Restoration of an Aggregates Quarry at Tullykane, Kilmessan, Co. Meath

Application to the EPA for a Waste Licence on behalf of Kilsaran Concrete

ATTACHMENTS DOCUMENT

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SECTION A: NON-TECHNICAL SUMMARY

ATTACHMENT A.1: Non-Technical Summary

Applicant details

Kilsaran Concrete, with registered offices at Piercetown, Dunboyne, Co. Meath, A86 W820, Company Registration Number 23927 is applying to the Environmental Protection Agency (EPA) for a Waste Licence for a site at Tullykane, Kilmessan, Co Meath.

Contact details for Kilsaran Concrete are: telephone 01-8026300 (info@kilsaran.ie). Relevant Contact Person Kilsaran Concrete: Mr Fergus Gallagher (fergus.gallagher@kilsaran.ie)

The addressee for correspondence, on behalf of the applicant, is Mr Raphael McEvoy,(Consultant) RME Environmental, Drumgola House, Drumgola, Cavan, Co. Cavan (tel. 087 6390959).

Planning authority

The proposed development is situated in the functional area of Meath County Council.

Discharge to sewer

There is no proposed discharge to sewer.

Site location

The application site (an aggregate quarry) is located at Tullykane, Kilmessan, Co. Meath (Irish National Grid Coordinates E689895, N756969).

Nature of the facility

The proposal is to restore a rock quarry to previous agricultural use. The proposed input is 400,000 tonnes per annum, over a 14-year lifetime (approx. 5.6 million m^3 total void capacity). Proposed input materials are soil and stones (for restoration works), and concrete, blocks, bricks and ceramic tile (for internal site haul roads). Any non-inert construction and demolition waste unintentionally imported to site will be separated, prior to removal off-site to authorised facilities. Temporary stockpiling of topsoil and subsoil is proposed.. Site plant will include a bulldozer/excavator, weighbridge, wheel-wash and temporary site offices.

Proposed hours of operation/waste acceptance are between 08.00hours and 18.00hours each weekday and 08:00hours to 14:00hours on Saturday. The site will not operate at any other time.

Classes of activity

The proposed classes of activity, as per the Third and Fourth Schedules of the Waste Management Acts 1996 to 2011, are:

- R 5, Recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials (Principal activity)
- 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 4, Recycling/reclamation of metals and metal compounds
- R 10, Land treatment resulting in benefit to agriculture or ecological improvement
- R 12, Exchange of waste for submission to any of the operations numbered R 1 to R 11 (if there is no other R code appropriate, this can include preliminary operations prior to recovery including pre-processing such as, amongst others, dismantling, sorting, crushing, compacting, pelletising, drying, shredding, conditioning, repackaging, separating, blending or mixing prior to submission to any of the operations numbered R1 to R11)
- 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)
- D 15, Storage pending any of the operations numbered D 1 to D 14 (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)

Quantity and nature of wastes

The proposed input is 400,000 tonnes per annum, over a 14-year lifetime (approx. 5.6 million m^3 total void capacity). Proposed input materials are soil and stones (for restoration works), and granular fill, concrete, blocks, bricks and ceramic tile (for internal site haul roads).

It is estimated that approximately 95% of incoming materials will be recovered on site for the purpose of restoring a worked-out quarry. Any small amount of non-inert construction and demolition waste unintentionally imported to site will be separated, prior to removal off-site to authorised facilities. Wastes removed off-site will be recovered, insofar as possible.

Proposed input waste types, by EWC, are listed in **Table A.1**.

Table A.1: Proposed EWC Codes

EWC Code	Description
17 01 01	Concrete
17 01 02	Bricks
17 01 03	Tiles and Ceramics
17 01 07	Mixture of concrete Bricks, tiles and Ceramics other than those mentioned in 170601
17 05 04	Soil and Stone
19 12 09	Minerals (for example sand, stones)

Resource and energy use

Input materials for site restoration will be as described above.

Electric power, lighting and heating are provided at the temporary site office near the entrance to the application site. Mains water is available on site and can be used for any basic sanitary functions. Records of electricity and water usage will be retained.

It is intended to provide bunded fuel storage tanks at the application site. Fuel for plant and equipment undertaking the site restoration works will be stored in double skin receptacles located on the hardstanding area. No re-fuelling of HGV trucks will take place on site. Oil and lubricant changes for wheeled or tracked plant will be undertaken on-site at the existing hardstanding area. Records of fuel usage and waste oil removal off-site will be retained.

Plant, methods, processes, abatement, recovery and treatment systems and operating procedures

The facility will operate in accordance with a Waste Acceptance Procedure, to be agreed with the EPA.

After weigh-in, incoming materials will be tipped directly by HGV at the active restoration area (clean soil and stones), or at the recovery/inspection area (other inert materials). The critical item of plant on site will be 1 No. tracked bulldozer. It is anticipated that a wheeled loading shovel and a vibrating roller will also be employed on site. The bulldozer will 'push in' a tipped load, level it and compact it at the active restoration area.

In relation to final cover material, stockpiled or delivered subsoil and topsoil will be tipped, levelled and prepared for grassing.

Should small items of non-conforming material (e.g. timber, plastic, metal) be delivered in an incoming load, they will be picked out, by hand, and stored in skips at the recovery area, pending off-site removal to an appropriately authorised facility.

Dust will be minimised via the following methods:

- Phased restoration of the site, with final cover and grassing being applied to each completed phase, as soon as practicable.

- Use of a wheel-wash to prevent off-site movement of muck/dust onto public road network.
- Dust suppression/sprays at items of plant/activities which are dust-generating, as necessary.
- Maintenance and good housekeeping at site roads and hardstanding areas.
- Servicing and maintenance of on-site plant and equipment.
- Incoming HGV loads, which have dust-generating potential, will be covered.
- Speed restrictions for HGVs on site roads.
- Use of a bowser, as and when necessary, to reduce dust on hardstanding areas.
- Material handling systems and site stockpiling of materials shall be designed and laid out to minimise exposure to wind. The double handling of material will be avoided where possible and drop heights will be minimised during material loading and unloading.
- As part of the facility's Environmental Management System, site staff will conduct routine site inspections, which will include checks to ensure that dust control measures are working effectively and that public roads outside the site are clean.
- Regular dust monitoring to confirm that there is no dust nuisance to neighbours from the site's activities.

A surface water collection system (to underground, double-skinned tanks) is proposed at the waste inspection/quarantine area.

Noise associated with incoming/outgoing HGVs and mobile quarry/restoration plant and machinery will be controlled as follows:

- The existing planning permission (to extract) provides for up to 150 truck movements in and out of the site each day. No further increase in traffic levels, over and above this level is envisaged in future years. The proposal here is for 72 HGV movements (loads) into the facility daily.
- Opening hours/waste acceptance hours will be controlled, as detailed in Attachment C.3.
- Internally within the application site, warning notices, direction signs and speed restriction signs will be established along site roads leading, which will reduce traffic speed and noise.
- Maintenance and good housekeeping at site roads and hardstanding areas.
- Acoustic screening, as necessary, including the topography of the site and existing embankments/berms.
- The use of conventional audible reversing alarms may cause problems and alternatives are available. Audible reversing warning systems on mobile plant and vehicles should be of a type which, whilst ensuring that they give proper warning, have a minimum noise impact on persons outside sites.
- Regular and routine servicing and maintenance of plant.
- Staff training and supervision to keep site noise to a minimum. Good practice includes:
    - the proper use and maintenance of tools and equipment;

- the positioning of machinery on site to reduce the emission of noise to the neighbourhood and to site personnel;
- the avoidance of unnecessary noise when carrying out manual operations and when operating plant and equipment;
- avoid unnecessary revving of engines and switch off equipment when not required.

Section 40(4) of the Waste Management Act

The Waste Licence Application (Attachment L.1) details how the applicant meets with the requirements of Section 40(4) of the Waste Management Act.

Source, location, nature, composition, quantity, level and rate of emissions

No direct emissions to atmosphere are proposed.

Emissions to surface water are proposed to manage the groundwater and surface water generated. It is proposed to manage same in a manner consistent with the existing regime as specified in Trade Effluent Discharge Licence D/L 13/07 as issued by Meath County Council and as is currently still operational.

No emissions to sewer are proposed.

No emissions to groundwater are proposed.

Noise emissions will be associated with incoming/outgoing HGVs and mobile restoration plant and machinery. The EIS concluded that, during normal operation of the facility, there should be a negligible noise impact at all nearby residents. Noise mitigation measures are outlined.

Potential fugitive dust emissions have been considered and mitigation measures are outlined. A proposal is made in this application to analyse dust emissions twice per year at 4 No. locations.

Existing or proposed emissions

No other emissions (other than previous section) are deemed appropriate.

Monitoring and sampling points

Dust monitoring is proposed at 4 No. locations (see Drawing 6993), twice per year.

Noise monitoring is proposed at 2 No. locations N1 (E289831, N257004) and N2 (E290306, N256946) (see Drawing 6993), once per year.

Groundwater monitoring is proposed at 4 No. locations (see Drawing 6993), Quarterly. Ref: Section 5.1 appendix 3 EIS (Hydro Environmental Services, Hydrological / Hydrogeological Impact assessment.)

Surface water monitoring at the discharge point SW1 (E290058, N257611) (See Drawing 6993)

Prevention, minimisation and recovery of waste

The proposed restoration of the quarry is regarded as a recovery operation. Suitable inert material will be used for the construction of internal haul roads.

Any non-inert waste separated from incoming loads will be recovered (off-site) insofar as practicable. Waste oils generated on site will be recovered (off-site). Office and on-site waste will be segregated for (off-site) recycling.

No hazardous waste will be accepted at the facility.

Arrangements for the off-site treatment or disposal of wastes

Any non-inert waste separated from incoming loads will be recovered (off-site) insofar as practicable. Waste oils generated on site will be recovered (off-site). Office and on-site waste will be segregated for (off-site) recycling.

Only registered Waste Collection Permit-holders will be engaged, who hold the relevant permissions for collections in Co. Meath, and are permitted for appropriate EWC codes and destination facilities. In relation to off-site facilities for disposal/recovery, these facilities will be appropriately licensed/permitted by the EPA/Local Authority.

Measures, including emergency procedures, to prevent unauthorised or unexpected emissions

The proposed activity is deemed to be of low environmental risk. Dedicated sand piles and/or spill kit(s) will be retained on site to contain and absorb hazardous liquid material in the event of a leak or accidental spillage from plant/equipment.

The facility notice board (to be positioned at the site entrance) will include contact details, including out-of-hours contact information, for the Operator/nominated individual, who can respond to potential emergency situations. An Emergency Response Procedure will be documented and maintained as part of the facility's Environmental Management System.

Closure, restoration, remediation or aftercare of the facility concerned

An outline Closure, Restoration and Aftercare Management Plan (CRAMP) for the facility is presented in Attachment K. It provides details on site activities; closure tasks; restoration tasks; aftercare tasks.

The following criteria will be applied to evaluate the success of closure, restoration and aftercare:

- The site has been fully restored, in accordance with requirements of planning and licensing. Final capping and grassing have been completed and the site has been returned to agricultural grassland.
- All mobile plant and equipment, and temporary site accommodation units have been removed off-site.
- Environmental monitoring has concluded that there are no residual issues.

- Any required post-restoration infrastructure remains in place, e.g. certain monitoring points to be agreed with the Agency.
- A closure validation report has been completed by a competent person.
- The EPA licence has been surrendered.

Financial provision

Financial provision for site closure/environmental liabilities will be put in place by the operator to address EPA requirements.

Major Accident Hazards Involving Dangerous Substances

The European Communities (Control of Major Accident Hazards Involving Dangerous Substances) Regulations 2000 (S.I. No. 476 of 2000) does not apply to the proposed development.

Emission of List I and II substances into an aquifer

There are no emissions to groundwater. Incoming material for site restoration will be inert only. It is intended to provide bunded fuel storage tanks at the application site; fuel for plant and equipment will be stored in double-skin bowsers located on the hardstanding area.

EIS Summary

An EIS is submitted as part of the licence application. The likely significant effects of the activity are summarised in **Table A.2** below.

Table A.2: EIS summary table

Likely effects identified	Brief description of effect	Mitigation measures proposed to control effect
Human Beings		
▪ Environmental factors detailed in other sections of this report	▪ Most notably noise and air quality (including dust)	▪ See relevant section below
▪ The long-term impact of backfilling and restoration of the application site will be the elimination of established traffic movements using the site	▪ Improvement of the human environment	▪ Not applicable
▪ The infilling of the existing void and backfilling to former ground level will remove an unsightly feature in the existing landscape and restore the area to a more pristine agricultural landform	▪ Visual impact gain	▪ Not applicable
Flora and fauna		

Likely effects identified	Brief description of effect	Mitigation measures proposed to control effect
▪ During the filling process the site is likely to be covered by open vegetation similar to what occurs today on the south-western side.	▪ This will support an invertebrate fauna which will in turn allow feeding by sand martins and swallows.	Not applicable
▪ Do nothing scenario will result in Kilsaran Concrete resuming extraction in line with their existing planning permission	▪ Increase in disturbance to flora and fauna currently existing on site	
▪ Restoration work will eventually remove suitable banks for nesting by the sand martins (and peregrines)	▪ However, the species are flexible and will colonise new quarries as they become available.	▪ Not applicable
▪ Construction activity has the potential to result in the loss of habitat types in which two rare plant species *Blue Fleabane and Bristly Oxtongue* flourish.	▪ Loss of habitat	▪ Translocation of the rare plants to areas of suitable land prior to works commencing under suitably qualified supervision
▪ Proposed Infilling has the potential to result in the loss of the Calcareous Springs (FP1) habitat located within the subject lands	▪ Significant negative impact on habitat type at a local scale	▪ Not applicable
▪ Proposed backfilling may result in the potential loss of cliff face roosting opportunity for bats. Also Temporary lighting may illuminate previously unlit foraging and commuting habitat making it unsuitable for bats	▪ Adverse effect locally on bat populations	▪ Switch of all infill area temporary lighting immediately post cessation of works daily ▪ Maintain only existing low level lighting at site entrance
▪ Impact of infilling of quarry floor from April to September on sand martin breeding habitat	▪ Significant locally	▪ If possible avoid the direct backfilling of the quarry floor as exists currently between April and September
▪ Potential to bring in contaminated soil / infill material which will lead to contamination of the groundwater and surface water ecosystems	▪ Potential adverse effect on groundwater and surface water ecosystems	▪ Implement good practice in the screening, classification and acceptance of waste material to the site.
Soil		
▪ The nature of the development has involved the removal, storage	▪ The impact on the soils is considered to be of a temporary nature as they are stored for reuse	▪ The storage areas and restoration areas will be vegetated as soon as is

Likely effects identified	Brief description of effect	Mitigation measures proposed to control effect
and placement of soils and subsoils.	directly within the worked out areas as a fundamental part of the proposed site rehabilitation.	possible, to reduce both visual impact and erosion. ▪ Soil stripping will be carried out in accordance with the principles of good soil handling. ▪ For the placement of subsoil and topsoil, the machinery will work from the haulage track or the exposed subsoil surface and away from the reinstated part of the site. ▪ Soils will only be handled in appropriate weather conditions. ▪ All temporary storage mounds will have slope angles not greater than 1:1.5 and will be re-vegetated as quickly as possible to avoid soil erosion by air and water. ▪ During backfilling, all temporary surfaces will be graded to facilitate over-ground run-off of surface water.
▪ As a result of backfilling using inert soils and stones, the reinstatement of the quarry will progress to land suitable for agricultural and forestry, and thus will have a *positive impact*.	▪ The nature of the proposed restoration of the site involves the importation and placement of inert soil and stone as backfill in the quarry void.	▪ Before waste is accepted at the site, all waste will be confirmed to meet the waste license conditions, the waste acceptance procedures (WAP) and waste acceptance criteria. ▪ Visually inspection of all tipped loads. ▪ All waste tonnages will be recorded and reported to EPA annually. ▪ Monitoring of groundwater should commence for the duration of the restoration works and for a short aftercare period.
▪ The available site investigation data indicates that the area to be backfilled is underlain by	▪ As a consequence, no deep seated failure of	▪ Slope stability assessments on an annual basis.

