



NON-TECHNICAL SUMMARY - Revision 01

FOR
WASTE LICENCE APPLICATION

AT
BALLINAROOAUN, SCREEN, CO. WEXFORD

April, 2020

ON BEHALF OF



Prepared by
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Attachment-1-2-Non-Technical Summary

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1. Introduction

MSK Silversands Limited (hereinafter MSK Silversands), Ballyfarnogue, Screen, Co. Wexford operate a sand and gravel quarry at the site at Ballinrooan, Screen, Co. Wexford. MSK Silversands were granted permission on 4th March 2019 by An Bord Pleanála (ABP-301615-18/ Wexford County Council Planning Ref. 20171532) to extend the existing quarry development into adjoining lands to the west at Ballinrooan, Screen, Co. Wexford; National Grid Reference – 309399E 130076N.

MSK propose to progressively restore the extracted landform to existing levels through the importation of waste inert soils. It is estimated that c. 846,000 cubic metres (c. 1,354,400 tonnes) of inert soil and stone will be imported at the site over approximately 17 years. The restoration of the quarry using imported inert soil and stone is classed as a recovery operation under the 4th Schedule of the Waste Management Act 1996, as amended. In accordance with the Waste Management Act 1996, as amended and Waste Management (Licensing) Regulations 2004, as amended, a waste licence for the activity is required as the total volume of soil to be recovered exceeds the specified 200,000 tonne threshold.

This non- technical summary is included as Attachment-1-2 of the application to the EPA for a waste licence for the recovery of inert soil and stone in the restoration of the quarry and summarises sections of the application form and associated attachments.

While the activity of extraction/ quarrying of sand and gravel does not form part of the licence application, this activity will operate concurrently with the restoration of the quarry via waste recovery to which this licence application relates. Details regarding the extraction/ quarrying of sand and gravel, has therefore been include within this report.

2. General Information

2.1 Planning Permission & Site History

The original sand pit (quarry) was opened in the 1940's with several other sand pits reported on the applicants land. Its use has been periodic since then with sand extracted for construction of local dwellings. The sand pit has had a more continued use since 1999. An application for registration of the quarry under Section 261 of the Planning and Development Act 2000 was lodged with Wexford County Council in April 2005 (Planning Reference Number: Q19; ABP Ref: 26.QV.0239). Under this Wexford County Council in consultation with National Parks and Wildlife Services, directed that the south/southeast section of the original quarry was to be restored due to its location within the Screen Hills Special Area of Conservation (SAC).

The existing quarry sand pit was granted planning permission by Wexford County Council (Planning Reference Number: 20082323) for extraction of sand and gravel over an approximate 5.52 hectares.

In 2016 an planning application was made for the extension of the existing quarry, however, was refused permission by Wexford County Council and An Bord Pleanála (WCC Reg. Ref. 20160261; ABP Ref.PL26.246680). Reasons for refusal were concerns regarding visual impacts and the sites location in and adjoining to the Screen Hills proposed National Heritage Area.

A subsequent planning application (Planning Reference Number: 20171532) was logged with Wexford County Council on the 20th November 2017 for the extension of the existing quarry. The proposed development design was revised to address concerns raised/ reasons for refusal under the 2016 planning application. The application was granted by An Bord Pleanála on 4th March 2019 (Attachment-6-4-1-ABP-Determination-Mar-2019). Subject to 20 no. conditions, ABP granted planning permission for:

Proposed Development: *Permission for a period of 20 years on a site of circa 8.45 hectares. Permission is sought for the extension of the existing quarry (permitted under Wexford County Council register reference number 20082323) onto adjoining lands to the west comprising an extraction area of circa 5.83 hectares. The quarry extension is sought to a maximum depth of circa 38 metres OD and will be extracted at a rate of circa 100,000 tonnes per annum. The proposed development includes all ancillary site development, areas of stockpiling, landscaping and boundary treatment works above and below ground, including the progressive restoration of the final pit void (extractive area) to original level through the importation of inert soils, all at Ballinrooaun, Screen, County Wexford.*

Further details regarding planning history for the facility is provided in Attachment-6-1-Stakeholder Engagement.

As part of the planning application an Appropriate Assessment (AA) Screening Report and an Environmental Impact Assessment Report (EIAR) were produced. The AA Screening Report and EIAR have been included for review as part of this licence application (Attachment-6-3-4-1-AA-Screening-Planning-Feb-2018; Attachment-6-3-6-EIAR-Planning- Nov-2017). In addition, a Natura Impact Statement prepared by Ecology Ireland Limited has been prepared to accompany this licence application and is attached as further information in response to the Response to request for further information issued under Article 14(2)(b)(ii) of the Waste Management (Licensing) Regulations – Ref. MSK.F.I.01.2020 submitted by the Applicant and contained in file reference “Ballinrooaun Natura Impact Statement_Rev1.pdf”.

2.2 Site and Newspaper Notice

A site notice advising of the licence application was erected at the site entrance on the L-7003-1 County Road on the 2nd August 2019 and advertised in the Irish Daily Star on the 2nd August 2019.

A copy of the Site Notice is provided within Attachment-6-7-1-Evidence of Notices-Site. along with photographic records of the site notice as erected. The location of the site notice is indicated in on Attachment-6-7-3-Evidence of Notices-Map. A copy of the Newspaper Notice is provided within Attachment-6-7-2-Evidence of Notices-Newspaper.

The Planning Authority (Wexford County Council) has been advising of this licence application, for which, evidence of this is provided within Attachment-6-7-4-Evidence of Notices-PA.

2.3 Activities to be licensed

MSK Silversands is applying to the Environmental Protection Agency (EPA) for a Waste Licence for the recovery of c. 1,354,400 tonnes of inert soil and stone for the restoration of the original landform topography of the site. The progressive backfilling of the quarry void using inert soil and stone will include the following classes of waste activity in accordance with the Fourth Schedule of the Waste Management Act of 1996 as amended:

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

The principal activity will be Class R 5.

It is proposed to accept inert soil and stone (List of Waste (LoW) Code 17 05 04- Soil and stones other than those mentioned in 17 05 03) at the facility. An maximum annual tonnage of 80,000 tonnes is proposed with a total tonnage of 1,354,400 tonnes proposed over 17 years.

3. Description of Facility

3.1 Site Description

The subject site at Ballinrooaun, Screen, Co. Wexford, is approximately c. 8.45 hectares and comprises four agricultural fields and part of the existing sand and gravel quarry. The section of the existing quarry included within the application is proposed to be used for storage. The area of extraction shall encompass approximately 5.83 hectares. There are a number of dilapidated former farm buildings (consisting mostly of walls with partial roof) located to the south-west of the site.

The proposed site is located on the southwest slope of a localised hill which rises to an elevation of about 101m AOD to the north of the site. The proposed quarry extension site varies in elevation from about 54 to 80m AOD with the ground surface falling from northeast to southwest. The topography of the general surrounding area is undulating comprising low rounded hills. The area is characterised by the glacial landscape known as "kettle and kame".

The lands surrounding the site are in agricultural use. In this regard, the lands are predominantly used for the grazing of cattle, although there are lands to the northwest of the sand and gravel pit that have been used for growing crops. These lands are also in the ownership of the Applicant as indicated on the Attachment-3-2-Site Location Map.

