhouse Gas Emissions Permits. As there will be no significant emissions to air from the application site, significant cumulative effects on the environment from the use of energy by the licensee, Viridian Power Limited and Huntstown Power Company Limited are not likely.

Based on the above assessment, I am satisfied that there will not be significant effects on climate from the operation of the activity.

8.2 Fugitive Dust

Dust generation during dry weather is associated mainly with the filling activity and vehicle movements within the facility.

Dust from the facility is the main potential emission to air that could affect air quality. Dust control measures will be employed to minimise the emission of dust during dry periods (Conditions 5.5 and 6.11). Schedule B.4 *Dust Deposition Limits* of the RD sets a limit on ambient dust deposition at the facility boundary while Schedule C.3 *Ambient Monitoring* of the RD requires bi-annual monitoring of ambient dust deposition.

For the purposes of EIA, the environmental factors potentially affected by dust emissions from the activity include: human beings, flora and fauna and air.

Dust arising from the activity could have the potential to deposit beyond the site boundary, causing nuisance for those living nearby and potentially affect habitats located close to the site boundary.

The likelihood of accidental fugitive dust emissions is considered low in light of the measures outlined in the "Prevention of Accidents" section below and in light of the proposed conditions discussed above.

- With regard the potential for cumulative impacts, the licence for Viridian Power Limited (Licence Reg. No. P0777-02) sets an emission limit for dust emitted from the heat recovery system generation stack. The licence for Huntstown Power Company Limited (Licence Reg. No. P0483-04) sets emission limits for dust from the gas turbine's main stack and by-pass stack. The timber sawing operations by Kelly Timber Frame Limited (Licence Reg. No. P474-01) have potential for dust generation. The application site has also potential for dust generation. However the licences for the three sites and the RD require a number of measures for management and control of dust minimising the potential for significant cumulative effects from dust deposition on any area beyond the facility boundary.

Based on the above assessment, I am satisfied that there will not be significant effects on the environment from dust emissions from the activity.

8.3 Odour

There will be no odorous waste accepted so there is no potential for odour emissions from waste activities.

For the purposes of EIA, the environmental factors potentially affected by odour emissions from the activity include: human beings, fauna and air.

Odour is not expected to be an issue due to the fact that no odorous waste will be accepted at the facility. Accordingly no specific mitigation measures are proposed. The applicant will be required to implement waste acceptance procedures to prevent the acceptance of unauthorised (including contaminated) wastes at the facility (Condition 8.13).

Accidental odour emissions could occur if odorous waste is accepted at the facility, causing odour nuisance beyond the facility boundary. However the likelihood of accidental odour emissions occurring is considered low in light of waste acceptance limitations, the measures outlined in the "Prevention of Accidents" section below and in light of the proposed conditions relating to odour emissions discussed above.

- Huntstown Bioenergy Limited (P0993-01), Starrus Eco Holdings Limited (W0183-01) and Nurendale (W0261-02) are waste facilities that, when and if operational, have the potential to cause odour nuisance. Accordingly, the licences for these sites require measures for control of odour. As there will be no odorous waste accepted at the applicant's site, any significant cumulative effects from odour beyond the facility boundary in considered not likely.

Based on the above assessment, I am satisfied that there will not be significant effects on the environment from odour emissions from the activity.

8.4 Overall Conclusions in relation to effects of air emissions from the activity on the environment

I am satisfied that there will not be significant effects on climate, air quality, human beings, flora and fauna or any other aspect of the environment from air emissions arising from the operation of the activity.

9. Discharges to Water and Ground

This section addresses the following:

- Direct discharges to waters
- Indirect process emissions to waters (emissions to sewer),
- Emissions to ground/groundwater
- Storm water discharges

9.1 Direct Discharges to Waters

9.1.1 Direct Process Emissions to Waters

There are no direct process emissions to waters from the facility.

9.1.2 Direct storm water discharges to waters

The table below gives details on the facility's storm water discharges to waters, the sources of potential contamination of these discharges, the type of on-site abatement, as well as details of the receiving water.