Likely effects identified	Brief description of effect	Mitigation measures proposed to control effect
relatively competent geological strata. The increase in loading applied to this bedrock (below existing formation level) will not exceed that which existed prior to extraction of aggregate ▪ Restoration of the quarry will have no indirect impact on the local or regional geology, as placement of the inert soil and stone will not instigate slope instability, release contaminants onto the lands and dust from the restoration will be tightly controlled.	temporary slopes is anticipated. ▪ In the longer-term, there will be no risk of instability as the restored site will be graded to a relatively flat, shallow slope.	▪ Temporary slopes in backfilled soils will be graded at an angle no steeper than 350, sufficient to ensure no instability arises. ▪ The area of bare or exposed soils will, insofar as practicable, be kept to a minimum. Consideration could be given to establishing temporary vegetation cover.
▪ The final land restoration scheme will ultimately allow the site to be returned to a condition whereby there will be negligible residual impact on the surrounding environment.	▪ It is planned to minimise, eliminate or decrease long-term ecological and visual impacts on the environment through the implementation of the final restoration scheme.	▪ In order to maximise the future agricultural potential of the restored land, a minimum 150 mm thick layer of topsoil and 850 mm thick layer of subsoil will be placed over the backfilled clayey mineral soils. The final landform will also be graded so as to facilitate over-ground run-off of surface water and avoid ponding of surface water in closed depressions.
Water		
▪ Potential for contamination groundwater and proximate surface water bodies through leachate from contaminated infill	▪ Considerable potential damage to local groundwater bodies and surface water bodies	▪ Sealing off of 76 numbered exploratory boreholes on the base of the quarry ▪ 2 pumping wells and all remaining monitoring wells on the quarry floor to be backfilled and grouted up to current quarry floor level ▪ Place a layer of low permeability clay over the area of the identified fracture zones below the quarry floor to prevent washout of fine sediment down into the underlying fractures.
▪ Infilling former high permeability material with low permeability	▪ The site has been worked dry to date. In the event	▪ Only suitably permeable and inert material will be

Likely effects identified	Brief description of effect	Mitigation measures proposed to control effect
inert fill material could create a low permeability zone altering groundwater recharge. ▪ Possible groundwater mounding/flooding could occur if the fill acts as a barrier to normal groundwater flow patterns.	of any mounding since the permeability of the surrounding subsoil is mapped as high it is anticipated that recharge will flow freely around the restored site and it is unlikely to cause significant mounding/flooding.	used in the restoration, thereby reducing the potential to create a low permeability zone which could hinder local/ regional groundwater recharge and/or creating an impermeable barrier to groundwater recharge. ▪ The settlement lagoon will be dredged to allow it to operate without overflowing to the natural sump at the northern boundary of the site. Regular dredging will maintain the functional operation of the lagoon.
▪ The importation of soils and material can influence the chemical composition of underlying groundwater. This is primarily through potential changes to the pH - e.g. by importing base-rich mineral soil to a primarily acidic catchment.	▪ Any alteration of the chemical composition as a result of improper placement of soil would result in a direct negative short-term moderate impact on the underlying groundwater. This is unlikely to occur however as imported material will be from the Greater Dublin Region and is likely to be similar in composition to the existing soil.	▪ Strict control measures to ensure only suitable material is allowed onto the site. ▪ It is proposed that groundwater monitoring be carried out biannually. ▪ Any slurry spreading and/or organic fertiliser spreading on the restored agricultural ground will adhere strictly to the Good Agricultural Regulations S.I. No. 31 of 2014. Appropriate buffer zones will be maintained from watercourses.
▪ Possible contamination of soil and subsoil, by leakage or spillage from machinery and associated equipment, may occur during the construction phase. ▪ Possible contamination of bedrock, by leakage or spillage from machinery and associated equipment, may occur during the construction phases.	▪ Any accidental hydrocarbon spillage would have a negative short-medium term moderate impact on groundwater quality at the site.	▪ Containment of site fuels and oils ▪ Traffic management system and site speed limit to risk of a collision ▪ Refuelling of vehicles would either be undertaken in a surfaced compound area from a fuel tank(s) that is bunded or be undertaken off-site ▪ A double-skinned mobile fuel bowser is used to refuel plant and machinery. Spill

Likely effects identified	Brief description of effect	Mitigation measures proposed to control effect
		trays and spill kits will be provided at all times; ▪ Maintenance of plant and machinery would be undertaken within a site compound area or offsite ▪ High absorbency mats, pig tails and drums are to be added/ maintained in the stock-piling areas of the site and in quarry vehicles
▪ Any removal of soils will temporarily increase the groundwater vulnerability during construction.	▪ This would have a negative short-term moderate impact on the groundwater.	▪ Not applicable
▪	▪	▪
▪ The available site investigation data indicates that the area to be backfilled is underlain by competent bedrock. The increase in loading applied to this bedrock (below existing formation level) will not exceed that which existed prior to extraction of rock.	▪ As a consequence, no deep seated failure of temporary slopes is anticipated. ▪ In the longer-term, there will be no risk of instability as the restored site will be graded to a relatively flat, shallow slope.	▪ Temporary slopes in backfilled soils (above formation level) will be graded at an angle no steeper than 350, sufficient to ensure no instability arises. ▪ It is envisaged that a stability assessment of side slopes at the application site will be undertaken on an annual basis.
Air		
▪ Construction activities such as earth moving and backfilling can generate dust, particularly in dry weather conditions.	▪ The extent of dust generation is dependent on the nature of the material (soils, peat, sands, gravels, silts etc.) and the location of the construction activity. In addition, the potential for dust dispersion depends on the local meteorological factors	▪ Site roads shall be regularly cleaned and maintained as appropriate. ▪ Hard surface roads shall be swept to remove mud and aggregate materials ▪ Any road that has the potential to give rise to fugitive dust may be regularly watered, as appropriate, during extended dry and/or windy conditions. ▪ Speed restrictions (20 km per hour)

Likely effects identified	Brief description of effect	Mitigation measures proposed to control effect
		▪ Any vehicles exiting the site shall make use of a wheel-wash facility. ▪ Public roads outside the site shall be regularly inspected for cleanliness and cleaned as necessary. ▪ Material handling systems and site stockpiling of materials shall be designed and laid out to minimise exposure to wind. ▪ Water misting or sprays shall be used as. ▪ Diesel engines or plant machinery and trucks shall be properly maintained. ▪ Construction Environmental Management Plan (CEMP) in order to minimise emissions as a result of the construction phase. ▪ The dust management plan will be reviewed at regular intervals. ▪ Controlled material deposition and maintenance of adequate moisture content in the deposited material. ▪ The use of agricultural spray irrigation on exposed areas of quarry as required. ▪ The rapid establishment of vegetation on the surface of non-operational and completed parts of the facility. ▪ The current programme of dust monitoring around the quarry will be continued.
▪ Emissions associated with construction traffic can impact on local air quality. ▪ Impacts on air quality associated with traffic during the operational	▪ For each named pollutant, emissions will remain well within the air quality limits for the	▪ Not applicable

Likely effects identified	Brief description of effect	Mitigation measures proposed to control effect
stages - there is no significant increase in the air quality impact of named pollutants as a result of increased baseline traffic numbers in 2017, 2022 and 2027 with only a slight increase occurring in pollutant concentration predicted 5m from the road centreline.	protection of human health	
Noise		
▪ Potential impacts from noise from traffic and from operations on site	▪ Temporary disturbance for the duration of the proposed backfill operations	▪ Make regular assessments of the noise impacts ▪ Implement noise mitigation measures as suggested in the Noise Impact Assessment (Appendix 4 EIS)
Climate		
▪ Emissions of Oxides of nitrogen, Sulphur dioxide, Carbon monoxide and Carbon dioxide will be mitigated by using efficient construction vehicles, appropriate scheduling of construction activities to minimise duration, the shutting off of equipment during periods of inactivity if they do occur, and a transport management plan as part of the CEMP as described above.	▪ Not applicable.	▪ No additional mitigation measures are considered necessary (see 'Air' above).
Landscape		
▪ The restoration works, and backfilling activities in particular, are expected to have only limited temporary visual impact. The phasing of the restoration scheme will minimise the area being actively restored and open to public view at any time. ▪ There will be no significant visibility of the existing or future landform from any of the viewpoints identified by the County Development Plan. ▪ The restoration scheme will not have any significant impacts on designated scenic roads and	▪ Potential views from residences into the application site are and will be restricted to a small number of local dwellings. ▪ The impact on views from residences, if any, will constitute a minor to moderate negative impact for a limited duration during the restoration phase. In the longer term, the restoration of the site is	▪ Retain all hedgerows along the site boundary and reinforce with additional planting where necessary. ▪ Provide for off-site removal, re-use and/or recovery of all buildings, plant, infrastructure and paved surfaces on completion of restoration activities; ▪ Ensure the final restored landform is graded at a shallow angle so as to merge in with the surrounding agricultural landscape.

Likely effects identified	Brief description of effect	Mitigation measures proposed to control effect
viewpoints, or on designated tourism routes and viewpoints.	likely to have a minor positive impact.	
Material Assets		
▪ As the application site has functioned as an aggregate quarry for some time, there are likely to be few additional short-term impacts arising from its continued operation.	▪ Not applicable	▪ Warning notices, speed restriction signs and construction traffic signposting which is established will be reviewed along the existing local road network to direct traffic to the proposed facility.
▪ The backfilling activities at the site, present a number of risks to groundwater including fuel spillage, increases in suspended solids in run-off and placement of a rogue load of contaminated soils. Overall, these risks are likely to constitute a minor to moderate negative impact.	▪ In the long-term, backfilling of existing temporary groundwater ponds will increase protection to, and reduce the vulnerability of, the existing groundwater aquifer.	▪ See Water section above
▪ There may be some short-term impacts at residences proximate to the site with the most noticeable short term impacts will be increased ambient noise and dust levels.	▪ Not applicable	▪ See Air and Noise sections above
▪ No impacts are anticipated on established activities or housing nearby, commercial operations, local tourism.	▪ Not applicable	▪ Not applicable
Cultural Heritage		
▪ There are no Direct Impacts, Indirect Impacts or cumulative impacts associated with the proposed Development	▪ Not Applicable	▪ Not Applicable

Non-technical summary drawings

The following drawings are attached for the purpose of the non-technical summary (NTS):

- 6978 Community Park
- 6979 Site Location
- 6980 Phasing Map
- 6981 Site Location 1-2500
- 6982 Site Location 1 – 10000
- 6983 Final Phase Restoration
- 6984 Internal Haul Routes
- 6985 Section A-A
- 6986 Section B-B
- 6987 Private Dwellings around the site
- 6988 Final Phase Map
- 6989 Open Quarry Area
- 6990 Topography
- 6991 Visual Units
- 6992 Entrance drawing to community Park
- 6993 Proposed Environmental Monitoring Locations
- 6994 Site Ownership / Legal entity / site boundary

Attached overleaf:	
▪ NTS drawings	

SECTION B: GENERAL

ATTACHMENT B.1: Applicant Details

A certified copy of the company's Certificate of Incorporation is attached overleaf.

The company's registration number is 23927.

The company directors are:

E.D.McKeown (Chairman & Chief Executive), 32 Landsdowne Road, Ballsbridge, Dublin 4.

T.D.McCartney (Director), Riverstown, Ardee, County Louth.

T.F.McCarthy (Director), 16 Garnett Vale, Dunboyne, County Meath

M.J.Curran (Director), Rathcarne, County Meath.

David McKeown, (Director), 54 Lansdowne Lane, Ballsbridge, Dublin 4.

Derry McKeown, (Director), 1 Glaunsharron Appartments, Eglington Road, Donnybrook, Dublin 4.

Roy McKeown, (Director), 23 Ballsbridge Wood, Shelbourne Road, Ballsbridge, Dublin 4

Tom Tevlin, (Director), 59 Holmwood, Cabinteeley, Dublin 18.

The applicant for the purpose of this application to the EPA for a Waste Licence is Kilsaran Concrete. The site is owned by Kilsaran Concrete. The site (a quarry) has been operated by Kilsaran Concrete. Kilsaran Concrete will operate and manage the EPA Waste Licence. All on-site plant, equipment and temporary site buildings are owned by Kilsaran Concrete.

Attached overleaf:	
▪ Certificate of Incorporation	

ATTACHMENT B.2: Location Maps

The site is located entirely within the townland of Tullykane, Kilmessan, Co. Meath, approximately 1.2km south-east of the village of Kilmessan on the Local Road L2206 (Kilmessan – Dunsany Rd) and 8km north-west of Dunshaughlin, Co Meath. Irish National Grid Coordinates (E689895, N756969). The plan extent of the lands owned by the applicant Kilsaran Concrete is outlined in red on a map of the area, reproduced as Figure 1.3. The plan extent of the application site is also outlined in red on the same figure. Both are the same in this instance.
The location of the activity is shown in **Figure B.2.1** and **Figure B.2.2** below. Drawings are attached.