The facility is located approximately 1.75 km west of the R741 Regional Road that connects the towns of Gorey and Wexford. It is located within the townland of Ballinarooaun, approximately 1 km west of the village of Screen. Screen is a small village that is principally comprised of local services, including a primary school, church, public house and hardware supplies store. The application site is accessed via the L-7003-1 County Road, which forms a T-junction with the main thoroughfare through Screen. A tarmacdam surfaced access road runs from the L-7003-1 to quarry.

A number of detached residential houses are located to the south and west of the site (nearest dwelling c. 300 metres to south). Aside from Screen, the most proximate urban settlements to the application site are Curraclloe and Castlebridge, which are located approximately 2.5 km and 4.5 km to the south and southwest of the application site respectively. Furthermore, the village of Blackwater is located approximately 6.5 km to the northeast of the site.

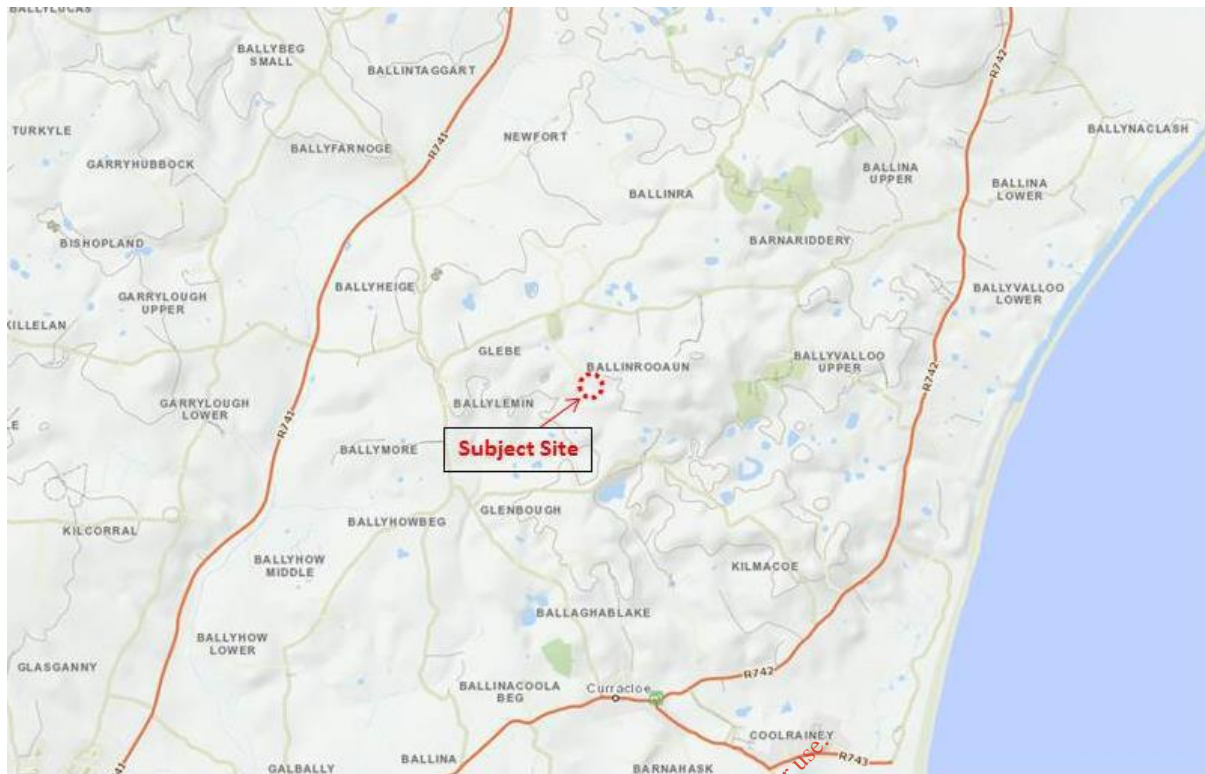


Figure 1- Site Location Map

3.2 Designations

The application site is situated within the Screen Hills National Heritage Area (NHA) and adjoins the Screen Hills SAC. Previously, extraction had taken place within the SAC (to the south of the existing quarry) but this ceased once the Applicant was made aware of the designation. This area has been restored in consultation with the National Parks and Wildlife Service (NPWS).

3.3 Landscape

The application site is located within an area that is characterised by an undulating topography. There is a steady decline from the extracted area into the lands to the south and west. Nonetheless, the extracted and proposed extension area is well screened from prospective views and is only partially visible from viewpoints to the southwest.

4. Existing Environmental Conditions

4.1 Geology

The soil at the proposed site is mapped by the Geological Survey Ireland (GSI) to comprise of lithosol and regosol which are shallow well-drained mineral soils derived mainly from non-calcareous parent material. The subsoils underlying the proposed site, and which are proposed for extraction, comprise a sand deposit (Screen Member) derived from sandstone/shale sands and gravels. The sand deposit (Screen Member) underlies and forms the Screen Hills which cover most of the area between Kilmuckridge and Curracloe. Within the existing quarry works the exposed deposit is the sand-rich Screen Member.

The sand deposit (Screen Member) is underlain at depth by less permeable clay deposits, namely the Knocknasillige and/or Macamore Clay Member. These members would act as an aquiclude,

preventing the downward migration of groundwater which would more readily allow the formation of ponds, such as within the kettle holes. Based on the elevation of the nearest ponds within kettle holes the base of the Screen Member is estimated at about 3m AOD, the existing quarry working floor is at about 60m AOD. The proposed quarry extension floor is at an elevation at about 40m AOD (maximum depth to c. 38m AOD). Bedrock will not be encountered within the proposed quarry works, and the top of bedrock will be a notable depth below the floor of the proposed quarry extension.

The geomorphology of the site comprises west-east to southwest-northeast trending features comprising ridgelines and dry valleys. The valleys are dry (that is no stream is present) due to the high permeability of the underlying sandy deposit. As the area is comprised of a significant depth of sand, the low-lying hills generally do not retain water, except in the lower-lying 'kettle' hollows where some ponds are found. There are no ponds on the proposed quarry site.

Chapter 7- Land, Soils and Geology of the EIAR (Attachment 6-3-6-EIAR-Planning- Nov-2017) provides a detailed assessment of ground conditions underlying and in the vicinity of the proposed development.

4.2 Surface Water

The proposed development site is part of the Slaney Estuary WMU (Code: IE_SE_Slaney Estuary). The proposed site area drains entirely towards the Glenbough stream, which is a tributary of the Sow River (WaterBody Code: IE_SE_12_3). The Glenbough stream rises at c. 300m west-south-west of the proposed area for excavation and filling. Except for the Glenbough stream there are virtually no rivers which is generally a good overall indicator of the permeability of the soil/subsoil. Due to the permeable nature of the topsoil and subsoil in its upgradient catchment area, it is anticipated that its flow at the source point is mainly controlled by groundwater. This is confirmed by the elevation at which it takes its source (c. 30m a.O.D.), which would be consistent with the groundwater table level in this area.

The River Sub-Basin associated with the local and general area is the Sow Waterbody, which holds the European code IE_SE_12_3. As indicated in the River Basin Management Plan (RBMP) for the period 2009 – 2015, the overall status of the Water Body is classified as "moderate status". The overall Risk is classed as "1a", i.e. at risk of not achieving good status and the overall objective is to restore its status by 2021.