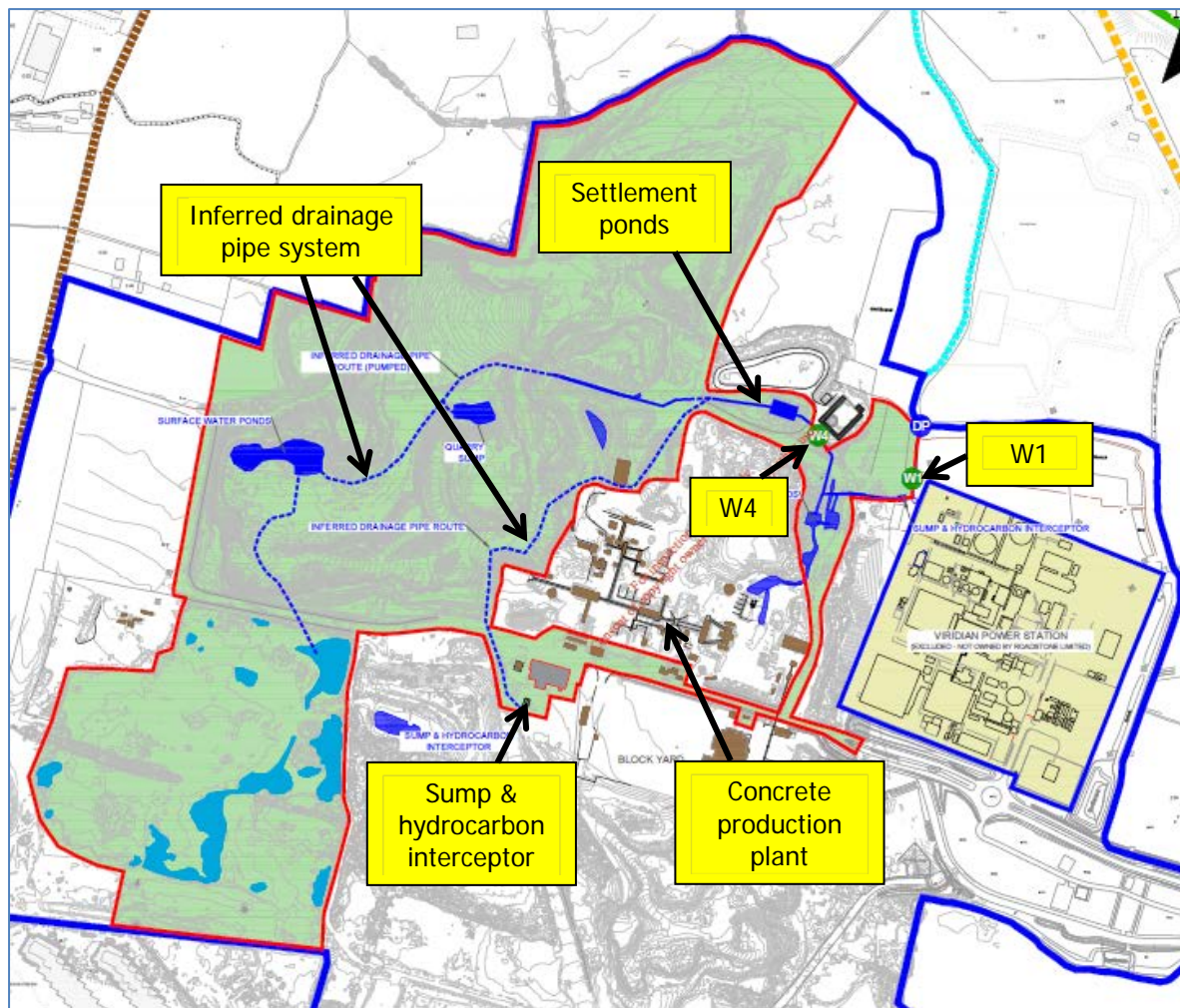
Emission Reference	Potential contamination	Abatement	Receiving water
W4 (discharge from settlement ponds)	There is a risk of fuel and oil spillages that could cause storm water pollution. Also, contaminated waste could cause pollution of storm water.	<ul style="list-style-type: none"> All vehicle and machinery refuelling and maintenance are required to be carried out in designated areas protected against spillage and run-off (Condition 8.10). All fuels and liquid chemicals must be stored in bunded areas. Implementation of waste acceptance procedures to prevent the acceptance of unauthorised (including contaminated) wastes at the facility (Condition 8.13); 	<p>Tributary of the Ballystrahan Stream</p> <p>The Ballystrahan Stream discharges to the Ward River approximately 6km downstream of the facility. The lower stretches of the Ballystrahan stream has a WFD code (EA_08_675) but no status designation. The Ward River (EA_08_67) is of poor status.</p>

Surface water run-off (and dewatered groundwater) is currently managed on the floor of the North Quarry (see Figure 4 below). Water on the floor collects in a sump at a low point and is pumped up to the eastern edge of the quarry void where it falls under gravity to the licensed discharge point W4. The pump on the quarry floor is floating on the sump and is automated via an automatic float level switch.

Water in the West Quarry infiltrates naturally to the ground and in general, there is no requirement for surface water management in this quarry. On occasion, some surface water is pumped across to the ponds at the North Quarry or adjacent works for use in production processes and/or dust suppression.

Discharge W4 merges with another discharge which contains storm water arising from paved areas of the facility and waste water arising from the adjoining concrete production plant as shown on Figure 4 below. The combined discharge (W1) is authorised under a trade effluent discharge licence from Fingal County Council.

Figure 4: Storm water management system



Schedule B.2 *Emissions to Water* sets out the recommended limit values for the discharge at W4 and these are as per the existing licence. The monitoring results show that the discharge is in compliance these limit values.

For the purposes of EIA, the environmental factors potentially affected by storm water discharges to waters include: water, soil, flora and fauna, and human beings.

Deposit of non-confirming waste in the fill area could potentially affect the quality of soil and groundwater.

The RD requires the licensee to maintain the storm water/rainwater collection system. It requires that the storm water discharge is visually inspected and monitored for total petroleum hydrocarbons and other parameters at frequencies set out in Schedule C.1.2 *Monitoring of Emissions to Water*, and specifies that there can be no unauthorised discharge of polluting matter to the storm water drainage system.

The RD contains standard conditions in relation to the storage and management of materials and wastes. The RD also requires that accident and emergency response procedures are put in place. The controls pertaining to accidents and emergencies are addressed in Section 13 below. These measures will help to control any impacts which could occur should any mitigation measures fail.

It is therefore considered that direct impacts as a result of storm water emissions through W4 are considered to be neither likely nor significant.

- In relation to potential cumulative impacts, Viridian Power Limited (P0777-02) and Huntstown Power Company Limited (P0483-04) are discharging process effluent and storm water to the same land drain as the licensee. Therefore, there could be cumulative effects from these discharges. However, as the licences for Viridian Power Limited (P0777-02) and Huntstown Power Company Limited, as well as the RD, set limit values on the discharges and require measures for control and management of storm water arising within the sites, it is considered that the significant cumulative effects from storm water emissions to water are not likely.

It is also considered that no indirect effects are likely as a result of the surface water emissions from the activity.

I am satisfied that based on the above assessment, the nature of the activity, the mitigation measures in place, and the conditions in the Recommended Decision that the likelihood of a significant effect on the environment occurring as a result of storm water emissions from W4 is negligible.

9.2 Emissions to Sewer (Indirect Discharges to Water)

9.2.1 Process emissions to sewer (Indirect process emissions to waters)

There are no process emissions to sewer at the facility.

9.3 Discharges to ground/groundwater

The predominant bedrock at Huntstown is limestone. There are two types of aquifers beneath the site. These are a Locally Important Aquifer and a Poor Aquifer. The groundwater vulnerability beneath the site is high to extreme.

The facility is located across the Swords Groundwater Body (GWB) and the Dublin GWB. There are no identified groundwater supply source protection areas within Swords GWB and there are no major abstractions for groundwater from the Dublin GWB. The source protection area for a wellfield at Dunboyne extends marginally into the Dublin GWB. The source protection zone for this wellfield however is 8.5 km west of the Huntstown quarry. The Swords GWB is classified as being of 'Good' overall status and is identified as being 'probably not at risk' of losing its current 'Good' status. The Dublin GWB is also classified as being of good overall status, however it is classified as being 'at risk' of losing its current 'Good' status from urban development pressures.