Figure B.2.1: Site Location Map (source: OSI)

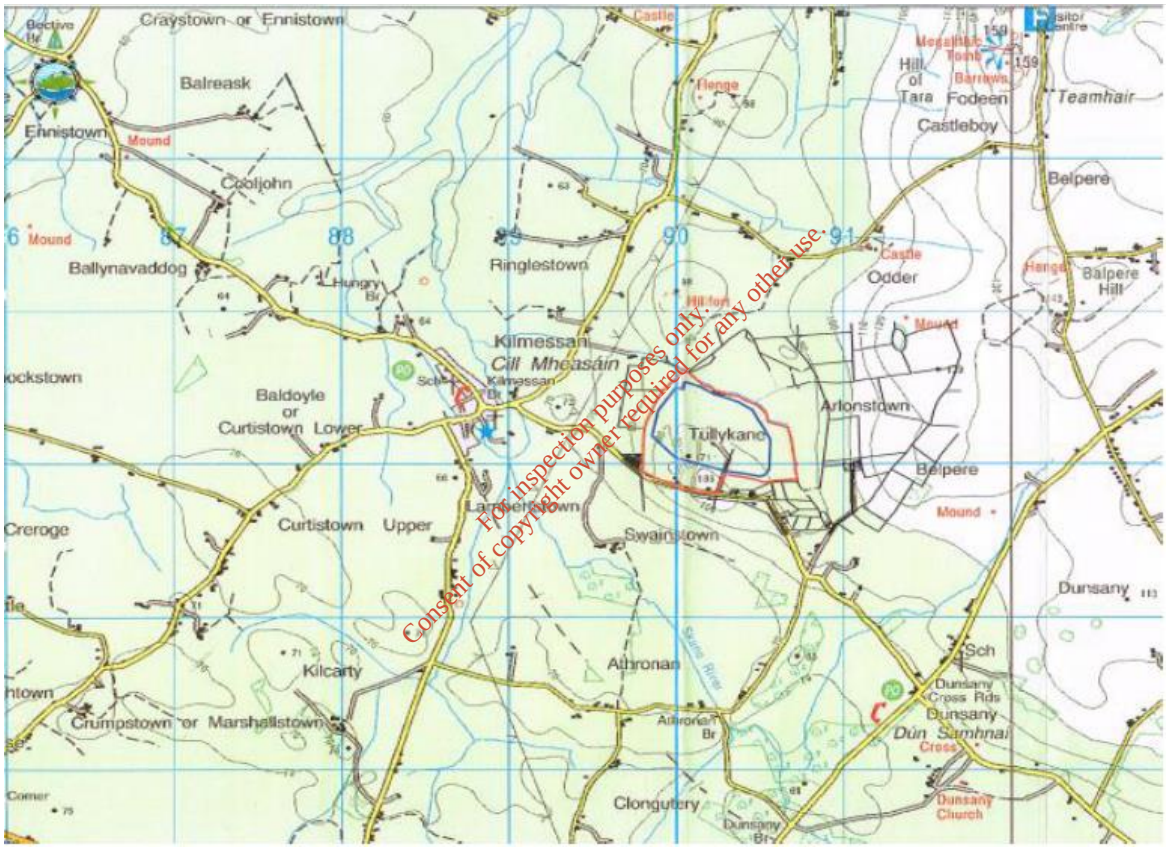
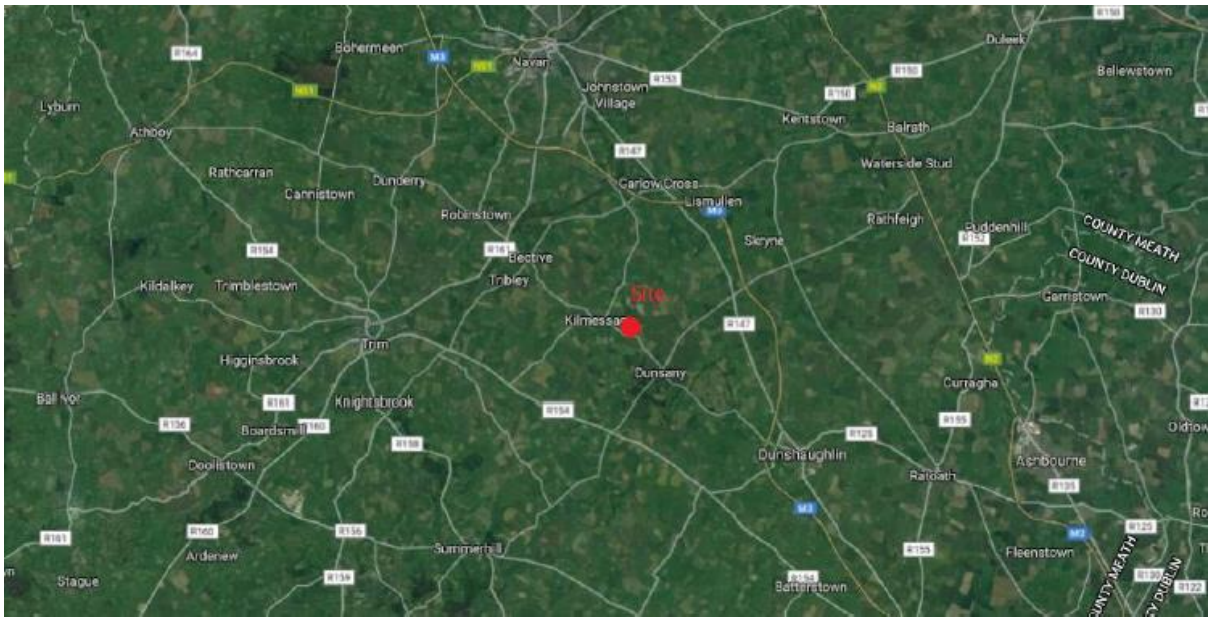


Figure B.2.2: Site Location Aerial Photograph (source: OSI)



ATTACHMENT B.3: Appropriate Assessment

Appropriate Assessment screening was completed and is included in the EIS (Appendix 2), enclosed.

ATTACHMENT B.6: Notices and Advertisements

A copy of the site notice, and the page of the newspaper containing the advertisement, are attached overleaf. The original application includes the complete newspaper, in which the advertisement was placed.

The location of the site notice on site is shown in 6979

The Planning Authority has been informed, in writing, of this application to the EPA; correspondence attached.

Attached overleaf:	
▪ Letter to Planning Authority ▪ Copy of Site Notice ▪ Newspaper advertisement	

ATTACHMENT B.6(c): Planning under Consideration

Correspondence from Meath County Council, Planning Department, is attached overleaf to confirm notification of decision to grant planning permission with 23 specific conditions

ATTACHMENT B.6 (d): Planning Granted

Notification of a decision to grant planning permission for the proposed development as per this Waste Licence Application has been issued by the Planning Authority (as detailed in B.6(c)). The site is also subject to a number of previous planning permissions, which are detailed in **Table B.6.1** below.

Table B.6.1: Planning History

Planning Ref.	PA/An Bord Pleanala	Date of Decision	Brief description	EIS required?
99/1230 Appeal No. PL17.119097	Meath County Council	16/10/2001	The retention of intensification of a quarry development and associated processing on 46.5 ha including improvements to the existing quarry entrance with provision for new office, wheelwash and relocation of weighbridge **Granted following appeal 16/10/01 – 10 years permission**	Yes

TA/60605 – Meath Co Co Appeal No. PL 17.22391	Meath County Council	11/05/2007	Readymix concrete and concrete block batching plants, storage building, ESB switch house, ground storage bays, retention of ESB Substation and all associated works: Retention of ESB Substation - Granted. Permission for development - Refused **11/05/2007 Split decision Grant**	No
TA/802731 – Meath Co Co Appeal No. PL17.233813	Meath County Council	23/12/2011	the continuation of a quarry development (including associated plant & buildings) previously granted under planning reg ref no 99/1230, including extraction by a further two benches within the previously approved extraction footprint area for a new permission term of 22 years (20 years extraction and 2 years to implement final restoration) on a 46 hectares. The base of excavation will be at 37.1m above ordnance datum). Permission is also being sought for a new Readymix Concrete Batching Facility to be located on the existing quarry floor, comprising - batching house (max height 15.38m) 10 over ground aggregate storage bins (max height 14.0m) 3 cement silos (max height 15.47m) intake hopper and 2 conveyor belts, esb substation, 3 ground storage aggregate bays, bunded storage building, prefabricated office building, 6 bay water recycling installation, new septic tank and proprietary effluent treatment system (puraflo). In addition it is proposed to upgrade an existing septic tank by the addition of a second proprietary effluent treatment system (puraflo). An Environmental Impact Statement (EIS) has been prepared in respect of the planning application **23/12/2011 Conditional Grant – 2o years + 2 for restoration**	Yes
RA/170127	Meath County Council	05/04/2017 – Notification of Decision to Grant Planning Permission	the development will consist of the restoration of the existing excavated quarry (previously granted planning permission under Register Reference No. 99/1230 and TA/802731) to the original ground levels and use as agricultural land by importing 5,600,000 tonnes (i) of imported inert natural materials, soil and stones (ii) construct a community park and playing pitch with new entrance, fencing, landscaping and parking on existing ground (iii) reinstating existing overburden contained on site and all other associated site works for a period of 14 years. The planning application is accompanied by an Environmental Impact Statement (EIS). The application relates to a restoration development for the purpose of an activity requiring a Waste Licence to be issued by the Environmental Protection Agency	Yes

In accordance with the requirement to "*submit the planners report and final decision for each permission granted that was associated with an EIS*", find same attached for Planning Reg. Ref. RA/170127

Attached overleaf: ▪ Notification of Decision to grant Planning Permission RA/170127 ▪ Planning permission TA/802731 (2011) and 99/1230	

ATTACHMENT B.7: Type of Waste Activity, Tonnages and Fees

Classes of activity have been identified in accordance with the Third Schedule or Fourth Schedule to the Waste Management Acts 1996 to 2010, as amended by the European Communities (Waste Directive) Regulations, 2011.

The proposed facility is a recovery facility for uncontaminated waste soils, which will facilitate the restoration of a quarry.

The principal activity is R 5, "*Recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials*".

Other ('non-principal') waste activities have been identified as follows:

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*" provides for the importation and placement of topsoil as final capping.

R 4, "*Recycling/reclamation of metals and metal compounds*" makes provision for the segregation of metals which may be delivered inadvertently to site mixed in a load of inert material. Any metals will be salvaged and transferred off-site to an authorised facility for recovery.

R 10, "*Land treatment resulting in benefit to agriculture or ecological improvement*" is deemed relevant as the proposed facility is a quarry restoration project.

R 12, "*Exchange of waste for submission to any of the operations numbered R 1 to R 11 (if there is no other R code appropriate, this can include preliminary operations prior to recovery including pre-processing such as, amongst others, dismantling, sorting, crushing, compacting, pelletising, drying, shredding, conditioning, repackaging, separating, blending or mixing prior to submission to any of the operations numbered R1 to R11)*" makes provision for basic sorting activities which may be applied to a minority of incoming loads of inert waste, e.g. segregation of non-inert waste, which will be directed off-site to an authorised facility for recovery. Processing of inert Construction & Demolition (C&D) waste will be limited to the separation and quarantine of any small volumes of non-inert C&D waste (principally metal, timber, PVC pipes and plastic) unintentionally imported to site.

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)*" makes provision for the temporary storage of materials on-site, which may have been segregated from incoming loads of inert waste, prior to removal off-site to an authorised facility for recovery. It also provides for the stockpiling of incoming materials prior to recovery on site.

D 15, "*Storage pending any of the operations numbered D 1 to D 14 (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)*" makes provision for the temporary storage of materials on-site, which may have been segregated from incoming loads of inert waste, prior to removal off-site to an authorised facility for disposal.

SECTION C: MANAGEMENT OF THE ACTIVITY

ATTACHMENT C.1: Site Management

An organisation chart is provided in **Figure C.1.1**.

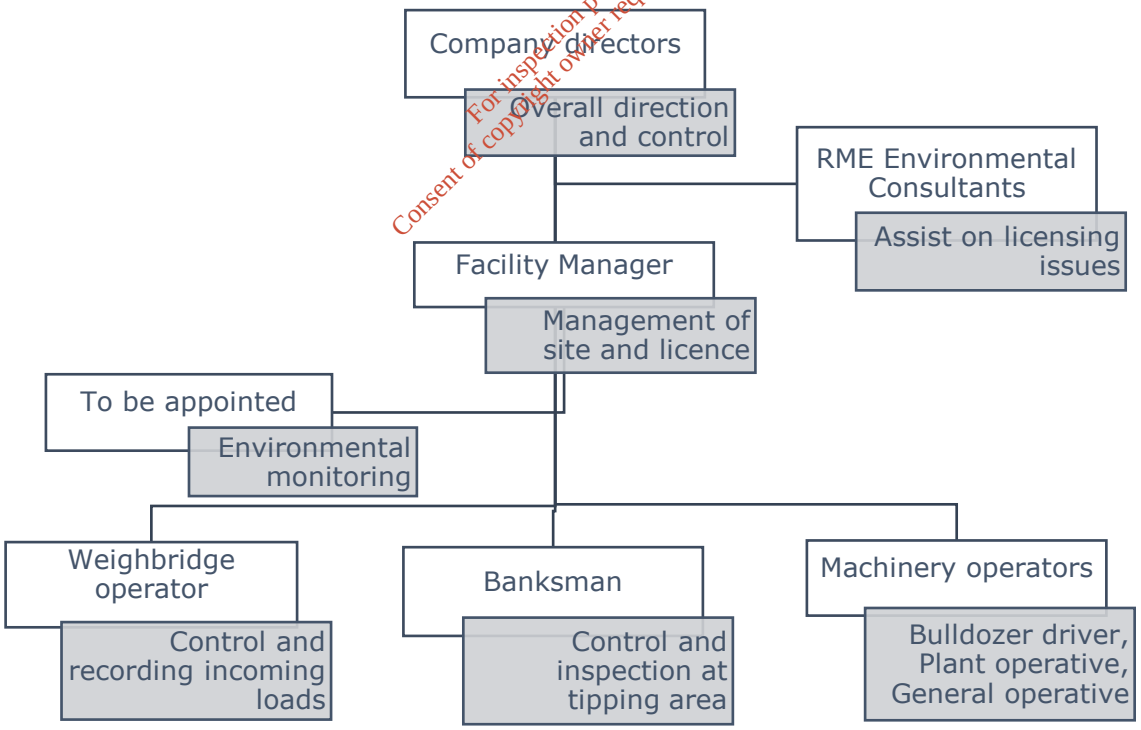
Existing company personnel will be retained to staff the soil recovery facility.

The nominated Facility Manager will have attended or will attend a recognised training course in waste management, to be agreed with the Agency.

Additional expertise will be acquired for the purposes of managing a licensed facility. The applicant will retain the services of RME Environmental, or another suitably qualified and experienced environmental consultancy in the waste management/site restoration sector. They will assist site staff in establishing the facility's Environmental Management System, including practical issues surrounding the Waste Acceptance Procedure, staff training and licence compliance. The consultants will have a presence on site on a weekly basis, for the first six months of operation, as a minimum.

Independent, qualified environmental consultants will be retained by the Applicant to comply with licence requirements relating to environmental monitoring and specialist engineering requirements.

Figure C.1.1: Proposed Organisation Chart



ATTACHMENT C.2: Environmental Management System

The facility currently has an Environmental Management System (EMS) in place. A new bespoke EMS will be designed by competent personnel and will be implemented at the site, in accordance with licence requirements, which will typically include the following documentation:

- Management and reporting structure
- Schedule of environmental objectives and targets
- Environmental Management Programme
- Environmental management documentation system
- Corrective action procedure
- Awareness and training procedure
- Communications programme
- Maintenance programme

ATTACHMENT C.3: Hours of Operation

(a) Proposed hours of operation

The proposed hours of operation are between 08.00hours and 18.00hours each weekday and 08:00hours to 14:00hours on Saturday. The site will not operate at any other time.

(b) Proposed hours of waste acceptance/handling.