The topsoils have been described as excessively well drained in the literature, which was confirmed by observations made on site over in recent years and by soil infiltration tests conducted in October 2017 (Refer to Chapter 8 of EIAR). As is the case for the existing sandpit, it is anticipated that there will be no surface water runoff generated within the proposed sandpit floor as all the effective rainfall will percolate to groundwater and contribute to the recharge of the latter. There will be no discharge to surface water associated with the extraction or filling (waste recovery) activities at the proposed site.

The site is surrounded by a number of perched water features (Ponds) that are not in hydraulic continuity with the groundwater. The groundwater flow direction is oriented to the southwest, i.e. towards the Glenbough stream.

The majority of the proposed extension area is used for cattle and sheep grazing. There is a moderate use of chemical or mineral nitrogen fertiliser in the area (as it is mainly grassland) and spreading of pig slurry as well. The main risks associated with these activities are the release of harmful bacteria and the release of nutrients, which could contribute to eutrophication. As indicated above, given the high percolation rate to the ground, the main potential risk would be to groundwater and not to surface water. As there will be no direct discharge from the proposed sandpit extension any surface water features, there will be no direct impact from the proposed site to surface water.

Chapter 8- Water of the EIAR (Attachment-6-3-6-EIAR-Planning-Nov-2017) provides a detailed assessment of surface water conditions in the vicinity of the proposed development.

4.3 Groundwater

The proposed site area is underlain by the Kilmuckridge/Screen Hills sand and gravel aquifer, which has been classified by the GSI as a regionally important sand and gravel aquifer (Rg). The quaternary deposits are, in turn, underlain by a bedrock aquifer belonging to the Newtown Formation, which has been classified by the GSI as a "Poor Aquifer - Bedrock which is generally unproductive except for Local Zones (PI)".

All of the proposed extraction and filling area is underlain by the Castlebridge Gravels Groundwater Body (EU Code: IE_SE_G_164), which constitutes the southwestern portion of the regionally important gravel aquifer as described above. Most of the proposed area of the development site are underlain by the Castlebridge North Groundwater Body (EU Code: IE_SE_G_031), which encompasses the poorly productive (PI) bedrock aquifer associated with the Newtown. The GSI Aquifer Vulnerability Map for this area (www.gsi.ie) indicates that the area is classified as "High" vulnerability within the proposed site and surrounding area.

The quaternary groundwater waterbody associated with the general area is the Kilmuckridge sand and gravel aquifer, which hold the waterbody code IE_SE_G_084. The overall status of the Water Body is classified as "good status" and overall Risk is classed as "1a", i.e. at risk of not achieving good status and the overall objective is to protect its status by 2021.

The main receptor to be potentially at risk is considered to be the regionally important sand and gravel aquifer underlying the proposed site area. The final sandpit floor will remain at a maximum of 38m a.O.D., i.e. a minimum of 5.0m above the highest water table at all times. As a result, the vulnerability of the underlying aquifer will remain unchanged and ranked as "High" as per GSI criteria. As the groundwater is drained by the Glenbough stream, there is a potential indirect impact to that stream.

There are currently no domestic wells showing on record in the GSI website in the area surrounding the proposed site area. It is our understanding that local residences around the proposed site area and existing sandpit are all on mains water supply. There is however a groundwater well used for agricultural purposes located at the family farm of the applicant to the west of the proposed development.

Based on groundwater level monitoring and associated water table contour mapping completed as part of the EIAR, the groundwater flow direction is likely to be oriented in a south-westerly direction across most of the proposed site for excavation. However, the north-westernmost corner of the proposed site (i.e. existing sandpit) appears to belong to the Blackwater catchment area, i.e. with a groundwater flow direction oriented to the north / north-northeast.

Results of the groundwater monitoring undertaken on the 16th December 2016 from monitoring wells for the facility show that groundwater in the vicinity of the site is of generally good quality. The results indicate that there may be a sewage related type of contamination, probably as a result of farming activities due to elevated nitrate orthophosphate levels recorded within the upgradient monitoring well (MW4). The analytical results showed high levels of Nitrates at MW4 (73.07mg/l), which was well above the threshold value of 37.5mg/l as per S.I. No. 9 of 2010. Similarly, the level of Orthophosphates in MW4 (0.05mg/l) was also above the threshold value of 0.035mg/l as per S.I. No. 9 of 2010. It should be noted that MW4 is located upgradient from the sandpit and these levels cannot be attributed to the sandpit activities. The levels of chloride were also in excess of the threshold value of 24mg/l as per S.I. No. 9 of 2010 at all the monitoring locations. Although chloride may be an indicator of sewage contamination, the levels experienced are not considered as unusual given the proximity of the site to the Irish Sea. Other parameters were well below their respective EPA, 2003 Interim Guideline Value,

threshold value as per S.I. No. 9 of 2010 (when present) and/or below the detection limit of the laboratory instrument used.

Chapter 8- Water of the EIAR (Attachment-6-3-6-EIAR-Planning- Nov-2017) provides a detailed assessment of groundwater conditions underlying and in the vicinity of the proposed development.

4.4 Air

As part of the EIAR for the site a baseline dust assessment was undertaken using monitoring data from the existing quarry from 2013 to 2015. As operations will remain closely similar, it is considered that dust emissions at the existing site are representative of dust emissions which will arise during operations at the proposed development. The findings of the assessment noted that no dust monitoring result recorded on-site during this period exceeded the TA Luft limit of 350 mg/m²/day and all results were significantly below this threshold.

Details of the baseline dust assessment, receiving environment and dust emissions impact assessment are provided within Attachment-7-3-1-4-Dust Emissions Impact Assessment and Chapter 9 of the EIAR.

4.5 Noise

Background noise monitoring was undertaken as part of the EIAR for the proposed development. As operations will remain closely similar, it is considered that noise emissions at the existing site are representative of noise emissions which will arise during operations at the proposed development. Predicted overall ambient noise levels (operational phase Development Noise and Background Noise) for the baseline assessment were in all instances compliant with the EPA day-time noise limit value of 55 dB. These noise results are representative of worst-case scenario results as it is assumed all processes associated with the operational phase (screener, excavator, loading shovel and haulage vehicles) are running at the same time and that all noise sources are situated at along the site boundary closest to each NSL, relevant to each phase of the development. The baseline assessment concluded that development noise associated with operational phase noise sources, on overall ambient noise is considered to be negligible.

Details of the baseline dust assessment, receiving environment and dust emissions impact assessment are provided within Attachment-7-3-1-3-Noise Emissions Impact Assessment and Chapter 10 of the EIAR.