The quarry excavations at Huntstown have intersected the groundwater table and lowered it around the periphery with the excavation of each quarry bench. There are minor groundwater inflows to each of the quarries that drain to the quarry floor, where they are contained. Water is pumped from the quarry floor as and when required in order to maintain dry conditions on the floor. When pumps are active, the North Quarry has an estimated discharge rate of around 20 litres per second.

Surface water run-off (and dewatered groundwater) is currently managed on the floor of the North Quarry as described above.

Water in the West Quarry infiltrates naturally to the ground and, in general, there is no requirement for surface water management in this quarry.

The GSI national well database records indicate that there are 12 wells or drill holes within 1 km of the Huntstown Quarry complex. Of these, only 2 appear to be wells used for groundwater abstraction: one to the west of the site, and the other to the south of the site.

9.3.1 Direct process emissions to ground/groundwater

There are no direct process emissions to ground/groundwater at the facility.

9.3.2 Storm water discharges to ground

Rain water falling on the site percolates to ground through the quarry floor.

For the purposes of EIA, the environmental factors potentially affected by storm water discharges to ground/ground water include: water quality, soil, flora and fauna, human beings and material assets.

Any accidental discharges to ground could potentially affect the quality of soil and groundwater directly, which could affect those using the groundwater body as a source of drinking water. Also, polluted groundwater, if it flows into a surface waterbody, could cause pollution in this surface waterbody.

Due to the non-hazardous and inert nature of the waste to be accepted at the facility and the conditions of the RD that restrict and limit the intake of waste and its nature, the risk of adverse effects on groundwater is low.

The RD requires the licensee to:

- implement waste acceptance procedures to prevent the acceptance of unauthorised (including contaminated) wastes at the facility (Condition 8.13);
- employ a suitably qualified and experienced facility manager (Condition 2.1.1);
- put in place a documented Accident Prevention Procedure which addresses all hazards on-site (Condition 9.1);
- put in place an Emergency Response Procedure which will ensure any effects of an emergency on-site are minimised (Condition 9.2);
- implement a preventative maintenance programme (Condition 2.2.2.7); and
- implement procedures to ensure corrective and preventative action is taken should the specified requirements of the licence not be fulfilled (Condition 2.2.2.4).

The RD requires that there is no discharge from the wheel wash and specifies that there can be no unauthorised discharge of polluting matter to the storm water drainage system.

The RD contains standard conditions in relation to the storage and management of materials and wastes. The RD also requires that accident and emergency response

procedures are put in place. The controls pertaining to accidents and emergencies are addressed in Section 13 below. These measures will help to control any impacts which could occur should any mitigation measures fail.

It is therefore considered that direct impacts as a result of storm water discharge to ground are considered to be neither likely nor significant.

- None of the licences for the nearby activities authorise emissions to ground or groundwater.
- Therefore it is considered that there will be no significant cumulative impact from the activity and the adjoining licensed sites on ground/groundwater.

I am satisfied that based on the above assessment, the nature of the activity, the mitigation measures in place, and the conditions in the Recommended Decision that the likelihood of a significant effect on the environment occurring as a result of storm water discharge to ground is negligible.

9.3.3 Other emissions to ground/groundwater

Septic tank

There is an existing septic tank and percolation area on site for the disposal of domestic sewage.

For the purposes of EIA, the environmental factors potentially affected by a percolation are discharge to ground/ground water include: groundwater and surface water quality, flora and fauna, soil and humans.

The RD includes a standard condition which requires the applicant to provide and maintain a wastewater treatment plant for the treatment of sanitary effluent. The waste water treatment system is to satisfy the requirements of Condition 3.18 of the RD.

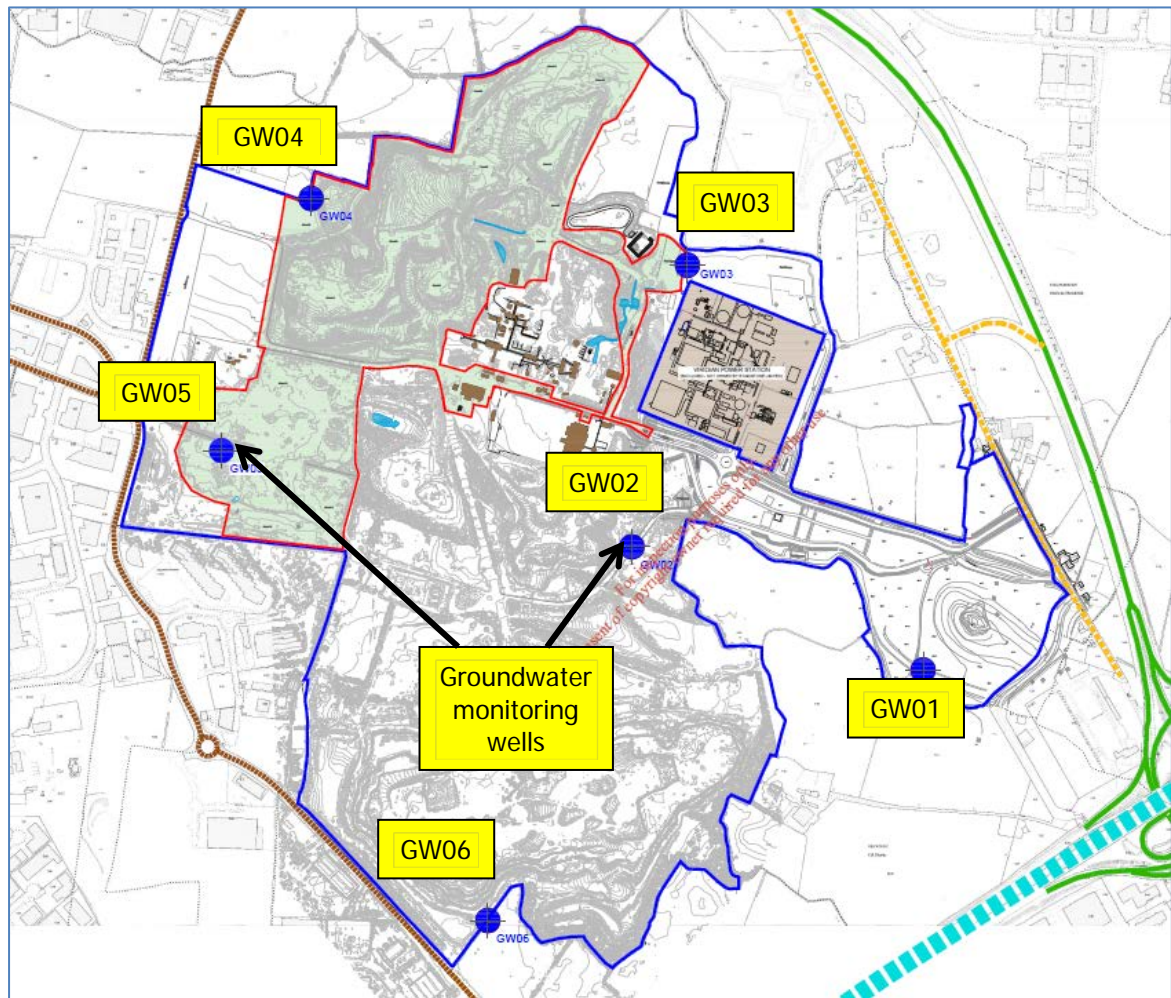
In the unlikely event of the septic tank failing, the impact to soil beneath the tank and in the percolation area would be localised and would not be significant and the attenuation provided by the underlying soil would ensure that groundwater would not be impacted significantly. It is therefore considered that direct impacts as a result of sewage emissions to ground/groundwater are considered to be neither likely nor significant.