The proposed hours of waste acceptance/handling at the site are between 08.00hours and 18.00hours each weekday and 08:00hours to 14:00hours on Saturday. No materials will be accepted at any other time.

(c) Proposed hours of any construction and development works at the facility and timeframes (required for landfill facilities).

Any construction/development works will be completed within the proposed hours of operation/waste acceptance/handling, i.e. between 08.00hours and 18.00hours each weekday and 08:00hours to 14:00hours on Saturday.

SECTION D: INFRASTRUCTURE AND OPERATION

ATTACHMENT D.1: Infrastructure

D.1.a Site security arrangements including gates and fencing

Access to the application site can only be gained via the access road leading off the existing local road L2206 and main site entrance. All vehicular traffic accessing the site must stop at a security barrier in front of the temporary site office before gaining access.

At present the site is monitored by online security contractors who monitor activity at the site remotely and make verbal challenges to intruders and initiate police call-outs in the event of non-compliance.

For the purpose of the proposed activity, incoming loads will be recorded at the weighbridge and requisite details will be recorded, including the source of the material, haulier and Waste Collection Permit details, time and date, weight in/out.

Aside from the access road to the existing facility, the entire site boundary is closed off by Stock proof fencing and agricultural field gates.

All gates will remain padlocked for the duration of the site restoration activities.

D.1.b Designs for site roads

Access to the site will be via the main access gate off the L2206. This entrance has been designed with adequate set back distances and has been slayed adequately. The sightline design has not changed since the previous planning application and are deemed adequate by the traffic consultant "Trafficwise" of Clonee Co. Meath.

The road design for the proposed entrance to the public amenity park has been assessed by the traffic consultant "Trafficwise" of Clonee Co Meath and has been deemed adequate. This entrance has been designed with adequate setback distances and has been adequately splayed. There are adequate sightlines in both directions upon exiting the proposed park.

All entrance Roads will be constructed with a tarmacadam surface at the entrance to both the recovery facility and the proposed park. All internal roads in the recovery facility will be constructed using imported waste construction and demolition material (170101, 170102, 170103 and 170107).

There will be car parking provision made for 5 employees and 3 visitor car parking spaces also. These will be located proximate to the weighbridge and site offices at the main entrance to the facility.

Within the restoration facility and bearing cognisance to the proposed public park an assessment at a stage post planning permission will be made to establish the requirement for traffic calming measures and adequate on-site safety signage. In particular regarding the operation of the restoration site a review of existing signage will be carried out to establish whether it remains fit for purpose and new signage / traffic

control established if required. Consultation with Trafficwise, the traffic management consultants utilised for this job will be undertaken.

Suitable incoming materials, e.g. concrete, bricks, tiles/ceramics, will be used for the construction of internal site haul roads. Proposed site haul roads are outlined on Drawing 6984.

D.1.c Design of hardstanding areas

The only hardstanding area on site relates to the proposed quarantine areas on site. It is proposed to construct an interceptor proximate to the quarantine area to catch any potential run-off from contaminated material stored in the area. This design will be completed and agree with eh Environmental Protection Area in advance of commencement of operations on site.

D.1.d Plant

An existing weighbridge located along the internal access road in front of the temporary site office will record material-in and material-out. Plant (both tracked and wheeled) maintained on site will principally comprise bulldozers, loading shovels and vibrating rollers.

D.1.e Wheel-wash

The site is serviced by an existing wheel wash unit situated at the entrance to the site. The wheel wash facility is constructed of a reinforced concrete type structure with access ramps which all trucks are required to pass through leaving the site.

Water supply is sourced from an on-site mains supply. Water level within the trough is controlled by a ball-cock device and overflow pipe. The wash-water is recycled through a system of containment tanks. The tanks will be periodically cleaned and the silt will be used within the restoration of the site.

D.1.f Laboratory facilities

No on-site laboratory facilities are proposed. Laboratory testing of soil, surface water, groundwater and dust, as appropriate, will be undertaken off-site at an appropriately accredited geo-environmental laboratory.

D.1.g Design and location of fuel storage areas

Fuel will be stored onsite for refuelling the onsite equipment. The fuel tanks will be bunded and stored within a specifically bunded area. A full procedure will be developed for refuelling and adequate training (anti-spillage) will be provided to all operatives as part of the environmental management system training provisions.

Spill kits and bunded storage trays will be available on site in the event that small volumes of oils, or fuel need to be stored temporarily and the spill kits will be available to quickly mop up and deal with any accidental spills. Any material sullied post-accidental spill will be disposed of in accordance with the required legislation by licensed contractor.

No re-fuelling of HGV trucks will take place on site. Oil and lubricant changes for wheeled or tracked plant will be undertaken on-site at the existing hardstanding area

D.1.h Waste quarantine areas

The site will have a designated area for the quarantine of any inappropriate materials which may be found within loads accepted at the site. A skip or suitable receptacle will be provided within the designated quarantine area for the temporary storage of any inappropriate materials discovered (e.g. glass, plastic, timber, steel, etc.). The materials will be routinely removed by a licensed waste disposal contractor to an appropriate disposal facility.

D.1.i Waste inspection areas

All truck loads entering the site will be given a preliminary inspection on entering the site. Secondary inspection is to be carried out after each load is tipped at the restoration infill area within the site. Should a load of material indicate contamination of non-inert material on inspection, the material will be reloaded and the driver instructed to remove the load offsite to an approved waste facility.

If on occasion a load contains minor contaminants (e.g. plastics, rebar, wood and paper). These items will be removed on inspection by a site operative and stored in skips in a designated quarantine area pending rem oval offsite by a licensed waste disposal contractor to an appropriate disposal facility.

D.1.j Traffic control

All traffic to and from the application site will enter and leave via the existing entrance which fronts onto the local road L2202. The existing site access has been designed to accord with the standards set out with the 'Design Manual for Roads and Bridges' and meets with planning permission requirements.

Internally within the application site, warning notices, direction signs and speed restriction signs will be established along paved and/or unpaved roads.

All HGV traffic egressing the application site will be required to pass through a wheel-wash facility and weighbridge at the end of the paved internal road.

D.1.k Sewerage and surface water drainage infrastructure

A small onsite proprietary waste water treatment plant is operational onsite. This will need to be inspected and recommissioned by adequately qualified persons to determine its suitability to the required duty levels. It is not expected that any additional wastewater treatment facilities will be required.

Surface water drainage will be directed in the construction phase to the groundwater / surface water management system as described in section 3.4 Water of the accompanying EIS.

Design awareness will be made to ensure that an adequate drainage system will be designed to allow for the management of surface water from the public park. In the construction phase of the development surface water will be drained to the quarry and this process will be picked up as the quarry restoration reaches levels consistent with that of the public amenity park drainage.

D.1.l All other services

Electric power, lighting and heating are provided at the temporary site office near the entrance to the application site.

Key personnel overseeing site backfilling and recovery operations at the application site will be contactable by mobile phone. It is possible to install permanent telephone, fax and email facilities at the temporary site office.

Mains water is available on site and can be used for any basic sanitary functions.

D.1.m Plant sheds, garages and equipment compound

All oil barrels and lubricants will be stored on spill pallets/ spill trays. No major vehicle servicing/repairs are carried out on site.

D.1.n Site accommodation

The existing site porta cabin and site office at the entrance to the facility will be used.

D.1.o A fire control system, including water supply

Given the lack of combustible waste materials at this site, it is considered highly unlikely that a fire will break out during backfilling and recovery operations. Fire extinguishers will be kept at the site office to deal with any localised small-scale fires which might occur. Additional fire-fighting capacity may be provided by storing water in a mobile bowser at the hardstanding area.

D.1.p Civic amenity facilities

The Company have made a proposal to gift a proportion of the site to a properly constituted body in the local area to develop a public amenity park in an area to the western area of the site. Please refer to drawings 6978 and 6922. In the planning permission as received by the applicant in respect of this proposed development condition 5 refers to the fact that the local community or as stated a properly constituted body will have 2 years from the date of commencement of the development to agree a format for the takeover of the facility with the planning authority. If no suitable community group agrees to take it on within that period that the area will be restored to an agricultural after use.

D.1.q Any other waste recovery infrastructure

Not applicable.

D.1.r Composting infrastructure

No composting activities/infrastructure are proposed.

D.1.s Construction and Demolition waste infrastructure

No specific C&D waste infrastructure proposed.

D.1.t Incineration infrastructure (if applicable).

Not applicable.

D.1.u Any other infrastructure

Not Applicable

ATTACHMENT D.2: Facility Operation

Unit Operations

Unit operations for the proposed development have been identified as follows:

(1) Implementation and management of EPA licence

(2) Reception of incoming material at weighbridge

(3) C&D sorting/recovery operations (limited to the separation and quarantine of any small volumes of non-inert C&D waste - principally metal, timber, PVC pipes and plastic - unintentionally imported to site).

(4) Construction of site haul roads
(5) Restoration of quarry void

(6) Storage of material for recovery

A flow diagram of the process is provided in **Figure D.2.1**.

Figure D.2.1: Flow diagram of process

(1) Implementation and management of EPA licence

Ensure 'pre-commencement' and operational licence conditions are implemented and managed in full, including a full environmental monitoring programme.

(2) Reception of incoming material at weighbridge

- Control of waste acceptance hours and traffic volumes
- Pre-authorised loads only (no 'spot' waste); off-site material testing, as required
- Recording of required information on incoming/outgoing loads
- Control of licensed tonnes per annum and reporting requirements

(3) Limited C&D sorting/recovery operations

- Removal of small amounts of non-conforming material from incoming loads, e.g. plastic, metal, timber
- Storage of materials to prevent nuisance
- All non-inert materials to be removed off-site to appropiately authorised facility; full records retained

(4) Construction of site haul roads

- Use of suitable inert materials for the construction of internal site haul roads

(5) Restoration of quarry void

- Placement of inert soil & stones in the active tipping area
- Inspection of each load tipped
- Manage slope stability, cover and drainage
- Profiling and final cover as per restoration design
- Environmental monitoring

(6) Storage of material for recovery

- Topsoil and subsoil will be segregated and stockpiled pending re-use in the phased restoration of the site, as final cover material
- Short-term storage of materials pending on-site recovery, or removal off-site to authorised facility

(7) Strategy to exit licence post restoration

Emissions Summary

Emissions to the environment are addressed in Section E; in summary, with reference to **Figure D.2.1**, emissions to the environmental could potentially arise from the following:

- Mud from vehicular traffic being moved off-site (mitigation proposed)
- Exhaust emissions from vehicular traffic (vehicles must comply with legal requirements for pollution control)
- Wind-blown litter at recovery area, e.g. plastics (mitigation proposed)
- Dust emissions from inert materials (mitigation proposed)
- Noise emissions from site operations (mitigation proposed)

Laboratory

No on-site laboratory facilities are proposed.

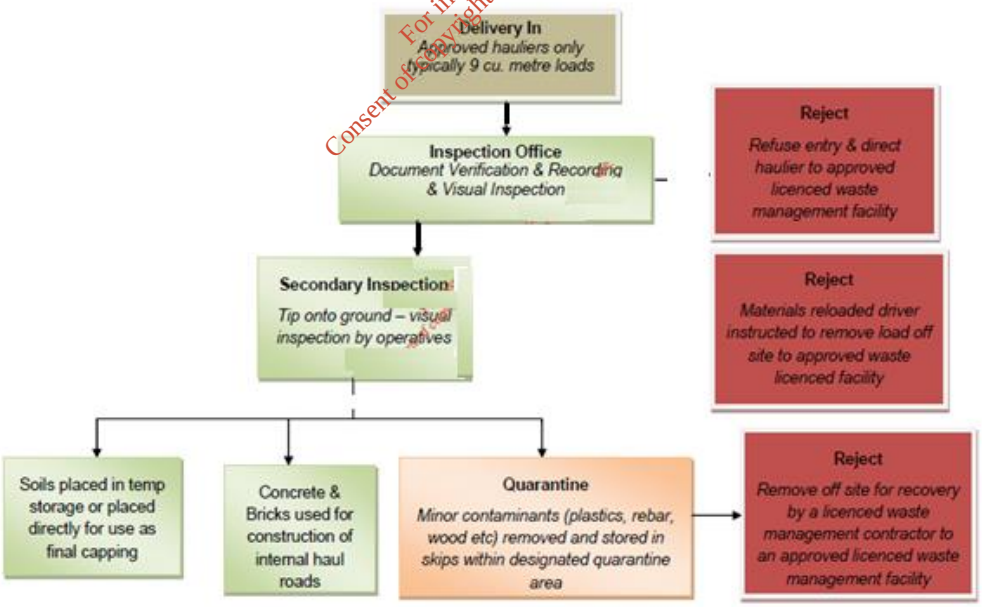
Phasing of Restoration

The nature of the proposed recovery and restoration of the facility at Tullykane, Kilmessan is that the operation will be carried out in 3 phases; Phase A, Phase B and Phase C. Please see attached phasing drawing I drawing section. The operation will involve the restoration of each phase in a sequential fashion starting at Phase A and then B and then C etc. then returning in the next lift to phase A again and repeated. Each lift will be 1.5m in depth and it is proposed to have 12 lifts in total to get from the existing quarry floor to the proposed finished level.
The proposal for the facility is to bring in 400,000 tonnes per annum to the site with a proposed total of 5.6 million tonnes to be brought in to fill the void space over the proposed 14 year lifespan of the project.

For the purpose of restoration to agricultural land the restored soil profile (capping) shall comprise 300mm topsoil over 1200-1350mm of subsoil. Good quality soil material for final capping will be placed in temporary storage areas. Topsoil and subsoil will be stockpiled separately to maintain the integrity of the soil. To ensure that damage to these materials is kept to a minimum, movement and placement of topsoil and subsoil for final restoration will only take place during appropriate weather conditions and when the soils are in the optimum condition. This optimum soil condition may be described as moist but friable. No soils will be moved when they are too dry or when there are unusually windy weather conditions. This will help to prevent erosion and any consequential creation of dust. Conversely, soils will not be handled in wet conditions or when the moisture content of the soils is too high. This will ensure that smearing of the soils does not take place and that the soil retains its structure. On completion of each phase of development final restoration including grading, planting/seeding and landscaping will be carried out. Final restoration is dependent on the availability of good topsoil/subsoil and subject to suitable weather conditions. In order to allow for continuity of operations it is necessary to have a certain overlap between phases. The final contours and topography for the site is shown in the phasing contour drawing.

Discussion on use of C&D materials for the construction of haul roads

In light of the fact that aggregates have such a residual value, that they are a limited resource and that they are better served enabling the construction of infrastructure than for recovery purposes it is now common practice for Local Authorities, the EPA and other licensing bodies to approve the use of Inert C&D waste material for the construction of internal haul roads in facilities of this nature. All active restoration projects in the country at present employ this mechanism and it is in line with the requirements of the waste framework directive and all associated transposed Irish waste legislation.
In this instance the total length of the proposed haul route network within the restoration facility is designed at 2197m at a width of 6m. There are turning circles proposed in each phase. It is felt that a depth of 400mm of fill will be required for each part. This brings the total haul route construction for each lift to 5272.8 cubic metres. If we assume a specific mass of 1.5 Tonnes per cubic metre this will be 7909.2 tonnes per lift. There will be 12 phases therefore this will represent a total C&D material requirement of 94,910.4 tonnes. This volume represents 1.6 % of the total intake volume and this figure is in line with active restoration operations nationally.
The planning permission and waste licence application will also reflect on the current move by the EPA towards end of waste designation for specified recovered construction and demolition materials. This may make available reconstituted and recovered construction and demolition materials for use as haul roads in the facility which will not have any waste designation.