4.6 Receiving Environment-Significant Effects

Table 1 below provides a summary of the likely significant effects of the proposed development on the receiving environment as reported in the EIAR, including the cumulative effects of both extraction and waste recovery activities:

Table 1: Likely Significant Effects on Receiving Environment

Environmental Factor	Likely effects identified	Brief description of effect	Mitigation measures proposed to control effects
Ecology	<p>Disturbance of birds, mammals (including bats) and other fauna and loss of habitat.</p> <p>Impacts to aquatic habitats.</p> <p>Invasive species introduction.</p>	<p>Aquatic habitats at and downstream of the site and fauna associated with them could be affected negatively through increased siltation, contaminated run-off, fuel spills or subtler effect on hydrogeology.</p> <p>Disturbance to the bird community through displacement due to construction activities, increased human presence and noise.</p> <p>Localised disturbance of the bird community present, through reduced feeding, nesting and roosting opportunities. Disturbance effects can result in reduced numbers of birds within a particular distance from a source of disturbance.</p> <p>Birds associated with aquatic habitats in the wider area could be negatively affected by a proposed development through hydrological or water quality impacts such as increased siltation, nutrient release, contaminated run-off and/or wind-blown sand arising from the development works.</p> <p>The loss of these habitat corridors has the potential to impede connectivity for bats. Potential impacts on designated sites from wind-blown sand and through hydrological effects on groundwater and/or contaminated surface water run-off.</p> <p>The loss of these habitat corridors has the potential to impede connectivity for bats.</p> <p>The import of infill material could inadvertently introduce new species, including 'invasives' to the site</p>	<p>Monitoring of site ecology with an annual walkover of the site too be carried out by an ecologist including monitoring for any invasive species.</p> <p>Topsoil will be stored in appropriate areas, revegetated and monitored.</p> <p>Facility operations will take place between 0800-1800 to minimise disturbances.</p> <p>Removal of grassland, scrub and field boundary vegetation will be undertaken outside of the bird breeding season.</p> <p>The quarry will not be lit at night.</p> <p>All edible and putrescible wastes will be stored and disposed of in an appropriate manner.</p> <p>Any tree-removal will be supervised by an ecologist.</p> <p>A pre-construction mammal survey will be carried out immediately before the commencement of vegetation clearance.</p> <p>A minimum of five bat-boxes will be installed within the adjoining landholding area.</p> <p>During the continuation of quarrying activity, a portion of exposed vertical sand face will be retained to encourage nesting Sand Martins.</p> <p>Environmental control measures relating to soil management and water monitoring will be implemented.</p> <p>Measures to suppress wind-blown broadcast of sand will be implemented including use of sprinklers/ water bowser.</p> <p>The use of bunded storage of fuels and regular inspection and maintenance of vehicles on-site will minimise the risk of any spillages of fuel and other hydrocarbons. All vehicles on-site will be equipped with spill-kits and all site personnel will be trained in their correct use.</p> <p>An Environmental Management System (EMS) will be implemented and include detailed measures for suppression of on-site noise and dust and measures to minimise the risk of hydrocarbon contamination.</p>
Land Soil and Geology	<p>Stability of temporary quarry faces and surrounding land. Stability of restored quarry</p> <p>Degradation of excavated materials for re-use</p> <p>Contamination of soils/subsoils due to oil/fuel releases</p>	<p>Collapse of temporary quarry faces causing subsidence of surrounding land</p> <p>Placement of excavated soil for restoration in temporary stockpiles may result in damage to soil structure.</p> <p>The storage and handling of fuels and lubricants for plant and machinery will increase the risk of an accident, spill or leak. This increases the risk of contamination for soil and/or subsoil.</p>	<p>Slopes will be at specified inclinations to ensure that the temporary slopes remain stable during operation. In addition, a buffer zone of non-worked ground will be left along the northern boundary (100m) and the southern boundary (20m).</p> <p>Temporary storage of restoration material will be stored away from any ditches or surface water drains.</p> <p>All oils and fuel will be stored outside the working area within suitable hard-standing and bunded areas, as required. Re-fuelling of equipment and the addition of hydraulic oil or lubricants to vehicles/</p>

Land Soil and Geology	<p>Contamination of subsoils due to contaminated fill</p> <p>Loss of land</p> <p>Loss of geologically important site</p>	<p>The placing of contaminated fill will increase the risk of contamination of the subsoil.</p> <p>Loss of previous agricultural land</p> <p>The proposed quarry extension is within the Screen Hills, which is a geological important site but not a designated NHA/SAC.</p>	<p>equipment will take place in designated hard-standings, where possible, and not on-site.</p> <p>The fill material will be an inert soil imported from suppliers at pre-approved external sites. Inert soil accepted will be subject to basic characterisation testing and other waste inspection and verification tests.</p> <p>All quarry workings to be above groundwater table.</p> <p>Finished restoration will be to the original landform topography. Upper 3m of restoration to comprise original topsoil and subsoil won from the site and stored on site for this purpose. The final restoration level will include a small uniform allowance (0.5m) for overfilling to cater for any potential settlement of the fill.</p> <p>Restored area to be seeded/returned to original use, that is agricultural livestock grazing.</p>
Water	<p>Removal of a portion of the quaternary deposits above the water table.</p> <p>Soils/subsoils imported on site have potential of being contaminated.</p> <p>Accidental oil spillage during refuelling or vehicle maintenance operations, leakage of fuel from machinery etc.</p> <p>Storage and disposal of chemical on site including storage of oil tanks.</p>	<p>Increase of the groundwater vulnerability across the excavation area.</p> <p>Contamination of groundwater via leaching and indirect contamination of the Glenbough stream by hydraulic continuity with groundwater.</p> <p>Increase of the risk of an accident, spill or leak to occur, which would result in direct contamination to groundwater and/or indirect contamination to surface water.</p>	<p>Quarry workings to be a minimum of 5m above the ground water table.</p> <p>Refuelling to be undertaken off-site with limited refuelling on-site of mobile screener. The double skinned mobile fuel bowser will have spill response kit on board and drip trays and funnels shall be used under vehicles when refuelling. Mobile screener to have spill response kit nearby. Fuel and chemical storage to take place off-site. Maintenance of any vehicle or machinery to be undertaken off-site.</p> <p>No wastewater treatment plant on site: Toilet facilities provided offsite at nearby family farm.</p> <p>Operation of wheel wash facility at the entrance of the site.</p> <p>The land will only be stripped as required in order to limit the length of time the soil is exposed to erosion. Where possible the land will be stripped in dry weather.</p> <p>All bare/disturbed surfaces shall be reinstated, and soil mounds shall be re-vegetated as rapidly as possible. The slope of the soil storage mounds shall be minimised, their general shape should be in a manner as to avoid any potential for water ponding.</p> <p>As the sandpit is being worked, land shall be restored.</p> <p>Any ponding water that could be generated within the excavation and/or the haulage road should be mitigated by the scrapping off the silts that create the ponding conditions in the first place.</p>
Noise	<p>No significant impact identified</p> <p>Disturbance of / nuisance to local residents and fauna</p>	<p>Predicted noise impacts during the operational phase of the proposed development were deemed to have a negligible impact on noise characteristics of the local area.</p>	<p>The strategic placement of stockpiles between sources and receivers can reduce noise levels being directed towards sensitive receptors.</p> <p>Noise damping to minimize resonant noise associated with plant, equipment, body panels, cover plates etc. can be used.</p> <p>Regular visual inspections and maintenance of plant components can reduce noise levels associated with loose, defective or damaged plant or equipment. Application of lubrication to conveyor rollers.</p>