I am satisfied that based on the above assessment, the nature of the activity, the mitigation measures in place, and the conditions in the Recommended Decision that the likelihood of a significant effect on the environment occurring as a result of domestic sewage emissions to ground through the percolation area is negligible.

Groundwater quality

Groundwater samples were obtained from the monitoring wells GW01 to GW06 in August 2010 (one sample from each well) and from wells GW01 to GW05 in 2015 and 2016 (three samples from each well). The monitoring locations are shown on Figure 5 below.

Figure 5: Groundwater monitoring locations



The groundwater quality data from August 2010 indicate that the groundwater at Huntstown can be considered to be of good status. Virtually all parameters analysed had ion concentrations lower than the Interim Guideline Values (IGV) set out in the EPA Publication '*Towards setting Guideline values for the Protection of Groundwater in Ireland*'. The guideline value for chloride was exceeded at two locations. The EIS states that this may be due to proximity to the coast (12km). All samples exceeded the guideline value for hardness and the EIS states that hardness occurs naturally at high concentrations in limestone bedrock.

The groundwater monitoring in 2015-2016 indicates generally good groundwater quality across the five wells and in the aquifer around and beyond the Huntstown quarry complex. Nitrate and nitrite is low and conductivity is below the threshold value of 1875 μ s/cm. Some coliforms have been recorded in samples, although faecal coliforms are low or absent from the monitoring wells. Hydrocarbons including Diesel Range Organics (DRO) and Total Petroleum Hydrocarbons (TPH) are recorded in samples but are present at relatively low levels only. Petrol Range Organics (PRO) are below laboratory detection level.

Any groundwater contamination could potentially affect those using the groundwater body as a source of drinking water. Please refer to Section 9.3.2 above for mitigation measures for prevention of pollution of groundwater beneath the site.

9.4 Overall Conclusions in relation to effects of emissions to water and ground on the environment

I am satisfied that there will not be significant effects on human beings, flora and fauna, water quality, soil quality, material assets or any other aspect of the environment from emissions to water and ground arising from the operation of the activity.

10. Noise

The main sources of noise at the facility include blasting, vehicles and machinery. Blasting will continue to be used within the North Quarry. A programme of mitigation measures will continue to be implemented to ensure that the blasting operations do not result in any significant impact on residential amenity of the area. Limit values for air overpressure and vibration are included in planning permission (FW12A/0022) granted in 2014 for quarrying activities as follows:

- vibration levels are limited to a peak velocity of 12 mm/s or, where blasting is frequent, 8mm/s; and
- air overpressure values at sensitive locations are limited to 125dB (linear maximum peak value) with a 95% confidence limit. No individual air overpressure value is to exceed the limit value by more than 5dB(Lm).

For the purposes of EIA, the environmental factors potentially affected by noise emissions from the activity include: human beings and flora and fauna.

Noise monitoring in and around the application site indicate that noise levels are elevated and that average ambient noise levels in the local area typically range between 60 dBA LAeq and 75 dBA LAeq, depending on location and proximity to the N2 dual carriageway, M50 motorway or the flight path of Dublin Airport.

There has been no noise or vibration complaints in respect of the facility.

Noise prediction assessment indicate that there will be minimal, if any, increase in noise levels under a worst case scenario when two additional bulldozers and additional HGV trucks are generating noise 100% of the time at the site boundary. The resultant predicted maximum levels at nearby sensitive receptors are comparable to, and only slightly elevated above, existing ambient levels.

Standard noise conditions and emission limit values, which apply at the noise sensitive locations, have been included in the RD. It is therefore considered that direct significant impacts as a result of noise and vibration from the activity are unlikely.

- In relation to cumulative impacts, there are no significant noise emissions from the nearby activities or from the applicant's site. The licences for the nearby activities and the RD set up standard limit values for noise. Accordingly, if operating in compliance with their licences, these activities are not considered to be sources of significant noise emissions that lead to likely or significant cumulative effects beyond the site boundary.

Overall Conclusions in relation to effects of noise emissions from the activity on the environment

Based on the above assessment and the controls in place, I am satisfied that there will not be significant effects on the environment from noise and vibration from the facility.

11. Waste Generation

The activity does not produce significant quantities of waste and is limited to municipal type waste from office and welfare facilities onsite. Only operators and haulage firms authorised under waste collection permits will be engaged to transfer these waste streams to waste disposal or recovery facilities.

For the purposes of EIA, the environmental factors potentially affected by waste generated by the activity include: material assets; flora and fauna.

If dealt with in accordance with the conditions of the RD, the management of waste generated at the facility will be in accordance with the requirements of Section 29 (2A) of the Waste Management Act as amended.