Processing of Inert Construction and Demolition Waste

Processing of inert Construction & Demolition (C&D) waste will be limited to the separation and quarantine of any small volumes of non-inert C&D waste (principally metal, timber, PVC pipes and plastic) unintentionally imported to site.

Any non-conforming materials will be stored on-site in a manner to prevent nuisance, and will be removed off-site to appropriately authorised waste disposal or recovery facilities. Full records of materials removed off-site will be retained.

Main Alternatives

The issue of alternatives was addressed in the EIS for the proposed development, Section 2.1 (enclosed).

SECTION E: EMISSIONS

ATTACHMENT E.1: Emissions to Atmosphere

No direct emissions to atmosphere are proposed. Potential fugitive dust emissions are considered in Attachment E.6, environmental nuisances.

ATTACHMENT E.2: Emissions to Surface Waters

Groundwater and surface water pumped from the quarry floor is currently being discharged into nearby stream S1, an ephemeral stream and tributary of the Skane River under discharge consent from Meath County Council.
Downstream surface waters are also at risk in terms of impacts from poor quality quarry discharge (contaminated by suspended solids) during the backfilling period. Once the backfilling is completed, dewatering will be stopped and there will be no further risk from this source to surface waters. Mitigation measures for preventing downstream surface water quality impacts from quarry discharge are outlined below.

(Reference section 3.4.8.2.4 of the EIS) During backfilling phase there will be no pathway for surface water to leave the site other via the existing dewatering system.

The quarry infilling will require significant earthworks and site levelling, and there is a high risk of poor quality surface water runoff (*i.e.* suspended sediments) entering the dewatering system and being pumped off-site to local surface waters.

It is intended that water discharging from the site will have the same positive effects on downstream water quality as it has currently.

Proposed Mitigation Measures:
Management of surface water runoff will be undertaken as follows:

- The 2 no. existing sumps will be upgraded to ensure that no surface water runoff from the quarry floor can enter the sumps (*i.e.* they will be used solely for groundwater pumping). All existing quarry floor drains feeding into the sumps will be blocked;
- The floor of the quarry will be divided up into a network of compartments by placing linear earthen berms (0.5 – 1.0 high) to control surface water runoff;
- The compartments will make management of surface water runoff more manageable and each compartment will have a sump for pumping of surface water;
- Surface water from each of the compartments will be pumped to a newly constructed settlement pond or series of settlements ponds for remove removal of suspended sediments; and,
- The infilled area will be seeded for establishment of grassland at the soonest opportunity to avoid erosion.
- A surface water collection system (to underground, double-skinned tanks) is proposed at the waste inspection/quarantine area. Any wastewater collected in the buried tanks will be emptied by licensed waste collectors and transferred to a

collection tanker for disposal off-site at an approved wastewater treatment facility.

On completion, the final landform will be profiled to give a very slightly domed shape, in order to facilitate surface water run-off into the drains along the site boundary.

The following measures/procedures are proposed to mitigate against potential groundwater/surface water impacts:

- Containment of site fuels and oils, to prevent any accidental spillages which may migrate to the subsoils and underlying groundwater;
- Wherever possible a traffic management system would be put in place to reduce the potential conflicts between vehicles, thereby reducing the risk of a collision;
- A site speed limit would be enforced to further reduce the likelihood and significance of collisions;
- Refuelling of vehicles would be undertaken off-site to minimise the risk of uncontrolled release of polluting liquids/liquors;
- A double-skinned mobile fuel bowser is used to refuel plant and machinery. Spill trays and spill kits will be provided at all times;
- Strict control measures to ensure only suitable material is allowed onto the site, i.e. thorough inspection of waste loads entering the site to confirm inert nature prior to deposition on-site;
- Only granular wastes will be deposited into areas immediately above the groundwater table to prevent the influx of suspended solids into groundwater;
- Maintenance of plant and machinery would be undertaken within a site compound area or offsite, as appropriate, to minimise the risk of uncontrolled release of polluting liquids;
- Only suitably permeable and inert material will be used in the restoration, thereby reducing the potential to create a low permeability zone which could hinder local/ regional groundwater recharge and/or creating an impermeable barrier to groundwater recharge.
- Any slurry spreading and/or organic fertiliser spreading on the restored agricultural ground will adhere strictly to the Good Agricultural Regulations S.I. No. 31 of 2014. Appropriate buffer zones will be maintained from all watercourses as stipulated in the Regulations when applying fertiliser and other chemicals to the land.
- It is proposed that groundwater monitoring is conducted at the site in order to monitor the groundwater quality.
- The settlement lagoon will be dredged to allow it to operate without overflowing to the natural sump at the northern boundary of the site. Regular dredging will maintain the functional operation of the lagoon.
- High absorbency mats, pig tails and drums are to be added/ maintained in the stock-piling areas of the site and in quarry vehicles to clean up any leaks from plant or machinery.
- No servicing or maintenance of any plant or machinery takes place within the proposed restoration areas. All plant and machinery is driven or tracked to the

hardstanding area associated with the site entrance and between the entrance and the wheel-wash for service or maintenance works.

- High absorbency mats are provided to contain any spills that may occur.
- Hydrocarbon spill kits and drip trays will be maintained on site. The operator has in place an Emergency Response Procedure for hydrocarbon spills and appropriate training of site staff in its implementation. All waste oils are collected and removed off-site by an approved licensed waste collection contractor in the area.
- High absorbency mats are provided to contain any spills that may occur.
- All material to be used for the restoration will be thoroughly inspected to ensure only suitably permeable, inert material is deposited. Soil importation will be monitored by a competent site operative to monitor soil composition in order to avoid any impact on the underlying groundwater.
- It is proposed that groundwater monitoring be carried out biannually. This is recommended to ensure that the restoration of the site is not impacting on the groundwater beneath the site and to establish on-going trends in any groundwater monitoring boreholes.

ATTACHMENT E.3: Emissions to Sewer

No emissions to sewer are proposed.

A small onsite proprietary waste water treatment plant is operational onsite. This will need to be inspected and recommissioned by adequately qualified persons to determine its suitability to the required duty levels. It is not expected that any additional wastewater treatment facilities will be required.

ATTACHMENT E.4: Emissions to Groundwater

There are 76 groundwater boreholes at the base of the quarry which will be sealed prior to the commencement of the restorative phase. The will ensure that there is containment of the groundwater and surface water within the quarry. The groundwater and surface water runoff will be pumped via 2 sumps directly to a surface water holding tank and there will be a controlled discharge to the local ephemeral stream referred to as S1 in section 3.4 of the EIS.

ATTACHMENT E.5: Noise Emissions

Noise emissions will be associated with incoming/outgoing HGVs and mobile restoration plant and machinery.

The EIS concluded that, during normal operation of the facility, there should be a negligible noise impact at all nearby residents. Noise mitigation measures are outlined in the EIS, and considered in Attachment F.1.

ATTACHMENT E.6: Environmental Nuisances

Bird Control

Due to the inert nature of incoming materials, bird control is not anticipated as being required.

Dust Control

Dust will be minimised via the following methods:

- Phased restoration of the site, with final cover and grassing being applied to each completed phase, as soon as practicable.
- Use of a wheel-wash to prevent off-site movement of muck/dust onto public road network.
- Dust suppression/sprays at items of plant/activities which are dust-generating, as necessary.
- Maintenance and good housekeeping at site roads and hardstanding areas.
- Servicing and maintenance of on-site plant and equipment.
- Incoming HGV loads, which have dust-generating potential, will be covered.
- Speed restrictions for HGVs on site roads.
- Use of a bowser, as and when necessary, to reduce dust on hardstanding areas.
- Material handling systems and site stockpiling of materials shall be designed and laid out to minimise exposure to wind. The double-handling of material will be avoided where possible and drop heights will be minimised during material loading and unloading.
- As part of the facility's Environmental Management System, site staff will conduct routine site inspections, which will include checks to ensure that dust control measures are working effectively and that public roads outside the site are clean.
- Regular dust monitoring to confirm that there is no dust nuisance to neighbours from the site's activities.

Fire Control

Given the lack of combustible waste materials at this site, it is considered highly unlikely that a fire will break out during backfilling and recovery operations. Fire extinguishers will be kept at the site office to deal with any localised small-scale fires which might occur.

Litter Control

The inert nature of the incoming materials is typically not litter-generating.

Small volumes of non-inert waste, which may inadvertently be delivered to the site, mixed with soil and stones, will be segregated and stored in skips at the temporary hardstanding area. This may include materials such as metal, timber, PVC pipes, plastic etc. These materials will be stored in such a manner as to prevent wind-blown litter.

As part of the facility's Environmental Management System, site staff will conduct routine site inspections, which will include checks to ensure that the site is not causing litter issues.

Traffic Control

Access to the application site can only be gained via access road leading off the existing local road L2206 and main site entrance. All vehicular traffic accessing the site must stop at a security barrier in front of the temporary site office before gaining access.

For the extraction of aggregates a Traffic Management Plan (TMP) was prepared for the site in 1999 under request from Meath County Council. The primary aims of the TMP are; (1) to minimise the impact from quarry generated traffic, (2) to minimise wear and tear on receiving road network, and (3) to make use of all reasonable transport routes available to haul quarry products to market destination without entailing excessive or extraordinary transportation costs.

The TMP identifies that the three main market areas for aggregates are Dublin, Navan and Trim. The demand for aggregate is market driven and the TMP has been developed around the principle of a flexible network of viable one way haul routes aimed at distributing quarry traffic on the receiving road network.

For the identified main market areas the TMP identifies the following haul routes. For the Dublin Market, Route Option (a) involves outbound vehicles turning left and travel via. L2206 to Dunsany Cross turning left onto L2207, travelling north to the R147 and right to Dublin. Dublin Market Route Option (b) involves turning right at Dunsany Cross and accessing the R154 at Batterjohn turning left to Dublin. For the Navan Market, Route Option (a) involves outbound vehicles turning left and travel via. L2206 to Dunsany Cross turning left onto L2207, north to the R147 and left toward Navan. Navan Market Route Option (b) involves turning right from the quarry access and turning right at Kilmessan (L2206/L2205 T-junction) to travel to Ballinter Cross and on to Navan via. one or other of the two available routes from there.

Navan Market Route Option (c) involves travelling through Kilmessan Village to Bective as far as the R161 and on to Navan. Trim Market Route Option (a) involves travelling through Kilmessan Village to Bective as far as the R161 and on to Trim. Trim Market Option (b) is also through Kilmessan Village to R154 at Pikes Corner and onward to Trim. Although not set out in the TMP, Trim Market traffic can alternatively avoid Kilmessan and use the Dunsany Cross route to R154 at Batterjohn.

The TMP for the extractive phase was geared towards the annual extraction of 750,000 tonnes of aggregate which lead to 150 HGV movements per day 278 working days per year. The proposal in this restorative phase is for 72 HGV movements per day 278 working days per year.

It is proposed in the EIS section 3.11 that this Traffic Management Plan be continued in the operation of the proposed restoration phase.

For the purpose of the proposed activity, incoming loads will be recorded at the weighbridge and requisite details will be recorded, including the source of the material, haulier and Waste Collection Permit details, time and date, weight in/out.

Aside from the access road to the existing facility, the entire site boundary is closed off by post and wire fences and industrial field gates. All gates will remain padlocked for the duration of the site restoration activities.

The existing quarry planning permission provides for up to 150 truck movements in and out of the site each day. No further increase in traffic levels, over and above this level, is envisaged in future years.

Opening hours/waste acceptance hours will be controlled, as detailed in Attachment C.3.

Internally within the application site, warning notices, direction signs and speed restriction signs will be established along paved and/or unpaved roads.

All egressing site traffic will be required to pass through the wheel-wash.

Vermin Control

Due to the inert nature of incoming materials, vermin control is not anticipated as being required.

Road Cleansing

In order to prevent the movement of soil off-site, onto public roads, a wheel-wash facility is installed close to the site entrance; the wheel-wash will be maintained. All egressing site traffic will be required to pass through the wheel-wash.

As part of the facility's Environmental Management System, site staff will conduct routine site inspections, which will include checks to confirm that roads outside the facility are not being negatively impacted by the operation of the facility.

SECTION F: CONTROL AND MONITORING

ATTACHMENT F.1: Treatment, Abatement and Control Systems

Treatment/abatement/control systems are considered below. Emissions to groundwater, sewer and atmosphere are considered non-applicable, as Attachment E.

Dust abatement/control

A wheel-wash, positioned at the site entrance, will prevent off-site movement of muck/dust onto public road network.

Additional dust control operational methods are detailed in Attachment E.6.

Surface water abatement/control

Attachment E.2 and Attachment E.4 above document the emissions from Groundwater and Surface water, how they are generated and how they are controlled. Excess groundwater and surface water will be guided to 2 existing groundwater pump/sumps where both combined will be pumped to a holding tank prior to discharge to the local stream S1 and ultimately to the Skane River which is a tributary of the River Boyne / Blackwater SAC. Flow from the holding tank is controlled through a v-notch weir and monitored volumetrically using ultrasonic flow metering. It is suggested that the control parameters currently in existence under the Meath County Council surface water discharge licence be carried through to the new waste licence.

A surface water collection system (to underground, double-skinned tanks) is proposed at the waste inspection/quarantine area.

The temporary waste inspection and quarantine area, will be sealed by a 100mm thick reinforced concrete slab over 150mm of granular sub-base and bunded to a design storm volume. Surface water running over the surface of the concrete slab will be directed toward buried storage tanks with double-skin protection, located on the western side of the hardstanding area. Any wastewater collected in the buried tanks will be emptied by licensed waste collectors and transferred to a collection tanker for disposal off-site at an approved wastewater treatment facility.

Surface water will only be collected in the buried tanks when suspect waste consignments are stored at the quarantine facility. At all other times, surface water run-off from the sealed slab will either percolate directly through the ground to the underlying groundwater table or will be directed over the existing ground surface to ponds in low lying areas, at which point it is effectively discharged to groundwater.

Monitoring of the volume of contents in the underground tanks will be routinely completed as part of the facility's Environmental Management System.

Additional measures/procedures to mitigate against potential groundwater/surface water impacts are detailed in Attachment E.2.

Noise abatement/control

As per Attachment E.5, noise emissions will be associated with incoming/outgoing HGVs and mobile quarry/restoration plant and machinery.