Air Quality	No significant impact identified.	Airborne dust associated with the operations of the proposed development, will have a negligible impact upon boundary locations and any sensitive receptors beyond the proposed extended site boundary.	<p>Speed limits will be enforced on-site to minimize dust generation associated with traffic movement</p> <p>The spraying of haul routes, stockpiles and equipment with water during periods of dry and windy conditions will take place to minimize dust generation.</p> <p>Visual inspections of the site, the site boundary, the site entrance/exit and haul routes will take place on a daily basis to ensure that there is no build-up of dusty material.</p> <p>A pumped water wheel and underbody washing facility will be installed at the entrance to the quarry to minimize the deposition of material at the site exit or local access roads.</p> <p>A fixed sprinkler system will be installed at the exit gate to dampen down dry loads leaving the site.</p> <p>All plant and stockpiles will be situated on the lowest level of the extraction area at time.</p> <p>Road sweeping will take place as appropriate to minimize the build-up of dust on haul routes and the potential for airborne dust generation.</p> <p>Material which leaves the site in bulk in HGV's will be covered in tarpaulin to prevent dust emissions from the back of HGV's.</p> <p>It is proposed to situate stockpiles in such a manner to ensure minimum exposure to the wind and away from sensitive receptors.</p>
Population & Human Health	No significant impact identified	No significant impact identified	No significant impact identified
Landscape and Visual Impact	No significant impact identified	No significant impact identified	<p>Progressive restoration of completed sections of the quarry as phased works are completed, in order to achieve a full restoration of the proposed quarry extension.</p> <p>The retention of existing hedgerow boundaries around the site will help prevent a sense of ambivalence to the quarry works, and aids visual screening, in this much-altered, perpetually-advancing landscape.</p> <p>Existing hedgerows in the periphery of the quarry will be under-planted and inter-planted with native, locally widespread whip transplants in order to ensure a more consistent screening.</p>
Traffic	No significant impact identified	No significant impact identified	No significant impact identified
Cultural heritage	Disturbance of archaeological features	It is possible that ground disturbance associated with the proposed development may have a direct negative impact on archaeological features that have the potential to survive beneath the current ground level with no surface expression.	Topsoil stripping, to be monitored by a suitably qualified archaeologist.
Waste Management	No significant impact identified	No significant impact identified	No significant impact identified

5. Facility Operations

This below provides a summary description of the activities and operations at the facility. This includes details of the plant, methods, processes, ancillary processes, and operating procedures for the activity. While the activity of extraction/ quarrying of sand and gravel does not form part of the licence application, this activity will operate concurrently with the restoration of the quarry via waste recovery to which this licence application relates. In order to give background details of the site and to provide an overall synopsis of the facility operations, details regarding the both the existing and proposed extraction/ quarrying operations has been included below in addition to waste recovery operations.

A detailed description of the facility operations is provided within Attachment-4-8-1-Operational Report.

5.1 Existing Quarry

The existing quarry is operated by the Applicant and is permitted (under WCC Reg. Ref. 20082323, as extended until April 2019) to extract sand and gravel within an overall site of c. 5.52 ha at Ballinrooaun, Screen, Co. Wexford. The existing quarry is permitted to a maximum depth of 60m OD and has an output rate of 125,000 tonnes per annum. Permission for extraction work at the existing quarry has been extended until September 2019.

The works at the existing quarry involve the stripping of the topsoil layer (c. 3m – 3.3m) and the storage of same at appropriate locations on site to allow for progressive restoration (which is carried out on an annual basis, usually during the Winter period). The sand and gravel is then excavated using mechanical excavators and the material is put through a mobile screening machine which separates the material in various sizes into stockpiles. The extracted sand and gravel is transported by Heavy Goods Vehicles (HGVs) from the site along the dedicated haul route, via Screen and onto the R741. The remaining overburden is stored at appropriate locations on site to be used in restoration of the site.

The southern and eastern portion of the existing quarry has already been subject to progressive restoration works in accordance with the permission and in consultation with Wexford County Council. Restoration of the existing quarry completed to date has been undertaken using gravels screened from extracted sands extracted onsite and the overburden and topsoil which was previously stripped from the quarry surface.

The quarrying and restoration of the existing sandpit at Ballinrooaun falls under the planning permission for the existing quarry and therefore does not form part of this waste licence application. However; the sandpit shall be used as a storage area for the proposed waste recovery activity. Therefore, an area of the existing sandpit has been included within the site boundary for the waste licence application.

Further details regarding the existing quarry activities and restoration are provided within Attachments-6-3-6-EIAR-Planning-Nov-2017.

5.2 Proposed Quarry Extension

The proposed development will consist of the extension of the existing quarry into the adjoining lands to the west at Ballinrooaun, Screen, Co. Wexford. This will allow the extraction of the identified sand and gravel reserves available at this location. The extension into the adjoining lands will facilitate the further extraction of the sand and gravel reserve for approximately 14 years.

The extended quarry area will have an extraction area of c. 5.83 ha (including breakthrough area from existing quarry). The quarry is proposed to have an output rate of 100,000 tonnes per annum.

The proposed development seeks to extract to a maximum level of 38m aOD at the lowest point on the site which is above the groundwater table in the local area.

In accordance Conditions No. 3 & No. 6 of the An Bord Pleanála planning permission for the proposed development, it is a requirement of planning to restore the original landform of the site following extraction. It is proposed to progressively restore the extracted landform to existing levels through the importation of inert soils, which will be subsequently capped with stored overburden (c. 3.3m) and topsoil (c. 0.3m) which will be stripped during extraction activities.

Extraction and restoration (waste recovery) activities shall be carried out in conjunction. The initial 3 years of the proposed quarry operations will comprise extraction activities only which is not a licensable activity and does not form part of the waste licence application. The waste licence application relates to the recovery of inert soil for use as fill in the quarry void which will commence in about year 4 of the facility operations. The staged commencement of extraction and restoration allows time for a sufficient area of the quarry floor to be made available for filling, and which will allow working area for extraction and filling operations to be carried out with minimal interference from either operation. The maximum proposed extraction output rate from the quarry has been estimated as 100,000 tonnes per annum.

Based on the above annual extraction and filling rates, the operation of the proposed quarry is estimated at about 20 years. By end of year 14, extraction works will be complete and about a 300,000 m³ void space will remain. The latter 6 years of operations will be filling only as the remaining proposed quarry void is filled with inert soil. Table 2 below indicates Predicted Annual Extraction and Filling Quantities and timeframes for both quarry and waste recovery (filling) activities.

Table 2: Predicted Annual Extraction and Filling Quantities

Year	Extraction Quantity (tonnes)	Extraction Volume (m ³)	Recovery/ Filling Quantity (tonnes)	Recovery/ Filling Volume (m ³)
1	100,000	62,500	No filling	No filling
2	100,000	62,500	No filling	No filling
3	100,000	62,500	No filling	No filling
4	100,000	62,500	80,000	50,000
5	100,000	62,500	80,000	50,000
6	100,000	62,500	80,000	50,000
7	100,000	62,500	80,000	50,000
8	100,000	62,500	80,000	50,000
9	100,000	62,500	80,000	50,000
10	100,000	62,500	80,000	50,000
11	100,000	62,500	80,000	50,000
12	100,000	62,500	80,000	50,000
13	100,000	62,500	80,000	50,000
14	54,400	34,000	80,000	50,000
15	Extraction ended	Extraction ended	80,000	50,000
16	Extraction ended	Extraction ended	80,000	50,000
17	Extraction ended	Extraction ended	80,000	50,000
18	Extraction ended	Extraction ended	80,000	50,000
19	Extraction ended	Extraction ended	80,000	50,000
20	Extraction ended	Extraction ended	74,400	46,500
Total	1,354,400	846,500	1,354,400	846,500

Notes: (1) Density of sand and fill (inert waste) assumed at 1.6 tonnes/m³ (2) The predicted extraction and filling rates will vary depending on market demands.