There are standard conditions in the RD pertaining to the storage and management of waste generated at the facility.

The licensee will continue quarrying within the licence boundary. Condition 2.3 of the RD proposes the preparation of an extractive waste management plan. Planning permission already requires the preparation of an extractive waste management plan.

The controls in the RD in relation to waste will prevent the occurrence of possible direct and indirect negative effects.

- The nearby licensed activities do not generate significant amounts of waste. Accordingly it is considered that cumulative effects on the environment from the generation of waste by this facility and the nearby activities are not likely.

Overall Conclusions in relation to effects of the generation of waste from the activity on the environment

Based on the above assessment and the mitigation measures in place, I am satisfied that there will not be significant effects on the environment from the generation of wastes from the operation of the activity.

12. Use of Resources

The operation of the facility involves consumption of electricity and diesel fuel. Electricity is used for lighting, heating, weighbridge, pumping equipment at the quarry floor, office, canteen and welfare facilities. Electricity will be also used for a wheelwash. The amount of electrical energy consumed at the facility is 2,500 kW per week. Diesel is used for powering earthworks equipment used for placing and compacting the imported soil and stone.

Condition 7 of the RD sets out the requirements with regard to resource use and energy efficiency.

For the purposes of EIA, the environmental factors potentially affected by resource use include material assets.

Condition 7 of the licence provides for the efficient use of resources and energy in all site operations. It requires a Resource Use and Energy Programme to be established

and an energy audit to be carried out and repeated at intervals as required by the Agency.

Water abstraction

There is no water abstraction within the facility. Water for the site office and welfare facilities is supplied by water mains.

Hazardous Materials

The applicant uses 2,650 litres of fuel per week.

There is a risk of fuel spillages that could cause groundwater pollution.

Condition 8.10 requires that all vehicle and machinery refuelling and maintenance is carried out in designated areas protected against spillage and run-off. All fuels and liquid chemicals must be stored in bunded areas. These measures address a number of key provisions of the Groundwater Directive (2006/118/EC), namely that hazardous substances should not be allowed to enter groundwater, and will ensure compliance with the European Communities Environmental Objectives (Groundwater) Regulations 2010.

- The applicant nor nearby licensed activities do not use resources to an extent that could lead to likely or significant cumulative effects beyond the site boundary.

Overall Conclusions in relation to effects of the use of resources by the activity on the environment (EIA only)

I am satisfied that there will not be significant effects on the environment from the use of natural resources from the operation of the activity.

13. Prevention of Accidents

Measures to be taken to prevent accidents and limit consequences

Table 1 Summary of potential accidents and prevention/mitigation measures

<p>Potential for an accident or hazardous or emergency situation to arise at the facility</p>	<p>Due to the non-hazardous and inert nature of the waste to be accepted at the facility, the risk of adverse effects on human beings and the environment as a result of an accident is low.</p> <p>The risk of fire is low due to the absence of flammable waste at the facility.</p>
<p>Preventative and mitigation measures to reduce the likelihood of accidents and mitigate the effects of the consequences of an</p>	<p>Provision and maintenance of adequate bunding. The RD requires the licensee to:</p> <ul style="list-style-type: none"> • implement waste acceptance procedures to prevent the acceptance of unauthorised (including contaminated) wastes at the facility (Condition 8.13);

accident at the facility	<ul style="list-style-type: none"> • employ a suitably qualified and experienced facility manager (Condition 2.1.1); • put in place a documented Accident Prevention Procedure which addresses all hazards on-site (Condition 9.1); • put in place an Emergency Response Procedure which will ensure any effects of an emergency on-site are minimised (Condition 9.2); • implement a preventative maintenance programme (Condition 2.2.2.7); and • implement procedures to ensure corrective and preventative action is taken should the specified requirements of the licence not be fulfilled (Condition 2.2.2.4).
Additional measures provided for in the RD	<p>Specifies accident prevention and emergency response requirements (Condition 9).</p> <p>Integrity of tanks to be assessed every 3 years and maintenance carried out as required (Condition 6.7).</p>

Condition 9 of the RD requires procedures to be put in place to prevent accidents with a possible impact on the environment and to respond to emergencies so as to minimise the impact on the environment.

The risk of accidents and their consequences, and the preventative and mitigation measures listed in the table above, have been considered in full in the assessments carried out throughout this report.

It is considered that the conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

14. Cessation of activity

The application details a range of measures to be employed upon cessation of the activity. These include:

- Removal of all plant and machinery;
- Decommission/excavation and removal off-site of any dedicated site accommodation, infrastructure and services;
- Breaking up of concrete surfaces and transferring the material arising from the breakage to authorised waste recovery facilities.

A Closure Restoration and Aftercare Management Plan (CRAMP) was submitted with the application (see Section 18 of this report for further details).

The measures to be taken upon cessation of the activity have been considered in full in the assessments carried out throughout this report.

I am satisfied that there will not be significant effects on the environment from the measures that will be taken upon cessation of the activity.

15. Other matters relating to EIA

15.1 Effects on landscape, material assets and cultural heritage

(a) Disturbance of archaeology and architecture from the operation of the activity

Any loss of archaeological or architectural heritage could impact negatively on human beings. These matters are dealt with in the decision of the planning authority to grant planning permission for the developments on site and are not controlled by the Agency. The planning authority has considered the impacts to be acceptable.

Records held by the National Monuments Service of the Department of Environment, Heritage and Local Government indicate that there are a number of national monuments within and in the immediate vicinity of Roadstone's landholding. At the northern end of the application site, the ruins of Kilshane Church, a graveyard and holy well (Ref. DU014-012) are identified as part of an extended archaeological site. These features are also included in the list of protected structures in the Fingal County Development Plan. There are no visible remains of these monuments remaining in situ. The proposed activity will have no impact on these ruins.

The cultural heritage study concluded that the continued operation of the waste recovery facility and the increase in the rate of waste intake thereto will have no direct impact on any other known archaeological or architectural feature.

(b) Landscape, visual and cultural impact

Any disturbance of the landscape or the cultural heritage of an area has the potential to impact on human beings and their enjoyment of the surrounding area. These matters are dealt with in the decision of the planning authority to grant planning permission for the developments on site and are not controlled by the Agency. The planning authority has considered the impacts to be acceptable.