Noise associated with incoming/outgoing HGVs and mobile quarry/restoration plant and machinery will be controlled as follows:

- The existing quarry planning permission provides for up to 150 truck movements in and out of the site each day. This new planning permission proposes 72 truck movements. No further increase in traffic levels, over and above this level, is envisaged in future years.
- Opening hours/waste acceptance hours will be controlled, as detailed in Attachment C.3.
- Internally within the application site, warning notices, direction signs and speed restriction signs will be established along site roads leading, which will reduce traffic speed and noise.
- Maintenance and good housekeeping at site roads and hardstanding areas.
- Acoustic screening, as necessary, including the topography of the site and existing embankments/berms.
- The use of conventional audible reversing alarms may cause problems and alternatives are available. Audible reversing warning systems on mobile plant and vehicles should be of a type which, whilst ensuring that they give proper warning, have a minimum noise impact on persons outside sites.
- Regular and routine servicing and maintenance of plant.
- Staff training and supervision to keep site noise to a minimum. Good practice includes:
    - the proper use and maintenance of tools and equipment;
    - the positioning of machinery on site to reduce the emission of noise to the neighbourhood and to site personnel;
    - the avoidance of unnecessary noise when carrying out manual operations and when operating plant and equipment;
    - avoid unnecessary revving of engines and switch off equipment when not required.

Fire abatement/control

Given the lack of combustible waste materials at this site, it is considered highly unlikely that a fire will break out during backfilling and recovery operations. Fire extinguishers will be kept at the site office to deal with any localised small-scale fires which might occur.

Soil storage procedures

The EIS for the proposed development proposes measures for good soil handling, as follows:

- For the replacement of subsoil and topsoil, the machinery will work from the haulage track or the exposed subsoil surface and away from the reinstated part of the site.
- Soils will not be handled in wet weather conditions. This decision will be made by experienced personnel.
- Soils will not be stripped or placed when the moisture content is high, i.e. after heavy rainfall. This decision will be made by experienced personnel.
- Soils will not be moved in unusually dry and windy weather conditions.
- All temporary storage mounds will have slope angles not greater than 1:1.5 and will be re-vegetated as quickly as possible to avoid soil erosion by air and water.
- Topsoil shall be stored to a height not exceeding 3 metres to preserve organic constituents.

ATTACHMENT F.2: Air Monitoring

Proposed dust monitoring locations are shown on Drawing 6993, and listed in **Table F.2.1** below.

Table F.2.1: Proposed Dust Monitoring Locations

Monitoring Point Ref.	Grid ref.	Description	Monitoring frequency
D1	E289798, N256984	Located to the western boundary of the site at an area within the confines of the proposed public park and proximate to the residents in the cottages	Biannually
D2	E290025, N257459	Located at the northern most boundary of the site proximate to the surface water discharge point.	Biannually
D3	E290419, N257420	Located at the Northern most boundary of the site in the centre of the site.	Biannually
D4	E290385, N256957	Located on the Southern boundary of the site (250m west of the easternmost corner of the site)	Biannually

ATTACHMENT F.3: Surface Water Monitoring

Monitoring of Surface water is proposed at the existing Discharge point SW1(E290058, N257611).Section 3.4.9.2 details the proposals for monitoring of surface water in line with the current surface water discharge licence as issued by Meath County Council (DL 13/07). It is proposed here however that the frequency of monitoring for surface water at the discharge point be reduced in frequency to quarterly and ceased two years post completion of the restoration of the site.

PARAMETER	UNITS	MAXIMUM LIMIT VALUE
BOD 5	mg/l	2.0
COD	mg/l	50
Suspended Solids	mg/l	20
pH	pH Units	6.0 – 9.0
Ortho-Phosphate, as P	mg/l	0.060
Nitrates as N	mg/l	8.0
Ammonium, as N	mg/l	0.10
Total Petroleum Hydrocarbons	ug/l	50
BTEX Compounds	ug/l	10
PARAMETER	**UNITS**	**MINIMUM LIMIT VALUE**
Dissolved Oxygen	Mg/L	7.0

The discharge licence also requires the following:

1. Oils and Greases shall not be present in the effluent in such quantities as to:

(i) Form visible films in the surface of the water
(ii) form coatings on the river bed, benthic biota or food resources
(iii) cause deleterious effects on aquatic life
(iv) impart a detectable taste or odour on edible aquatic species

2. The total discharge volume shall not exceed 62.5m^3 / hr and 1500 m^3 per day.

3. The licensee shall arrange for sampling and analysis of the discharge for the determinants listed below during all periods that discharges occur, at a frequency of **once every 6 months**. The analysis shall be carried out by an independent laboratory which can demonstrate competence to undertake the relevant tests through accreditation and / or participation in relevant external proficiency testing schemes. In respect of metals the analysis shall be carried out using methods of analysis that provide a limit of detection of <0.005mg/L or lower.

Total Hardness, Alkalinity, Conductivity, Sulphates, Cu, Zn, Pb, Cd, Ni, As, Cr (total), Fe, Mn.

The applicant acknowledges section 3.6 of the discharge licence which state that with consent the frequency of monitoring may be reduced. This measure is sought in this instance whereby the monthly regime is reduced to a quarterly regime and reporting frequency is brought in line with other facilities of this type.

ATTACHMENT F.4: Sewer Discharge

There are no emissions to sewer; therefore, no monitoring is proposed.

ATTACHMENT F.5: Groundwater

There is a network of 4 monitoring wells at the site. They will serve two purposes. They will firstly allow the groundwater levels at the site to be monitored. Secondly the wells will allow ongoing monitoring of groundwater quality (by allowing extraction of groundwater samples for laboratory analysis) to demonstrate that any proposed future backfilling is not impacting on local groundwater quality. Groundwater quality monitoring

should be completed quarterly during backfilling, and annually thereafter for two years. The proposed monitoring suite is shown in **Table F.5.1** below

Table F.5.1 Groundwater Monitoring Programme

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	quarterly	pH electrode/meter
BOD	quarterly	Standard method
Ammonia (as N)	quarterly	Standard method
Nitrate	quarterly	Standard method
Total N (as N)	quarterly	Standard method
Ortho –P (as P)	quarterly	Standard method
Total Dissolved Solids (TDS)	quarterly	Standard method
Total Petroleum Hydrocarbons (TPH)	quarterly	Standard method
DRO	quarterly	Standard method
PRO	quarterly	Standard method
Total Coliforms	quarterly	Standard method
Faecal Coliforms	quarterly	Standard method

Table F.5.1: Proposed Groundwater Monitoring Locations

Monitoring Point Ref.	Grid ref.	Description	Monitoring frequency
W1	E289799, N257016	Located to the western boundary of the site at an area within the confines of the proposed public park and proximate to the residents in the cottages	Biannually
W2	E290017, N257515	Located at the northern most boundary of the site proximate to the surface water discharge point.	Biannually
W3	E290275, N256947	Located on the southern Boundary of the site, Centre, Proximate to the nearest private dwellings	Biannually
W4	E290216, N257070	Located in the centre of the Site.	Biannually

*NOTE SAMPLING POINT W4 IS LOCATED IN AN AREA WHICH WILL BE BACKFILLED DURING THE FIRST PHASE OF THE RESTORATION PROJECT. IT MAY NOT BE POSSIBLE TO CONTINUE THE MONITORING OF THE GROUNDWATER AT HIS POINT POST PHASE 1 THEREFORE THE GROUNDWATER MONITORING POINTS SHOULD BE REDUCED TO 3 AT THAT STAGE.

Additional measures/procedures to mitigate against potential groundwater impacts are detailed in Attachment E.2.

ATTACHMENT F.6: Noise

Noise monitoring is proposed at the closest Noise Sensitive Receptors (NSRs) to the site (as per the EIS). Proposed noise monitoring locations are shown on Drawing 6993 and listed in **Table F.6.1** below.

Table F.6.1: Proposed Noise Monitoring Locations

Monitoring Point Ref.	Grid ref.	Description	Monitoring frequency
N1	E289804, N256980	Located to the western boundary of the site at an area within the confines of the proposed public park and proximate to the residents in the cottages	Annually
N2	E290294, N256953	Located on the southern Boundary of the site, Centre, Proximate to the nearest private dwellings	Annually

ATTACHMENT F.7: Meteorological Data

No monitoring of meteorological data is proposed. Site staff will be cognisant of weather conditions in terms of site operations and potential nuisances, e.g. mud, dust, wind.

SECTION G: RESOURCE USE AND ENERGY EFFICIENCY

ATTACHMENT G.1: Raw Materials, Substances, Preparations and Energy

Waste/Materials

Input materials for site restoration will be as described in Attachment H.1.

Any small amounts of non-inert material, which may be separated from incoming material, e.g. timber, plastic, metals, will be appropriately stored and removed off-site to an authorised waste facility. Records of waste volumes/weight will be retained.

Small volumes of municipal-type office waste generated by on-site staff will be appropriately stored and removed off-site to an authorised waste facility. Records of waste volumes/weight will be retained.

Electricity and Water

Electric power, lighting and heating are provided at the temporary site office near the entrance to the application site.

Mains water is available on site and can be used for any basic sanitary functions.

Records of electricity and water usage will be retained.

Fuel and Oil Storage

It is intended to provide bunded fuel storage tanks at the application site. Fuel for plant and equipment will be stored in double-skinned tanks/ bowsers located on the hardstanding area. The effect of the double skin is to minimise the potential for fuel spillage on account of leakage/accidental piercing of bowser.

No re-fuelling of HGV trucks will take place on site in uncontrolled areas.

A small bunded tank for waste oils will be provided on the concrete slab at the waste quarantine area. This tank will be emptied at intervals by a licensed waste contractor and disposed off-site at a suitably licensed waste facility.

Oil and lubricant changes for wheeled or tracked plant will be undertaken on-site at the existing hardstanding area.

Records of fuel usage and waste oil removal off-site will be retained.

ATTACHMENT G.2: Energy Efficiency

Energy will be used at the site in the form of diesel for plant and equipment; and electricity in the site office.

Plant and equipment will be maintained and serviced to achieve optimum fuel efficiency.

Basic measures will be taken to control electricity use in the site office, e.g. turning off lights and equipment when appropriate; energy-saving lighting.

SECTION H: MATERIALS HANDLING

ATTACHMENT H.1: Waste Types and Quantities – Existing and Proposed

The site has a proposed 14-year operating lifetime, i.e. the restoration timeframe is 14 years. The proposed tonnes per annum input is therefore 5,600,000 tonnes.

The proposed restoration project requires the importation of inert materials to restore the quarry void. Only clean, uncontaminated soil and stones (EWC code 17 05 04) will be used for restoration of the quarry void. Other proposed input materials (as **Table H.1.1**) – concrete, bricks, tiles/ceramics, granular fill – will be used, as appropriate, in the construction of site haul roads. Proposed European Waste Catalogue (EWC) codes are outlined in **Table H.1.1** below.

It is also proposed that the facility may accept inert materials which have been subject to pre-treatment off-site, e.g. concrete crushed off-site at an authorised facility. Certain Chapter 19 EWC codes may therefore apply, as **Table H.1.1**.

The Applicant may, in the future, seek agreement from the Agency for other compatible and inert material inputs.

Table H.1.1: Proposed EWC Codes

EWC Code	Description
17 01 01	Concrete
17 01 02	Bricks
17 01 03	Tiles and Ceramics
17 01 07	Mixture of concrete Bricks, tiles and Ceramics other than those mentioned in 170601
17 05 04	Soil and Stone
19 12 09	Minerals (for example sand, stones)

It is estimated that approximately 95% of incoming materials will be recovered on site for the purpose of restoring a worked-out quarry. Any small amount of non-inert construction and demolition waste unintentionally imported to site will be separated, prior to removal off-site to authorised facilities. Wastes removed off-site will be recovered, insofar as possible.

Proposed site haul roads and required volumes of material are outlined on Drawing 6984 Haul routes.

ATTACHMENT H.2: Waste Acceptance Procedures

An outline Waste Acceptance Procedure is provided in **Figure H.2.1** below. The procedure will be detailed further post-licensing, as part of the Operator's Environmental Management System.

Figure H.2.1: Outline Waste Acceptance Procedure

(1) Incoming waste will be pre-approved, with details provided by the customer in advance to include: source, description, approx. volume/tonnage, haulier details and Waste Collection Permit No.

(2) Where required, basic characterisation testing in accordance with *European Council Decision 2003/33 of 19 December 2002 establishing criteria for the acceptance of waste at landfills* will be undertaken in advance by the customer/contractor. Results will be provided to the Operator confirming acceptability of materials.

(3) Upon arrival at the facility, all loads will be weighed at the weighbridge and requisite information checked and recorded (as (1-2) above).

(4) The load will be directed to the active tipping/restoration area.

(5) The load will be inspected upon tipping (visual and odour inspection), with any suspect material diverted to the Waste Inspection/Quarantine Area, whereupon it may be subject to further testing, or directed for on-site/off-site recovery.

(6) Any small items of non-inert waste included in a tipped load, e.g. timber, plastic, metal, will be picked out and appropriately stored for off-site recovery. Any loads grossly contaminated with non-conforming waste will be rejected, in consultation with the EPA and the customer.

(7) Filling of the site will continue on a planned and phased basis, in accordance with the Restoration/Phasing Plan. Tipped loads will be placed and compacted by on-site bulldozer.

(8) Waste in- and waste-out (and other required information) will be reported to the EPA annually.

(9) Final capping and grassing of completed areas will be undertaken on a phased basis, in accordance with the Restoration/Phasing Plan, with the site eventually returned to agricultural grassland.

ATTACHMENT H.3: Waste Handling

After weigh-in, incoming materials will be tipped directly by HGV at the active restoration area, or at the recovery/inspection area.

The critical item of plant on site will be 1 No. tracked bulldozer. It is anticipated that a wheeled loader / vibrating roller will also be employed on site. The bulldozer will 'push in' a tipped load, level it. A vibrating roller will be used to compact the material on the active restoration phases.

In relation to final cover material, stockpiled or delivered subsoil and topsoil will be tipped, levelled and prepared for grassing.

Should small items of non-conforming material (e.g. timber, plastic, metal) be delivered in an incoming load, they will be picked out, by hand, and stored in skips at the recovery area, pending off-site removal to an appropriately authorised facility.

ATTACHMENT H.4: Waste Arisings

Any small amounts of non-inert material, which may be separated from incoming material, e.g. timber, plastic, metals, will be appropriately stored and removed off-site to an authorised waste facility. Records of waste volumes/weight will be retained.

Small volumes of municipal-type office waste generated by on-site staff will be appropriately stored and removed off-site to an authorised waste facility. Records of waste volumes/weight will be retained.

Waste collectors or destination facilities have not yet been assigned. Only registered Waste Collection Permit-holders will be engaged, who hold the relevant permissions for collections in the source areas, and are permitted for appropriate EWC codes and destination facilities. In relation to off-site facilities for disposal/recovery, these facilities will be appropriately licensed/permitted by the EPA/Local Authority.

ATTACHMENT H.5: Waste Recycling and Recovery

The proposed restoration of the quarry is regarded as a recovery operation.

Any non-inert waste separated from incoming loads will be recovered (off-site) insofar as practicable. Waste oils generated on site will be recovered (off-site). Office and on-site waste will be segregated for (off-site) recycling.

No hazardous waste will be accepted at the facility.