5.3 Proposed Waste Recovery Operations

The main operation of the proposed waste recovery facility is the recovery of inert soil waste. The inert soil shall be used as backfill material in the quarry void in order to restore the original landform of the site. This process will include the following units of operation:

- Stockpiling/ storage of stripped topsoil and overburden from the surface of the extraction area;
- Verification of waste classification of waste soil prior to acceptance at the facility;
- Delivery & receipt of waste at the facility including onsite verification inspections and testing;
- Onsite storage of accepted waste, as required; and,
- Filling of quarry void with imported (recovered) inert soil waste.

5.3.1 Stockpiling/ storage of stripped topsoil and overburden

Existing overburden (consisting of the topsoil and subsoil) stripped during quarrying activities at the facility and extracted materials not transported off site shall be stockpiled/ stored onsite for restoration of the quarry void. These materials will be stockpiled at appropriate locations on site and used in reinstatement works when required.

5.3.2 Waste Acceptance

The waste material accepted at the facility as fill for the quarry void will be an inert soil imported from pre-approved external sites. The inert fill will comprise subsoil that will contain soil and stone. No peat, topsoil, contaminated soils or non-hazardous waste will be accepted. Given the nature of the inert soil, it will be sourced from greenfield development sites.

The source of all imported inert soil shall be identified in advance and subject to basic characterisation testing, insofar as is practicable, to confirm that the soil can be classified as inert. Basic characterisation shall be carried out in advance by the supplier of the inert soil and all certification shall be provided as part of acceptance of the imported inert soil at the proposed quarry site.

Where the provenance and proof of an inert soil arriving at the proposed quarry site cannot be proven then that soil shall not be accepted, and the soil shall not be permitted onto site. All inert soil arriving on site must have the requisite documentation to prove its basic characteristics and source. Imported inert soil documentation shall be maintained by the applicant.

All inert soil imported to the proposed quarry site shall be unloaded at the filling area. The filling area will be the current location where filling is taking place. The unloaded inert soil will be visually inspected by suitably experienced site personnel at the filling area to ensure that there is no extraneous, non-hazardous or hazardous material within the inert soil, that would render it unacceptable for use in the restoration. Where the inert soil is found to contain no extraneous, non-hazardous or hazardous material then it will be used within the filling.

Where the inert soil is found to contain extraneous, non-hazardous or hazardous material then it will be segregated and removed to a quarantine area for closer inspection and classification. Should inspections and/or subsequent testing indicate that the imported soil is non-inert and cannot be accepted and used for restoration purposes, the soil will be returned to the supplier or placed in skips and covered pending removal off-site by permitted waste collectors to a suitably licensed/ permitted waste disposal or recovery facility.

Full details of Waste Acceptance at the facility is detailed in Attachment-4-3-5-Waste Acceptance Procedure.

5.4.1 Waste Recovery Capacity and Quantities

The quarry is proposed to be fully restored to the original landform therefore the restoration volumes are estimated to equate to that of the extraction volumes. Restoration shall be undertaken via the recovery of waste (inert soil - LoW Code 17 05 04) to the facility which shall be used as backfill within the quarry void. The density of the extracted sand and gravel have been assumed to be similar to that of the imported fill (inert waste) estimated at 1.6 tonnes/m³. Accordingly, the total capacity for recovery of inert soil at the facility is estimated to be equivalent to that of extraction of c. 846,000 m³ (c. 1,354,400 tonnes). Based on consultations and projection of market requirements from developers, the predicted annual rate of inert soil available for the proposed quarry void filling is estimated as 80,000 tonnes over a 17-year period.

The above quantity calculations exclude the upper 3.3m of soil at the site comprises topsoil (0.3m thick) and sandy subsoil (3m thick) that will be stored on site and used as capping in the progressive restoration works following placement of imported inert soil. Topsoil and subsoil stripped during the initial 4-year period of operations at the facility are proposed to be stored onsite in bunds (topsoil) and with the existing quarry void (subsoil). The volume of topsoil to be stored onsite is estimated as 5,250m³ (8,400 tonnes) and the volume of sandy subsoil to be stored onsite is estimated as 525,00m³ (84,000 tonnes).

Further details regarding quantity and capacity calculations are provided within Attachment-4-3-4-R and D Activity Capacity Calculations and Attachment-4-3-6-Max Waste Accepted Calculations of the licence application.

5.4.2 Waste Storage Capacity and Quantities

There shall be two types of waste storage onsite including storage of imported soil and storage of quarantined imported soil. The maximum amount waste that may be stored on site is as follows:

- 5,600 tonnes of imported soil may be temporarily stored within the existing quarry void; and,
- 720 m³/ 1,152 tonnes of quarantined waste (non-inert soil and stone).

It is expected that there will be minimal stockpiling and storage of imported soil. It is proposed that under normal circumstances that imported soil shall be unloaded at the filling area and used immediately in restoration works. The filling area will be the current location where active restoration works are taking place at the time.

Both the topsoil and sandy subsoil stripped for the quarry surface from years 1-4 of the facility operations will be stored on site and used for progressive restoration following placement of imported inert soil. Similarly, extracted material deemed unsuitable for export (<1% of extracted material) from site shall be used in the restoration of the quarry void. These materials are considered as valuable assets at the facility. There is a specified purpose for these materials under planning conditions for the facility which require the restoration of the site to its original landform following extraction activities. Therefore, the temporary storage of these materials is instrumental in the restoration of the site and as such these materials are not considered to be waste as per the *Waste Management Act 1996*, as amended and *the Waste Management (Management of Waste from the Extractive Industries)*

Regulations 2009. There shall be no extractive waste generate as a result of extraction activities and as such the above Regulations are not considered applicable to the facility.

Further details regarding quantity and capacity calculations are provided within Attachment-4-3-1-Storage of Waste and Other Materials and Attachment-4-3-7-Waste Storage Capacity Calculations of the licence application.

5.3.3 Filling Operations

Restoration will be carried out progressively as the quarry void becomes available for filling. The inert soil will be moved into position for filling by bulldozer. As the fill is inert, there is no requirement for lining of the quarry void prior to filling. Filling will commence at the quarry floor and will proceed upwards in suitable benches until the imported inert fill surface level is within approximately 3.3m of the original ground surface. Once the filling has reached this level, the sandy subsoil stripped from the quarry surface will be placed over the inert fill to form a 3m thick capping layer. The topsoil, also stripped from the quarry surface, will then be placed over the sandy soil to a thickness of approximately 0.3m.

5.3.4 Hours of Operation

Hours of operation at the facility shall be in compliance with those permitted under planning decision (ABP-301615-18) for the proposed quarry extension. Permitted operation hours are from 08.00 hours and 18.00 hours Monday to Friday and 09.00 hours and 13.00 hours on Saturday. No operations are permitted on Sunday or public holidays.

6. Material use

Materials which are used on site can be summarised as follows;

1. Input: Fill material – inert soil material will be accepted from greenfield sites only;
2. Intermediates: Fuel– Diesel will be the main fuel to the site to power site machinery.
3. Intermediates: Power– Electricity from the the family farm at Kelocon House will supply the wheel wash. Solar panels will supply power to the weighbridge and site office;
4. Intermediate: Water –The groundwater water supply from the family farm will feed the wheel wash at the entrance of the facility and to fill a water bowser used for dust suppression on an “as need” basis;
5. Product: Waste: site office waste;
6. Product Waste: spent wash water and sediment from wheel wash;
7. Product: Waste: quarantined imported waste deemed not appropriate for use as infill.