The existing inert waste recovery facility at Huntstown Quarry is located on the urban fringe of a large city. The current Fingal County Development Plan designates all of the North Quarry and part of the West Quarry as part of a rural zoned area, with the western side of the West Quarry designated as suitable for 'heavy industry'.

The entire application site is also designated as a Nature Development Area, i.e. an area with potential for biodiversity enhancement in the CDP. However, notwithstanding this, the principle of backfilling the Huntstown quarries was previously approved under planning permissions.

An assessment of landscape impact determined that the sensitivity of the lowlying landscape character surrounding the quarry complex at Huntstown is low and that the proposed increase in permitted waste intake will not increase the magnitude of those landscape effects that are already established and/or permitted. It was therefore concluded that there will be no additional landscape impact over and above what is already extant arising as a result of the proposed development.

It is not envisaged that emissions from the operation of the activity will impact on the site's surrounding landscape and culture of the area.

The proposed retention of all boundary hedgerows and of the existing wildlife areas, as well as the ultimate restoration of the application site to agricultural use and replanting of boundary hedgerows which were previously removed will ensure that

the biodiversity currently present on site will be maintained and enhanced in the long term. This is in compliance with the provisions made under the current Fingal County Development Plan for Nature Development Areas.

Overall Conclusions in relation to effects on landscape, material assets and cultural heritage from the activity

I am satisfied that there will not be significant effects on landscape, material assets and cultural heritage from the operation of the activity.

Accordingly, if the activity is carried out in accordance with the RD and the conditions attached, the operation of the activity will not cause environmental pollution.

15.2 Interaction of effects

I have considered the interaction between human beings, flora and fauna, soil, water, air, climate, landscape, material assets, cultural heritage and the interaction of the likely effects identified throughout this report.

The interaction between factors as a result of the operation of the facility are summarised below:

Interaction of effects

	Human Beings	Flora and Fauna	Soil	Water	Air	Climate	Material assets, landscape, cultural heritage
Human Beings							
Flora and Fauna	✓						
Soil	✓	✓					
Water	✓	✓	✓				
Air	✓	✓	✓	✓			
Climate	✓	✓	✓	✓	✓		
Material assets, landscape, cultural heritage	✓	✓	✓	✓	✓	✓	

The most significant interactions, as addressed in the earlier parts of this report, are as follows:

Human being and groundwater and soil

In the event of waste acceptance criteria not being adhered to, and the acceptance of contaminated waste, filling such waste may impact directly on quality of groundwater and soil and indirectly on surface water quality if polluted groundwater discharges into a surface waterbody.

Based on the assessment carried out throughout this report, and the mitigation measures proposed (including the relevant conditions in the RD), I do not consider that the interactions identified are likely to cause or exacerbate any potentially significant environmental effects of the activity.

16. Reasoned Conclusion on Environmental Impact Assessment

Having regard to the impacts (and interactions) identified, described and assessed throughout this report, I consider that the mitigation measures proposed will enable the activity to operate without causing environmental pollution. I also consider that the potential impacts on the environment identified above, even if they occur, are unlikely to damage the environment, and the risk of them occurring is not unacceptable.

Accordingly, if the activity is carried out in accordance with the RD and the conditions attached, the operation of the activity will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

17. Appropriate Assessment

There are eleven European Sites in the vicinity of the facility:

- Baldoyle Bay SAC (Site Code: 000199)
- Malahide Estuary SAC (Site Code: 000205)
- North Dublin Bay SAC (Site Code: 000206)
- Rogerstown Estuary SAC (Site Code: 000208)
- South Dublin Bay SAC (Site Code: 000210)
- Rye Water Valley/Carton SAC (Site Code: 001398)
- North Bull Island SPA (Site Code: 004006)
- Rogerstown Estuary SPA (Site Code: 004015)
- Baldoyle Bay SPA (Site Code: 004016)
- South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024)
- Broadmeadow/Swords Estuary SPA 004025 (Site Code: 004025)

Appendix 1 lists the European Sites assessed, their associated qualifying interests and conservation objectives.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activities, individually or in combination with other plans or projects are likely to have a significant effect on any European Site. In this context, particular attention was paid to the European Sites at Baldoyle Bay SAC (Site Code: 000199), Malahide Estuary SAC (Site Code: 000205), North Dublin Bay SAC (Site Code: 000206), Rogerstown Estuary SAC (Site Code: 000208), South Dublin Bay SAC (Site Code: 000210), Rye Water Valley/Carlton SAC (Site Code: 001398), North Bull Island SPA (Site Code: 004006), Rogerstown Estuary SPA (Site Code: 004015), Baldoyle Bay SPA (Site Code: 004016), South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024) and Broadmeadow/Swords Estuary SPA 004025 (Site Code: 004025).

The activities are not directly connected with or necessary to the management of any European Site and the Agency considered, for the reasons set out below, that it can be excluded, on the basis of objective information, that the activities, individually or in combination with other plans or projects, will have a significant effect on any European Site and accordingly determined that an Appropriate Assessment of the activities was not required.

The reasons for which the Agency determined that an Appropriate Assessment of the activity is not required are as follows:

The facility does not have the potential for significant effects on any European site due to the nature of this inert waste recovery facility. In particular the only potential source-pathway-receptor link between the facility and any of the European sites is via the hydraulic pathway created through a discharge of dewatered groundwater and surface water run-off from the quarry site to the Ballystrahan Stream, a tributary of the River Ward, which outflows into the Malahide Estuary.

Based on monitoring results, it is not anticipated that the activity will have any significant adverse effect on any qualifying features of the European sites.

18. Fit & Proper Person Assessment

The Fit & Proper Person test requires three elements of examination:

Technical Ability

The licensee has provided details of the qualifications, technical knowledge and experience of key personnel. The licence review application also includes information on the on-site management structure. It is considered that the applicant has demonstrated the technical knowledge required.

Legal Standing

Neither the licensee nor any relevant person has relevant convictions under the Waste Management Act 1996, as amended, or under any other relevant environmental legislation.