SECTION I: EXISTING ENVIRONMENT AND IMPACT OF THE FACILITY

ATTACHMENT I.1: Assessment of atmospheric emissions

As part of an Environmental Impact Statement (EIS) (section 3.6 find attached) the potential impact to air quality from the proposed development was assessed.

The study concluded the air quality is average to good with levels of criteria pollutants for traffic, industrial and residential derived pollution (BTEX, NO2, CO, and PM10) below the relevant Irish and European Union limits. The main source of air pollution in the area is from motor vehicle exhausts, construction and industrial activities, heating and associated urban and farming emissions. There is the risk that emissions from dust from the facility could result in air quality impacts and nuisance in the vicinity of the existing and proposed facility development during the construction and operation phase. A series of mitigation measures will be maintained and applied to minimise any impact associated with dust. It is anticipated that no long-term associated impacts on air quality will occur in the area as a result of the proposed facility development."

It can be concluded that emissions of main polluting substances (as defined in the Schedule of S.I. 394 of 2004) to the atmosphere are not likely to impair the environment.

Mitigation measures identified in the EIS (if any), have been carried forward to the Waste Licence Application (primarily Sections E and F).

ATTACHMENT I.2: Assessment of Impact on Receiving Surface Water

As part of an Environmental Impact Statement (EIS) (find attached) for the proposed development, Hydro Environmental Services were engaged to assess hydrogeological impacts relating to the proposed development. (Ref appendix 3 EIS – Ref Section 3.4 EIS).

Due to the nature of the proposed development being a backfilling operation in an existing open quarry, the infilling of the site will improve groundwater vulnerability and protect the underlying aquifer;

The proposed fill will be made up of inert soil and stone along with small volumes of C&D waste, and therefore the potential for groundwater or surface water contamination is low;

The existence of two main fracture zones across the quarry site is mitigated through placement of low permeability till over the lines of the fractures at the outset of backfilling. This will prevent fines being washed down into the fracture zones.

All existing site investigation locations within the quarry floor will be grouted and backfilled to ensure they do not become a conduit for vertical flow into the underlying aquifer;

The main issue for the proposed backfilling works is the requirement to continue dewatering the quarry floor while backfilling operations are ongoing. Therefore during the works there is potential for generation of high TSS runoff in pumped water. However, the water is fully contained within the floor of the quarry and will be treated in

settlement ponds and sumps, prior to pumped discharge from the site. It is proposed to a series of settlement ponds to manage surface water on the floor of the quarry during backfilling. The existing sumps will be used solely for groundwater pumping and all surface water runoff will be sealed off;

The receptor at most risk during the infilling works will be local surface water quality in terms of potential impacts from pumped water that may contain suspended solids. Mitigation for protection of surface water and groundwater, and water quality monitoring plan are outlined in this document;

The majority of the private well supplies in the vicinity of the site (including the Kilmessan PWS) are located to the south, southwest and southeast of the site and are therefore located down-gradient of the proposed development. However, due to the proposed nature of the infill material (*i.e.* inert soil and stone) no water quality impacts on these wells are anticipated;

A monitoring plan for groundwater and surface water is proposed and will be implemented by the Applicant; and,

Finally, there will be no significant indirect adverse hydrological or hydrogeological impact on the River Boyne & Blackwater SAC/SPA, the local aquifer or groundwater supplies in the area due to the backfilling and future use of the land for amenity and grazing. Also, there will be no significant in combination hydrological or hydrogeological impacts resulting from this project and other local projects.

It can be concluded that emissions of main polluting substances (as defined in the Schedule of S.I. 394 of 2004) to water are not likely to impair the environment.

Mitigation measures identified in the EIS (if any), have been carried forward to the Waste Licence Application (primarily Sections E and F).

ATTACHMENT I.3: Assessment of Impact of Sewage Discharge

No discharge to sewer is proposed.

ATTACHMENT I.4: Assessment of impact of ground/groundwater emissions

Please refer to Attachment I.2 above which addresses both Surface water and Ground water issues

ATTACHMENT I.5: Ground and/or groundwater contamination

There is no known ground and/or groundwater contamination, historical or current, on or under the site.

See also Attachment I.2 re. Hydrogeology.

ATTACHMENT I.6: Noise Impact

As part of an Environmental Impact Statement (EIS) (find attached) for the proposed development, RME Environmental was retained to undertake a noise impact assessment of the proposed development.

The study concluded:

that the site of the proposed development is not by definition an "Area of Low Background Noise".
The proposed development will result in a reduced traffic volume and therefore the resultant noise levels will be lower than the current expectations for the current Planning Permission.
During normal operation of the facility there should be a negligible noise impact at all nearby residents.

Noise emissions should contain no clearly audible tones and should not be impulsive in nature. Predicted noise emissions should be well within recommended criteria levels if mitigation measures are implemented. Mitigation measures identified in the EIS (if any), have been carried forward to the Waste Licence Application (primarily Sections E and F).

ATTACHMENT I.7: Assessment of Ecological Impacts & Mitigation Measures

Scott Cawley (Ecological Consultants) were commissioned to complete an ecology report and Appropriate Assessment (AA) Screening (full reports attached) for the proposed development.

The ecology report concluded that there would be impacts ecologically emanating from a "Do Nothing Scenario" whereby the return to excavation and quarrying would potentially be ecologically more detrimental to the local ecology than the option to backfill and restore. There are potential impacts to flora and fauna within the site and its environs from both the construction phase and operational phase of the proposed development. Suitable mitigation measures have been suggested and should be implemented prior to commencement of the proposed development.

The AA Screening Exercise (appendix 2 EIS) was again carried out by Scott Cawley and concluded that

No significant adverse effects are predicted due to the following:

According to the Site Synopsis for the River Boyne and River Blackwater SAC (002299) (NPWS, 2014), the main areas of the Annex I habitat Alkaline Fens [7230] are located in the vicinity of Lough Shesk, Freehan Lough and Newtown Lough. These three lakes are located in a different groundwater to that of the proposed development site and as such are not hydrogeologically connected to the proposed development body (i.e. Athboy in the case of Lough Shesk and Freehan Lough and GWSTE Newtown Lough Fen SAC 002299).

Any unlikely pollution event during backfilling would not be of such a magnitude that it could have significant adverse effects on the Qualifying Interest/Special Conservation Interests of the European sites. This is due to specific measures outlined in Table 1 above; and,

The significant distance of the proposed development site from the European site and significant dilution and mixing within the receiving waters.

SECTION J: ACCIDENT PREVENTION AND EMERGENCY RESPONSE

Fuel Storage

It is intended to provide bunded fuel storage tanks at the application site. Fuel for plant and equipment will be stored in double-skinned bunded tanks located on the hardstanding area. The effect of the double skin is to minimise the potential for fuel spillage on account of leakage/accidental piercing of bowser.

A small bunded tank for waste oils will be provided on the concrete slab at the waste quarantine area. This tank will be emptied at intervals by a licensed waste contractor and disposed off-site at a suitably licensed waste facility.

No re-fuelling of HGV trucks will take place on site.

Oil and lubricant changes for wheeled or tracked plant will be undertaken on-site at the existing hardstanding area.

Spillage Emergencies

Dedicated sand piles and/or spill kit(s) will be retained on site to contain and absorb hazardous liquid material in the event of a leak or accidental spillage from plant/equipment. Used absorbent material will be disposed of as hazardous material, using appropriately licensed collectors and disposal/recovery facilities.

Out-of-Hours Response

The facility notice board (to be positioned at the site entrance) will include contact details, including out-of-hours contact information, for the operator/nominated individual, who can respond to potential emergency situations.

Abnormal Operating Conditions

Abnormal operating conditions at the facility could involve the malfunction of one of two critical plant items, i.e. the weighbridge or the bulldozer.

In the event of malfunction of the weighbridge, a service contractor will be available for repair call-outs on a short-notice basis. It is possible that weights of loads could be read and recorded manually, or in an extreme event, averaged weights could be applied for a given HGV, based on previous records from a given source site.

In the event of breakdown of the bulldozer, restoration materials could be tipped and temporarily stockpiled at the active restoration area. A mechanic will be available to the facility for repairs on a short-notice basis. A hired, replacement bulldozer will be acquired, if necessary.

Emergency Response Procedure

An Emergency Response Procedure will be documented and maintained as part of the facility's Environmental Management System.

Insurances

A copy of the company's Public Liability insurance certificate is attached.

Attached overleaf:

- PL insurance certificate

SECTION K: REMEDIATION, DECOMMISSIONING, RESTORATION AND AFTERCARE

Closure, Restoration and Aftercare Management Plan

1. INTRODUCTION

Site Description

The site is a proposed restoration of a rock quarry located at Tullykane, Kilmessan, Co. Meath. The quarry has been operational for well over 30 years. The primary aim of the proposal is to bring soil and stone (for quarry backfill) and associated other inert materials (for the construction of haul roads) to the site over a 14-year period to ultimately bring the site back to its previous agricultural use.

Activities

Proposed classes of waste activity are R 5 (principal), "*Recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials*".

Other proposed ('non-principal') waste activities are: R 3, R 4, R10, R 12, R13 and R 15.

See Attachment B.7 for details.

Licence/permit details

Not yet licensed; Waste Licence Application stage.

2. SITE EVALUATION

Operator performance

No licensing/permitting history. The quarry has been operated for over 30 years under the operational stewardship of Kilsaran Concrete. The facility has operated in full compliance with the existing planning permissions and has never had any issues regarding the management of the quarry from regulatory or locally concerned stakeholders within the lifetime of the facility.

Environmental pathways and sensitivity

The pathways into the groundwater and surface water and the likelihood of the occurrence of potential groundwater contamination associated with a particular pathway, are presented in **Table K.1.1** below[1].

Table K.1.1: Possible Site Pathways

Pathway	Description
Infiltration through quarry floor	▪ Infiltration of rainfall in quarry excavation area through subsoils. ▪ Infiltration of rainfall through backfilled area. ▪ Infiltration of rainfall through underlying bedrock. ▪ Infiltration to ground after water has passed through the silt lagoon.
Surface water drainage	▪ After surface water has passed through the lagoon, surface water run-off from the site overflows to the natural sump and percolates to ground. ▪ Runoff from compacted hardcore areas. ▪ Runoff from the site wheel-wash. ▪ Runoff from stockpiled topsoil material. ▪ Through backfilled material into sub-surface drainage system.

The nearest river/stream Skane River is approximately 1km from the site: a small, unnamed ephemeral stream runs directly to the North of the site, which flows westwards discharging to the Skane River.

Hydrogeological conditions are identified as follows[2]:

- Hydrogeological setting: 2.ii, Shallow well drained basic mineral soils (BMinSVV)
- Soil drainage: dry (well rained)
- Subsoil type: Limestone Tills (TLS)
- Subsoil permeability: H, High
- GW Vulnerability: X, Extreme
- Aquifer Category: Ll, Locally Important Aquifer – Bedrock which is moderately productive only in local zones

Site processes and activities

The proposed restoration scheme at the site provides for:

- Use/recovery of imported inert soil & stones to backfill and restore a large existing void created by previous extraction of limestone rock.
- Use/recovery of imported other inert material, e.g. concrete, bricks, tiles, ceramics, for the construction of site haul roads.
- Separation and quarantine of any non-inert construction and demolition waste (principally metal, timber, PVC pipes and plastic) unintentionally imported to site

[2] Source: Hydro Environmental Services Report EIS section 3.3 and 3.4

prior to removal off-site to appropriately licensed waste disposal or recovery facilities.

- Phased restoration of the backfilled void (including placement of cover soils and seeding) and return to former use as agricultural grassland.
- Temporary stockpiling of topsoil and subsoil pending re-use as cover material for phased restoration of the site.
- Environmental monitoring of noise, dust, surface water and groundwater for the duration of the site restoration works.

Inventory of buildings, plant and equipment

Site buildings are as follows:

- Site office at site entrance (also serves as weighbridge office and staff mess area) (existing)

Plant and equipment are as follows:

- Weighbridge (existing)
- Wheel-wash (existing)
- Bulldozer and/or mechanical excavator
- Loading Shovel
- Vibrating Roller
- Underground surface water storage tanks at quarantine area (proposed)
- Small bunded tank for waste oils on the concrete slab at quarantine area (proposed)

Inventory of raw materials, products and wastes

The proposed restoration project requires the importation of inert materials to restore the quarry void. Proposed European Waste Catalogue (EWC) codes are outlined in Attachment H.1.

Any small amounts of non-inert material, which may be separated from incoming material, e.g. timber, plastic, metals, will be appropriately stored and removed off-site to an authorised waste facility. Records of waste volumes/weight will be retained.

Small volumes of municipal-type office waste generated by on-site staff will be appropriately stored and removed off-site to an authorised waste facility. Records of waste volumes/weight will be retained.

Maximum storage capacity for raw materials, products and wastes

Input materials will be placed directly in the active restoration area.

There may be stockpiling of subsoil/topsoil for capping purposes.

Storage times for waste will be minimal, e.g. when a skip is filled it will be collected and an empty skip dropped off. Office-type waste will be collected on a routine collection round, or when bins are full.

3. CLOSURE TASKS AND PROGRAMMES

Plant and equipment decontamination requirements

The following plant will be emptied by a competent contractor:

- Wastewater holding tank / septic tank for site toilets
- Underground surface water storage tanks at quarantine area
- Small bunded tank for waste oils on the concrete slab at quarantine area

Fuel will be drained from mobile plant/machinery.

Plant and equipment decommissioning requirements

The temporary site office and buildings will be removed off-site.

Mobile plant will be removed off-site.

The weighbridge and wheel-wash will be decommissioned and removed off-site.

The following plant will be removed off-site:

- Wastewater holding tank for site toilets
- Underground surface water storage tanks at quarantine area
- Small bunded tank for waste oils on the concrete slab at quarantine area

Demolition (if necessary)

No demolition works required.

Waste facility closure (e.g. landfill and extractive waste facilities)

The proposed development will use imported inert materials to backfill and restore a large existing void created by previous extraction of Limestone aggregate.

Raw materials, products and waste disposal and/or recovery requirements

Any small amounts of non-inert material, which may be separated from incoming material, e.g. timber, plastic, metals, as well as small volumes of municipal-type office waste generated by on-site staff, can be diverted to one of many authorised waste facilities for recovery or disposal, as appropriate.

Contaminated land treatment, removal and/or disposal

No requirement for contaminated land treatment, removal and/or disposal.

Programme (Gantt chart or similar) and timeframes for delivery

To be considered at post-licensing stage.

4. RESTORATION TASKS AND PROGRAMME

Backfilling of the application site will proceed on a phased basis. A summary of the proposed phasing and the final ground level contours are shown in Drawing 6980 (A3) and section drawings 6985 and 6986.

The restoration of the site will result in a landform similar to that which existed prior to extraction of rock. The restored site will merge into the surrounding undulating pastoral landscape.

The proposal is to commence the restoration project at the northern boundary of the site in phase A rotating to phase B and Phase C respectively in 1.5 metre lifts. This process will be carried out through approximately 12 lifts to the finished level and progress clockwise year by year.