Water for the wheel wash and dust suppression will be sourced from the family farm at Kelocon House (property of the sandpit owner & Director of MSK Silversands Ltd. -Mr. Sean Kelly). The water supply from the farm was used to supply the wheel wash at the entrance of the existing sand pit area and to fill a water bowser used for dust suppression on an “as need” basis. This well reportedly taps the bedrock aquifer within 50m from the ground surface. The yield of the well has never been assessed with a pumping test, however it has reportedly never ran dry (Source: Mr. Michael Kelly - Director of MSK Silversands). Given the PI classification of the bedrock aquifer and in the absence of further information, it is assumed that the well can supply between 20 and 40m³/d.

There shall be no wastewater generated on-site. Washrooms and toilets are provided in the nearby family farm.

Attachment-4-6-1-Water and Energy Use, Attachment-4-6-2-Raw Materials and Chapter 8- Water of the EIAR (Attachment 6-3-6-EIAR-Planning- Nov-2017) detail water, fuel and electric usage for proposed development.

7. Waste

Both the construction and operational phases of the proposed development have the potential to result in the generation of small quantities of waste. Chapter 14-Waste Management of the EIAR assesses the impact the proposed development is likely to have on waste management for the site and the area.

All waste arising from the proposed facility will be stored to prevent any environmental degradation or contamination and will be dispatched off site to approved authorised facilities/final destination. All waste will be managed through permitted hauliers authorised under the waste management (collection permit) regulations 2009.

Topsoil and overburden stripped from site and extracted material not suitable of commercial sale are considered not to be waste and are valuable assets at the facility which shall be re-used as essential material in the restoration of the site.

Waste Handling at the facility shall take cognise of National and European Union's waste management hierarchy. Waste acceptance and waste storage procedures for the facility shall ensure waste management of these materials are carried out in such a manner so that:

- Segregation is undertaken to minimise waste volumes,
- Maximum recycling/reuse of waste is undertaken, where feasible,
- All waste will be handled and contained in a safe manner,
- All disposal of waste will be carried out by a licensed contractor and will present no risk to the environment.

Due to the nature and minor quantities of the waste generated and the implementation of the existing waste management procedures included within the Environmental Management System (EMS) of the facility, there will be no adverse or unacceptable impact on the receiving environment as a result of the proposed development.

Section 29(2A) of the Waste Management Act 1996, as amended, states that it shall be the duty of waste producers and holders to ensure that waste undergoes recovery operations in accordance with sections 21A (Waste Hierarchy) and 32(1) of the Waste Management Act. While there are no national or EU targets specified for the recovery of soil and stone, the Waste Management Planning Regions have highlighted a lack of treatment capacity for soil & stones. The proposed development shall provide much need capacity for soil and stone recovery in the southeast region and promotes appropriate segregation and recovery of inert waste in the construction and demolition industry.

Attachment-8-1-Waste Generated details predicted waste volumes likely to be generated at the proposed development. Attachment-4-3-9-Waste Hierarchy documents waste hierarchy to be adopted for waste generated at the facility. Attachment-8-2-1-Waste Hierarchy documents waste hierarchy considerations with regard to waste accepted at the facility.

8. Emissions

Due to the nature of the proposed development and the intended acceptance of only inert waste the potential impact on the environmental is considered to be very low. During operations at the facility

there will be no significant point source emissions or discharges from the proposed development. The proposed activities at the facility are however consider likely to give rise to fugitive dust emissions and noise emissions. These and other minor emissions to air and potential emissions associated with the operations at the facility are also considered below.

Attachment-7-1-Emissions Overview provides an overview of emissions from the facility.

6.1 Noise Emissions

As extraction and backfilling (waste recovery) activities will operate concurrently the cumulative noise impact from these activities have been assessed. Noise associated with the proposed development is likely to be generated by a number of sources, including mobile sources such as cars, trucks and excavators, and stationary sources such as screening plant associated with extraction activities. As acoustic energy spreads through the atmosphere from the source to the receiver, noise levels will attenuate (decrease) depending on ground absorption characteristics, atmospheric conditions, and the presence of physical barriers (e.g., quarry faces, walls, building façades, berms).

The EPA has produced noise guidelines, which define noise limit values for sites licensed by it under IPC/IED regulations. The guidelines include that activities occurring on EPA licensed industrial sites shall not give rise to noise levels off-site at any Noise Sensitive Location (NSL) in excess of the following; 55 dB L_{A,r,T} during daytime hours, 50 dB L_{A,r,T} during evening hours and 45 dB L_{A,r,T} during night-time hours. In the absence of noise emission limits under Best Available Techniques (BAT) for the waste sector, these noise emission limits have been adopted for the proposed development.

As part of the EIAR for the proposed development, an assessment was undertaken of potential noise impacts on surrounding sensitive receptors associated with the proposed development. The assessment concluded that predicted ambient noise levels (i.e. development and background noise combined) at noise sensitive locations are below the Planning permission and EPA guide limit of 55 dB for sites licensed by it under IPC/IED regulations. Noise sources will not be operational during evening or night-time hours as defined by EPA guidance.

Attachment-7-5-Noise Emissions provides an details of noise emissions from the facility, emission limits and associated monitoring.

6.2 Fugitive Emissions-Dust

Fugitive emissions include emissions from non-point source and diffuse sources. It is anticipated that airborne dust will be generated during restoration activities and this will be the primary, potential impact upon local air quality from the proposed development. As extraction and backfilling (waste recovery) activities will operate concurrently the cumulative airborne dust impact from these activities have been assessed. Operations which will likely cause the generation of dust are as follows:

- The movement of machinery on-site;
- Earth stripping and excavation operations;
- Filling, grading and levelling operation; and,
- Stockpiling, internal movement and transport of materials on and off site.

As part of the EIAR for the site a baseline dust assessment was undertaken using monitoring data from the existing quarry from 2013 to 2015. As operations will remain closely similar, it is considered that dust emissions at the existing site are representative of dust emissions which will arise during operations at the proposed development. The findings of the assessment noted that no dust monitoring result recorded on-site during this period exceeded the TA Luft limit of 350 mg/m²/day and all results were significantly below this threshold.

The emission limit values for dust of 350 mg/m²/day have been determined based on Best Available Techniques (BAT) as discussed in Section 10 below.

Attachment-7-4-1-Air- Main and Fugitive provides an details of air (dust) emissions from the facility.

6.3 Minor Emissions - Air

Emissions below the mass emission threshold may be considered as minor emissions. Emissions may also be considered minor by the virtue of their source.

Pollutants that will arise from vehicle exhaust emissions associated with the proposed development include carbon monoxide, VOC's, nitrogen oxides, and PM10. It is anticipated however that these pollutants will arise in negligible quantities. Due to the small number of vehicles which will be utilised during the proposed development, the impact on climate during operations at the facility are deemed to be negligible.