Financial Provision/Strength

Condition 10.2 of the RD requires the preparation of an updated and revised Closure, Restoration and Aftercare Management Plan (CRAMP) within six months of the grant of the licence. In accordance with EPA policy, there is no apparent need to require the preparation of an Environmental Liabilities Risk Assessment or the making of financial provision.

It is my view, and having regard to the provisions of Section 40(7) of the Waste Management Act 1996, as amended that the applicant can be deemed a Fit & Proper Person for the purpose of this review.

19. Cross Office Consultation

In preparing this report and Recommended Decision, the following technical and sectoral advisors were consulted:

Inspector	Assistance provided
Pamela McDonnell (OES)	Matters related to Environmental Impact Assessment
Matthew Craig (OEA) and Anthony Mannix (OEA)	Matters related to groundwater quality
Cathal Gahan (OEE)	Enforcement of and compliance with the existing licence

I also familiarised myself with a site visit report completed by OEE on 13 April 2017 in respect of the exclusion of a part of the site at the North Quarry and the change to the site boundary layout at one of the on-site roads.

20. Charges

The annual enforcement charge recommended in the RD is €7,269, which reflects the anticipated enforcement effort required and the cost of monitoring. This represents no change to the Agency's 2016 enforcement charge.

21. Recommendation

The RD specifies the necessary measures to provide that the facility shall be operated in accordance with the requirements of Section 40(4) of the Waste Management Act 1996 as amended, and has regard to the AA screening and EIA. The RD gives effect to the requirements of the Waste Management Act 1996 as amended.

I recommend that a Proposed Decision be issued subject to the conditions and for the reasons as drafted in the RD.

Signed



Ewa Babiarczyk

Procedural Note

In the event that no objections are received to the Proposed Decision of the application, a licence will be granted in accordance with Section 43(1) of the Waste Management Act 1996 as amended.

Appendix 1

List of European Sites assessed, their associated qualifying interests and conservation objectives.

European Site (site code)	Distance and direction from the facility	Qualifying interests (* denotes a priority habitat)	Conservation objectives
Baldoye Bay SAC (Site Code: 000199)	13 km east of the facility	<p>Habitats:</p> <ul style="list-style-type: none"> • 1140 Mudflats and sandflats not covered by seawater at low tide • 1310 Salicornia and other annuals colonizing mud and sand • 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) • 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) <p>Species:</p> <p style="padding-left: 20px;">None</p>	As per NPWS (2012) Conservation objectives for Baldoye Bay SAC [000199]. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht (dated 19 November 2012).
Malahide Estuary SAC (Site Code: 000205)	10.4 km north east of the facility	<p>Habitats:</p> <ul style="list-style-type: none"> • 1140 Mudflats and sandflats not covered by seawater at low tide • 1310 Salicornia and other annuals colonising mud and sand • 1320 Spartina swards (<i>Spartinion maritima</i>) 	As per NPWS (2013) Conservation Objectives for Malahide Estuary SAC [000205]. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht (dated 27 May 2013).

European Site (site code)	Distance and direction from the facility	Qualifying interests (* denotes a priority habitat)	Conservation objectives
		<ul style="list-style-type: none"> • 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) • 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) • 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) • 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)* <p>Species: None</p>	
North Dublin Bay SAC (Site Code: 000206)	12 km south east of the facility	<p>Habitats:</p> <ul style="list-style-type: none"> • 1140 Mudflats and sandflats not covered by seawater at low tide • 1210 Annual vegetation of drift lines • 1310 Salicornia and other annuals colonising mud and sand • 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) • 1395 Petalwort <i>Petalophyllum ralfsii</i> 	As per NPWS (2013) Conservation Objectives for North Dublin Bay SAC [000206]. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht (dated 6 November 2013).

European Site (site code)	Distance and direction from the facility	Qualifying interests (* denotes a priority habitat)	Conservation objectives
		<ul style="list-style-type: none"> • 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) • 2110 Embryonic shifting dunes • 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) • 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)* • 2190 Humid dune slacks <p>Species: None</p>	
Rogerstown Estuary SAC (Site Code: 000208)	13.5 km north/east of the facility	<p>Habitats:</p> <ul style="list-style-type: none"> • 1130 Estuaries • 1140 Mudflats and sandflats not covered by seawater at low tide • 1310 Salicornia and other annuals colonising mud and sand • 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) 	As per NPWS (2013) Conservation Objectives for Rogerstown Estuary SAC [000208]. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht (dated 14 August 2013).

European Site (site code)	Distance and direction from the facility	Qualifying interests (* denotes a priority habitat)	Conservation objectives
		<ul style="list-style-type: none"> • 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) • 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) • 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)* <p>Species: None</p>	
South Dublin Bay SAC (Site Code: 000210)	12.2 km south east of the facility	<p>Habitats:</p> <ul style="list-style-type: none"> • 1140 Mudflats and sandflats not covered by seawater at low tide <p>Species: None</p>	As per NPWS (2013) Conservation Objectives for South Dublin Bay SAC [000210]. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht (dated 22 August 2013).
Rye Water Valley/Carton SAC (Site Code: 001398)	11.5 km south west of the facility	<p>Habitats:</p> <ul style="list-style-type: none"> • 7220 Petrifying springs with tufa formation (Cratoneurion)* <p>Species:</p>	As per NPWS (2016) Conservation objectives for Rye Water Valley/Carton SAC [001398]. Generic Version 5.0. Department of Arts, Heritage,

European Site (site code)	Distance and direction from the facility	Qualifying interests (* denotes a priority habitat)	Conservation objectives
		<ul style="list-style-type: none"> • 1014 Narrow-mouthed Whorl Snail <i>Vertigo angustior</i> • 1016 Desmoulin's Whorl Snail <i>Vertigo moulinsiana</i> 	Regional, Rural and Gaeltacht Affairs (dated 15 August 2016).
North Bull Island SPA (Site Code: 004006)	9.6 km south east of the facility	<p>Habitats:</p> <ul style="list-style-type: none"> • A999 Wetlands <p>Species:</p> <ul style="list-style-type: none"> • A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> • A048 Shelduck <i>Tadorna tadorna</i> • A052 Teal <i>Anas crecca</i> • A054 Pintail <i>Anas acuta</i> • A056 Shoveler <i>Anas clypeata</i> • A130 Oystercatcher <i>Haematopus ostralegus</i> • A140 Golden Plover <i>Pluvialis apricaria</i> • A141 Grey Plover <i>Pluvialis squatarola</i> • A143 Knot <i>Calidris canutus</i> • A144 Sanderling <i>Calidris alba</i> • A149 Dunlin <i>Calidris alpina alpina</i> 	As per NPWS (2015) Conservation Objectives for North Bull Island SPA [004006]. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht (dated 9 March 2015).