A cover layer comprising 150mm of topsoil and approximately 850mm of subsoil shall be placed over the inert backfilled materials on completion of each phase of restoration. This will be immediately planted with grass in order to promote stability and minimise soil erosion and dust generation. The lands will then be progressively returned to use as agricultural land.

In the course of the twelfth (and final) phase of the site restoration works, all mobile plant and equipment will be removed off site and any temporary site accommodation, infrastructure and services will be progressively removed off-site or decommissioned.

On completion, the final landform will be profiled to give a very slightly domed shape in order to facilitate surface water run-off into open drains along the site boundary; refer to final site contour map in Section drawing 6986.

5. AFTERCARE TASKS AND PROGRAMME

A reduced programme of environmental monitoring (versus licensed monitoring requirements) is anticipated for a short-term aftercare period, e.g. 2 to 3 years. Trusting that no issues/concerns arise as the result of the aftercare monitoring programme, it is proposed that environmental monitoring would cease after this short-term aftercare period.

The site will be inspected by a competent engineer approximately one year post-closure to confirm that restoration conditions are acceptable in terms of settlement, drainage and overall landform.

It is anticipated that the restored site will be returned to agricultural use, and day-to-day management in terms of access, boundaries, landscape maintenance, etc. will be overseen by the farmer/manager.

6. CRITERIA FOR SUCCESSFUL CLOSURE, RESTORATION AND AFTERCARE

A benchmark set of criteria to evaluate the success of closure, restoration and aftercare

The following criteria will be applied to evaluate the success of closure, restoration and aftercare:

- The site has been fully restored, in accordance with requirements of planning and licensing. Final capping and grassing has been completed and the site has been returned to agricultural grassland.
- All mobile plant and equipment, and temporary site accommodation units have been removed off-site.
- Environmental monitoring has concluded that there are no residual issues.
- Any required post-restoration infrastructure remains in place, e.g. certain monitoring points to be agreed with the Agency.
- A closure validation report has been completed by a competent person.
- The EPA licence has been surrendered.

5. CLOSURE PLAN VALIDATION

A full round of environmental monitoring, as required by the licence, will be completed post-closure. Environmental monitoring results must confirm that there are no concerns relating to the site.

A closure validation audit and report will be completed by a competent individual.

The licensee will complete licence surrender procedures in consultation and agreement with the Agency.

6. CLOSURE, RESTORATION/AFTERCARE PLAN COSTING

To be considered at post-licensing stage.

7. CLOSURE, RESTORATION/AFTERCARE PLAN REVIEW AND UPDATE

The Closure, Restoration and Aftercare Plan will be considered and reviewed as part of the Annual Environmental Report.

SECTION L: STATUTORY REQUIREMENTS

ATTACHMENT L.1: Section 40(4) WMA

Section 40(4) WMA

Section 40(4) of the Waste Management Act 1996, as amended, states that the Agency shall not grant a waste licence unless it is satisfied in relation to the following.

(a) any emissions from the recovery or disposal activity in question ("the activity concerned") will not result in the contravention of any relevant standard, including any standard for an environmental medium, or any relevant emission limit value, prescribed under any other enactment

The proposed activity provides for the recovery of clean and inert materials. Input materials will be inspected/tested, as required, to confirm their suitability. There will be no emissions to water. Mitigation measures have proposed, where appropriate, to mitigate against dust and noise emissions. The facility will operate under the requirements of an EPA licence and the facility's Environmental Management System. An environmental monitoring programme will be put in place.

(b) the activity concerned, carried on in accordance with such conditions as may be attached to the licence, will not cause environmental pollution

The proposed development has been subject to the preparation of an Environmental Impact Statement. There are no issues surrounding environmental pollution.

(bb) if the activity concerned involves the landfill of waste, the activity, carried on in accordance with such conditions as may be attached to the licence, will comply with Council Directive 1999/31/EC on the landfill of waste

Not applicable.

(c) the best available techniques will be used to prevent or eliminate or, where that is not practicable, to limit, abate or reduce an emission from the activity concerned

There will be no emissions to water. Mitigation measures have proposed, where appropriate, to mitigate against dust and noise emissions. Due regard was given to the requirements of EPA BAT notes[3] in assigning mitigation measures.

(cc) the activity concerned is consistent with the objectives of the relevant waste management plan or the hazardous waste management plan, as the case may be, and will not prejudice measures taken or to be taken by the relevant local authority or authorities for the purpose of the implementation of any such plan

[3] EPA (2011) BAT Guidance Note on Best Available Techniques for the Waste Sector: Landfill Activities; and EPA (2011) BAT Guidance Note - Waste Sector (Transfer & Materials Recovery)

In relation to Construction & Demolition Waste, the Eastern-Midlands Region Waste Management Plan 2015-2021 states that: "*given the sharp decrease in the number of operational landfills nationally, which have been a significant outlet for C&D waste in the past, alternative recovery options will be required to facilitate the recovery of C&D waste arising in future years…..Quarries also frequently require large quantities of soil material to fill voids, and for other remediation and landscaping applications.*"

(d) if the applicant is not a local authority, the corporation of a borough that is not a county borough, or the council of an urban district, subject to subsection (8), he or she is a fit and proper person to hold a waste licence

The Applicant is deemed to be fit and proper, see Attachment L.2.

(e) the applicant has complied with any requirements under section 53.

The Applicant is of good financial standing and is in a position to discharge financial commitments or liabilities, as may be required by the Agency.

(f) energy will be used efficiently in the carrying on of the activity concerned,

The facility will not be an intensive energy user. Measures will be taken to minimise energy use, as Attachment G.

(g) any noise from the activity concerned will comply with, or will not result in the contravention of, any regulations under section 106 of the Act of 1992

The EIS concluded that, during normal operation of the facility, there should be a negligible noise impact at all nearby residents. Noise mitigation measures are outlined in the EIS, and considered in Attachment F.1.

(h) necessary measures will be taken to prevent accidents in the carrying on of the activity concerned and, where an accident occurs, to limit its consequences for the environment

The proposed activity is deemed to be of low environmental risk. Accident prevention and emergency response measures have been considered in Section J.

(i) necessary measures will be taken upon the permanent cessation of the activity concerned (including such a cessation resulting from the abandonment of the activity) to avoid any risk of environmental pollution and return the site of the activity to a satisfactory state

The proposed development addresses the requirement to restore a quarry void. Site restoration will progress on a phased basis, with the site ultimately restored to agricultural grassland. Closure, restoration and aftercare provisions are detailed in Attachment K.

(j) the intended method of treatment is acceptable from the point of view of environmental protection, in particular when the method is not in accordance with section 32(1).

Only inert materials will be accepted for the restoration of the site. The facility will operate under the terms of an EPA Waste Licence and the facility's Environmental Management System. The proposed development has been subject to the preparation of an Environmental Impact Statement (attached).

Appropriate Assessment

The proposed development was subject to Appropriate Assessment Screening (Scott Cawley Ecological Consultants, January 2017; full report attached in EIS). The report concludes:

The AA screening process has identified two European Sites that lie within the potential zone of influence of surface water discharges from the proposed development. However for the reasons outlined below no European Sites are deemed to be at risk of likely significant effects from construction or operation of the proposed development.

No significant adverse effects are predicted due to the following:

- According to the Site Synopsis for the River Boyne and River Blackwater SAC (002299) (NPWS, 2014), the main areas of the Annex I habitat Alkaline Fens [7230] are located in the vicinity of Lough Shesk, Freehan Lough and Newtown Lough. These three lakes are located in a different groundwater to that of the proposed development site and as such are not hydrogeologically connected to the proposed development body (i.e. Athboy in the case of Lough Shesk and Freehan Lough and GWSTE Newtown Lough Fen SAC 002299).
- Any unlikely pollution event during backfilling would not be of such a magnitude that it could have significant adverse effects on the Qualifying Interest/Special Conservation Interests of the European sites. This is due to specific measures outlined in Table 1 above; and,
- The significant distance of the proposed development site from the European site and significant dilution and mixing within the receiving waters.

For these reasons, it is the professional opinion of the authors of this report that the application for planning permission for the proposed development does not require an Appropriate Assessment.

Compliance with Best Available Techniques (BAT)

In considering BAT compliance, consideration was given to Annex IV of Council Directive 96/61/EC concerning integrated pollution prevention and control; BAT Reference Documents (BREFs) and BAT conclusions under Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control); EPA BAT Guidance Note - Waste Sector (Landfill) (2011); and EPA BAT Guidance Note - Waste Sector (Transfer & Materials Recovery) (2011).

The following points in relation to the proposed development are noted:

- The restoration of the quarry is considered a recovery operation, which will have positive benefits in terms of returning the site to pre-quarrying conditions.

- The facility will operate in accordance with the terms of planning permission and EPA Waste Licence. An Environmental Management System will be developed and implemented at the site.
- The activity involves the importation of inert materials only; no hazardous waste will be acceptable.
- The facility offers a licensed and controlled outlet for the C&D waste sector in the area.
- Alternative options for the recovery of waste soil and stones from the C&D sector are limited.
- Small volumes of non-inert waste, which may be delivered to the site, will be appropriately stored on-site, and will be directed for off-site recovery, insofar as practicable.
- The proposed activity is a low-technology, low-risk activity.
- The approach is well proven for the restoration of other quarries/voids, on a national level.
- There will be no significant emissions to surface water, groundwater or sewer. The activity will not generate landfill gas or leachate.
- Input materials will be non-odorous, and will not be an attraction to scavenging birds nor rodents.
- Potential noise and dust emissions will be controlled via prescribed mitigation measures, which will be incorporated into the site's Environmental Management System.
- Egressing vehicles will pass through a wheel-wash prior to exiting the facility.
- The facility will not be an intensive energy/water-user. Diesel consumption for site plant/equipment and electricity usage at the site office(s) will be monitored and controlled.
- The facility is low-risk in terms of environmental/pollution risk. There will be no fuel storage on site. Emergency response procedures will be incorporated into the site's Environmental Management System.
- A rigorous Waste Acceptance Procedure will be implemented. Input material will be tested, where required, prior to delivery to site.
- All material-in and material-out will be recorded and summary data reported to the Agency as part of Annual Environmental Reporting obligations.
- The facility will be managed by a competent management team, and with due regard for site neighbours.
- An environmental monitoring programme will be implemented, in accordance with licence conditions.
- The site will be progressively restored, on a planned and phased basis, in accordance with the site restoration/phasing plan. Final cover and planting will be applied to completed phases as soon as practicable.
- Financial provision for site closure/environmental liabilities will be put in place by the operator to address EPA requirements.

ATTACHMENT L.2: Fit and Proper Person

Convictions

Neither the applicant nor other relevant person has been convicted under the Waste Management Act 1996, as amended, the EPA Act 1992, as amended, the Local Government (Water Pollution) Acts 1977 and 1990 or the Air Pollution Act 1987.

Technical knowledge/qualifications

The applicant has managed quarrying activities at the application site for over 30 years. There is a good working history with neighbours, and as part of the EIS consultation (ref. EIS, section 1.5), the overwhelming majority of neighbours saw the restoration of the quarry back to agricultural land as a positive progression for the site, and for the area in general.

The Company have an experienced in house team of engineers and environmental experts to manage the operations. Additional expertise will be acquired for the purposes of managing a licensed facility. The applicant will retain the services of a suitably qualified and experienced environmental consultancy in the waste management/site restoration sector. This consultancy will assist site staff in establishing the facility's Environmental Management System, including practical issues surrounding the Waste Acceptance Procedure, staff training and licence compliance. The consultants will have a presence on site on a weekly basis, for the first six months of operation, as a minimum.

The nominated Facility Manager will attend a recognised training course in waste management, to be agreed with the Agency.

Financial commitments/liabilities

Kilsaran Concrete is a well-established company, in operation for over 50 No. years.

Kilsaran Concrete will be in a position to meet financial commitment/liabilities that may be entered into under the terms of an EPA Waste Licence. See letter from company banking partners attached at the end of Section L (company accounts available upon request).

Low risk facility

The proposed facility is deemed to be low risk, based on the following factors:

- Only inert materials will be accepted at the facility.
- The activity is a restoration activity.
- The activity will not generate leachate, landfill gas or odours.
- No emissions to air are proposed.
- No emissions to water are proposed.
- No emissions to land (i.e. no septic tank/wastewater treatment) are proposed.
- The facility will not generate hazardous waste; only small volumes of incidental non-hazardous waste will be generated, which will be removed off-site to appropriately authorised facilities.

- There is a good working history with neighbours, and as part of the EIS consultation (ref. EIS, section 1.5), the overwhelming majority of neighbours saw the restoration of the quarry back to agricultural land as a positive progression for the site, and for the area in general.
- There are no protected ecological sites proximate to the site.
- The limestone bedrock underlying the site is classified as a Locally Important (Ll) aquifer i.e. bedrock which is moderately productive only in local zones.
- Groundwater vulnerability is currently 'extreme'; the proposed backfilling of the quarry can provide an enhanced degree of protection, over and above that which exists at present.
- The site is not in a public supply Source Protection Area.
- There are no surface water features proximate to the site.
- An Environmental Management System will be implemented at the facility.

ATTACHMENT L.3: Waste Hierarchy

Section 21(A) of the Waste Management Act states that the following waste hierarchy shall apply as a priority order in waste prevention and management legislation and policy:

(a) prevention;
(b) preparing for re-use;
(c) recycling;
(d) other recovery (including energy recovery); and
(e) disposal.

Proposed site restoration activities are deemed to fall within the 'other recovery' category of the waste hierarchy.

The Applicant has little control over how the material is handled at source. Soil and stones are typically generated in bulk at construction and demolition/development sites, and removal of the material off-site is required. Many architects/developers will design a scheme to minimise the amount of material which is required to be removed off-site, thus preventing the waste stream.

There may be some 'pre-treatment' of certain materials before it is delivered to the proposed site for restoration/recovery. This off-site pre-treatment may include concrete crushing, for example.

Any small amounts of non-inert material delivered to the application site will be removed, appropriately stored, and transferred off-site for recovery/disposal to an appropriately authorised facility. Material will be diverted for recovery, in preference to disposal, insofar as possible.

There are limited options for 'preparing for re-use' and 'recycling' of bulk soil and stones in terms of market conditions in Ireland.

ATTACHMENT L.4: Principles of self-sufficiency and proximity

Section 37A of the WMA is concerned more with waste disposal installations and household municipal waste.

It is considered that the proposed facility will service the need for an outlet for Construction & Demolition (C&D) in the region.

C&D waste is a priority waste steam.

The Eastern-Midlands Region (EMR) Waste Management Plan 2015–2021 notes the following:

- *1.9 million tonnes of C&D waste was collected in the EMR in 2012 (2.3 million tonnes in 2010).*
- *As the construction sector begins to record increasing activity during 2014, the importance of C&D plans and their enforcement must be stressed.*
- *Equally, the appropriate processing facilities need to be in place to facilitate increased reuse, recycling and recovery of this waste stream.*

- *…alternative recovery options will be required to facilitate the recovery of C&D waste arising in future years.*
- *Quarries also frequently require large quantities of soil material to fill voids, and for other remediation and landscaping applications.*

▪	