6.4 Potential Emissions

Potential emissions are emissions which only operate under abnormal process conditions. The following sources of potential emissions have been identified for the proposed development in the event of operation system failures:

- Contaminants leaching to ground (underlying soils/subsoils), groundwater and groundwater fed receptors (namely surface waters) as a result of contaminated imported soil being placed within the quarry during restoration;
- Accidental spillages of hydrocarbons during refuelling of vehicles resulting in risk to ground, groundwater and groundwater fed receptors;
- Discharge of silt-laden surface runoff from site resulting from soil stripping, and exposed stockpiles of topsoil, overburden and imported soil;
- Contaminated surface water run-off from the quarantine area; and,
- Discharge of contaminated and/or silt-laden wash water from the wheel wash.

It is considered that the impact of operations at the facility on the environment will be minimal due to the control measures which are proposed to combat the effect of the above environmental nuisances and to avoid potential and fugitive emissions. Strict adherence to the conditions of the Planning Permission and EPA Licence, good management practises, control over individual procedures, and maintenance of abatement systems are essential to ensure the site will not impact on receptors in the area.

6.5 Monitoring

Under the Environmental Management System for the facility site conditions shall be monitored daily to assess for potential and fugitive emissions from sites and to ensure appropriate mitigation measures are implemented to avoid significant environmental impacts.

A monitoring programme has been proposed for dust, noise and groundwater monitoring to quantify emissions from the facility and to demonstrate compliance with emission limits and trigger values for the facility.

In addition to soil testing for one in every 500 loads of waste accepted at the facility to verify the waste soil accepted at the facility meets inert soil acceptance criteria.

The monitoring programme for the proposed facility is detailed within Attachment-9-1-EMT. Monitoring locations are indicated on Attachment-3-1-Site Plan.

9. Mitigation Measures / Abatement/ Predicated Impacts

As quarrying activity will operate concurrently with the restoration of the quarry, abatement processes have been designed with consideration to both activities to manage any potential combined effects. Mitigation and abatement measures have been proposed for the following predicted/potential impacts:

- Pollution of soils/subsoils and groundwater namely associated with refuelling activities. Measures include prevention of fuel and chemical storage on site, control of refuelling by the use of mobile bowser and drip trays, training of staff on pollution prevention and the maintenance of spill kits on site;
- Soil erosion and silt-laden runoff arising from overburden removal and storage. Measures include strategic placement of stockpiles, consideration of angles of repose of stockpiles, reseeded stockpiles and restored ground, and removal of silt from areas of potential ponding;
- Soils/subsoils and groundwater contamination as a result of contaminated imported soil being placed within the quarry during restoration. Measures include the implementation of stringent waste acceptance procedures and verification testing to ensure contaminated waste is not accepted at the facility;
- Surface water drainage and runoff from site. Measures include maintenance of wheel wash, regular inspection and emptying of wheel wash water holding tank, and removal of silt from areas of potential ponding;
- Airborne dust generation on-site. Measures include dust suppression via watering, as required, covering of HGV loads, imposing speed limits on site, and use of wheel wash ; and,
- Noise generation. Measures include regular maintenance of site machinery and plant, use of noise damping equipment to minimise resonant noise associated with plant/equipment, and the strategic placement of topsoil bund, and the presence of quarry faces shall also reduce noise.

Attachment-4-8-1-Operational Report and Attachment-9-1-EMT provide specific details of mitigation and abatement measures proposed at minimise/ avoid potential impacts to the environment. These include mitigation measures recommended within the EIAR for the facility.

The implementation of the above abatement/ mitigation measures shall provide protection of the environment including groundwater (in accordance with Council Directives 80/68/EEC and 2006/118/EC), ground (soil and subsoils), air, flora and fauna, ensuring no significant environmental damage or pollution occurs.

10. Compliance

Attachment-7-3-1-Noise Emissions Compliance Report and EIAR and Attachment-7-3-2-Air Emissions Compliance Report document the compliance with emission limit values for baseline data for noise and dust respectively. Emission Limit values and trigger values for dust, noise and groundwater, in addition to soil verification testing are documented within Attachment-9-1-EMT.

On commencement of proposed quarrying and subsequent waste recovery activities, the proposed environmental monitoring programme shall be implemented to assess for compliance with emission limit values and trigger values proposed. These shall be reported to the Agency on an annual basis within the annual environmental report (AER) for the facility or as required by the Agency. Any non-compliance will be reported as soon as practicable to the Agency and corrective and preventative measures implemented to avoid reoccurrences. It is considered unlikely that any significant non-compliance will occur considering the abatement and mitigation measures proposed and the operation of a comprehensive Environmental Management System at the facility.

11. Best Available Techniques

The following BAT guidance document was considered as part of this licence application:

- EPA, 2011 *Final Draft BAT Guidance Notes for the Waste Sector: Waste Transfer and Material Recovery*

Full details regarding the BAT assessment for the facility are contained within Attachment-4-7-3-National BAT-Waste Sector. The assessments concluded that the facility will be operated in such a way that all the appropriate preventative measures are taken against pollution through implementation of the Environmental Management System (EMS) and the application Best Available Techniques (BAT). It was determined that the proposed facility operational procedures, control measures and monitoring programme conform with BAT.

No derogation is being sought under Section 86A(6) of the EPA Act, 1992 as amended.

12. Dangerous substances (Regulations 2006)

The control of Major Accident Hazards involving Dangerous Substances Regulations 2006 do not apply to this facility. The storage of any substances listed in Annex 1 of Council directive 93/82/EC as amended will be below the prescribed thresholds.

13. Risk Management and Liability

MSK Silversands have an Environmental Management System in place which includes procedures for proposed waste recovery at the facility. The current management systems include detailed procedures to control measures to be taken under abnormal operating conditions, including start up, shutdown, leaks, malfunctions, breakdowns and momentary stoppages. An emergency & environmental incident procedure is in place at the facility. This procedure complies with the EPA 2016 Guidance on the Preparation of Accident Prevention Procedures and Emergency Response Procedures.

An Environmental Liability Risk Assessment (ELRA) and Closure, Restoration and Aftercare Management Plan (CRAMP) will be completed for the new proposed licensed as per the conditions of the licence and financial provisions will be agreed with the EPA and put in place within agreed timeframes.

14. Alternatives

A detailed assessment of alternatives to the proposed development is provided within EIAR completed for the proposed development.

The selection of an alternative location for the proposed development is not applicable, given that the quarry is already in operation and the adjoining lands are considered to have sufficient reserves to

continue this operation. The quality of the remaining mineral reserves, as well as the capital investment on site means that the proposed development is not footloose and cannot be accommodated in an alternative location. By continuing extraction from an existing site and extension onto adjoining lands, cumulative impacts are minimised.

Planning conditions for the proposed development specify the original landform must be restored following completion of extraction activities. In the selection of materials for use as backfill the quarry void, inert soil was determined to pose the lowest risk to the environment.

The Waste Management Planning Regions have highlighted a lack of treatment capacity for soil & stones. The proposed development shall provide much need capacity for soil and stone recovery in the southeast region and promotes appropriate segregation and recovery of inert waste in the construction and demolition industry.

The backfill of the quarry void via recovery of inert soil will be beneficial in the restoration of the original landform of the Screen Hills and returning the habitat of the site similar to that prior to quarrying activities.

15. Conclusions

This non-technical summary includes a brief overview of the licence application MSK Silversands Limited. It should be noted that to obtain a comprehensive detailed description of the facility and the activities that are proposed, the full application should be viewed on line at the EPA's website.

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