European Site (site code)	Distance and direction from the facility	Qualifying interests (* denotes a priority habitat)	Conservation objectives
		<ul style="list-style-type: none"> • A156 Black-tailed Godwit <i>Limosa limosa</i> • A157 Bar-tailed Godwit <i>Limosa lapponica</i> • A160 Curlew <i>Numenius arquata</i> • A162 Redshank <i>Tringa totanus</i> • A169 Turnstone <i>Arenaria interpres</i> • A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> 	
Rogerstown Estuary SPA (Site Code: 004015)	14 km north east of the facility	<p>Habitats:</p> <ul style="list-style-type: none"> • A999 Wetlands <p>Species:</p> <ul style="list-style-type: none"> • A043 Greylag Goose <i>Anser anser</i> • A046 Brent Goose <i>Branta bernicla hrota</i> • A048 Shelduck <i>Tadorna tadorna</i> • A056 Shoveler <i>Anas clypeata</i> • A130 Oystercatcher <i>Haematopus ostralegus</i> • A137 Ringed Plover <i>Charadrius hiaticula</i> • A141 Grey Plover <i>Pluvialis squatarola</i> • A143 Knot <i>Calidris canutus</i> 	As per NPWS (2013) Conservation Objectives for Rogerstown Estuary [SPA 004015]. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht (dated 20 May 2013).

European Site (site code)	Distance and direction from the facility	Qualifying interests (* denotes a priority habitat)	Conservation objectives
		<ul style="list-style-type: none"> • A149 Dunlin <i>Calidris alpina alpina</i> • A156 Black-tailed Godwit <i>Limosa limosa</i> • A162 Redshank <i>Tringa totanus</i> 	
Baldoyle Bay SPA (Site Code: 004016)	13 km east of the facility	<p>Habitats:</p> <ul style="list-style-type: none"> • A999 Wetlands <p>Species:</p> <ul style="list-style-type: none"> • A046 Brent Goose <i>Branta bernicla hrota</i> • A048 Shelduck <i>Tadorna tadorna</i> • A137 Ringed Plover <i>Charadrius hiaticula</i> • A140 Golden Plover <i>Pluvialis apricaria</i> • A141 Grey Plover <i>Pluvialis squatarola</i> • A157 Bar-tailed Godwit <i>Limosa lapponica</i> 	As per NPWS (2013) Conservation Objectives for Baldoyle Bay SPA [004016]. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht (dated 27 February 2013).
South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024)	9.6 km south east of the facility	<p>Habitats:</p> <ul style="list-style-type: none"> • A999 Wetlands <p>Species:</p> <ul style="list-style-type: none"> • A046 Light-bellied Brent Goose <i>Branta bernicla hrota</i> • A130 Oystercatcher <i>Haematopus ostralegus</i> 	As per NPWS (2015) Conservation Objectives for South Dublin Bay and River Tolka Estuary SPA [004024]. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. (dated 9 March

European Site (site code)	Distance and direction from the facility	Qualifying interests (* denotes a priority habitat)	Conservation objectives
		<ul style="list-style-type: none"> • A137 Ringed Plover <i>Charadrius hiaticula</i> • A141 Grey Plover <i>Pluvialis squatarola</i> • A143 Knot <i>Calidris canutus</i> • A144 Sanderling <i>Calidris alba</i> • A149 Dunlin <i>Calidris alpina alpina</i> • A157 Bar-tailed Godwit <i>Limosa lapponica</i> • A162 Redshank <i>Tringa totanus</i> • A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> • A192 Roseate Tern <i>Sterna dougallii</i> • A193 Common Tern <i>Sterna hirundo</i> • A194 Arctic Tern <i>Sterna paradisaea</i> 	2015).
Broadmeadow/Swords Estuary SPA 004025, also known as Malahide Estuary SPA	10.4 km north east of the facility	<p>Habitats:</p> <ul style="list-style-type: none"> • A999 Wetlands <p>Species:</p> <ul style="list-style-type: none"> • A005 Great Crested Grebe <i>Podiceps cristatus</i> • A046 Brent Goose <i>Branta bernicla hrota</i> • A048 Shelduck <i>Tadorna tadorna</i> 	As per NPWS (2013) Conservation Objectives for Malahide Estuary SPA [004025]. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht (dated 16 August 2013).

European Site (site code)	Distance and direction from the facility	Qualifying interests (* denotes a priority habitat)	Conservation objectives
		<ul style="list-style-type: none"> • A054 Pintail <i>Anas acuta</i> • A067 Goldeneye <i>Bucephala clangula</i> • A069 Red-breasted Merganser <i>Mergus serrator</i> • A130 Oystercatcher <i>Haematopus ostralegus</i> • A140 Golden Plover <i>Pluvialis apricaria</i> • A141 Grey Plover <i>Pluvialis squatarola</i> • A143 Knot <i>Calidris canutus</i> • A149 Dunlin <i>Calidris alpina alpina</i> • A156 Black-tailed Godwit <i>Limosa limosa</i> • A157 Bar-tailed Godwit <i>Limosa lapponica</i> • A162 Redshank <i>Tringa totanus</i> 	

Appendix 2

Relevant European (and international) legal instruments

The following Irish and European instruments are regarded as relevant to this application assessment and have been considered in the drafting of the Recommended Decision.

Environmental Impact Assessment (EIA) Directive (85/337/EEC, as amended)
Habitats Directive (92/43/EC) & Birds Directive (79/409/EEC)
Environmental Liability Directive (2004/35/CE)
Waste Framework Directive (2008/98/EC)
Groundwater Directive (80/68/EEC) and 2006/118/EC
Energy Efficiency Directive