



17 Mitigation Measures

17.1 Introduction

The chapters contained within this EIAR have been ordered in a grouped format by their relevant topic. This chapter summarises all mitigation and monitoring measures proposed in order to provide a comprehensive overview of the full range of mitigation measures discussed within each chapter.

Paragraph 2(d) of the *Planning and Development Regulations 2001 (as amended)*, provides that the following information must be contained in an EIAR:

“A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of analysis after completion of the development), explaining the extent to which significant adverse effects on the environment area avoided, prevented, reduced or offset during both the construction and operational phases of the development;”

The Proposed Development will be operated in a manner that will ensure that the potential impacts on the receiving environment are avoided where possible. In cases where impacts or potential impacts have been identified, mitigation measures have been proposed to reduce the significance of particular impacts. These mitigation recommendations are contained within each chapter exploring the specific environmental aspects.

17.1.1 Examination of Alternatives

The mitigation measures outlined in this EIAR, where appropriate, have been developed by competent experts relevant to the aspect of the environment under consideration and represent best practice with a view of avoiding or otherwise minimising potential impacts on the environment.

17.1.2 Alternative Mitigation Measures

There are no predicted residual impacts once mitigation measures have been successfully applied and therefore mitigation is not considered necessary.

17.2 Summary of Mitigation and Monitoring Measures

17.2.1 Population and Human Health

The following is an outline of the mitigation and monitoring measures assessed under Chapter 5, completed by Tom Phillips + Associates (TPA).

17.2.1.1 Mitigation



No mitigation measures are deemed necessary other than those outlined elsewhere in this EIAR.

17.2.2 Biodiversity

The following is an outline of the mitigation measures proposed during both the operational and construction phases for Chapter 6 completed by Ecology Ireland.

17.2.2.1 Mitigation

The mitigation measures, environmental controls and monitoring commitments described in the other Chapters of the EIAR and NIS will be fully implemented. The mitigation measures as set out in the individual chapters of the EIAR will serve to minimise the potential negative effects of the proposed development on the receiving environment. The measures related to control of emissions (dust, sediment and other water-borne pollutants, noise and light) and traffic are especially relevant to the minimising of risk to biodiversity. Where such measures are reiterated or restated here it is to further highlight the importance of implementing this mitigation. A suitably qualified Ecological Clerk of Works (ECoW) for the project will be appointed and they will supervise and monitor the delivery of the mitigation and enhancement measures throughout the operation of the facility.

Designated Conservation Sites

Measures to ensure that the risk of discharge of pollutants (including silt, cementitious run-off etc.) from the proposed development site, in particular to avoid significant contamination of watercourse downstream of the proposed development site will be outlined in the Environmental Management Plan (EMP) which will contain the conditions put forward in the EIAR and any conditions of planning imposed by the planning authority. The EMP will set out the working hours, traffic management and general environmental commitments that will apply during the project.

Mitigation measures to protect both groundwater and surface water quality during the Operational Phase are detailed in Chapter 8 of the EIAR. The following commitments will be effective in addressing potential negative effects on sensitive downstream habitats and species:

- Provision of a water management system which will include the installation of surface water attenuation and settlement ponds on the quarry floor to cater for water which will allow for settlement of suspended solids.
- Phased restoration will occur where the operational phase will comprise of phased extraction and the subsoil/overburden material removed from each phase will be spread over the previous phased extraction area, and vegetated as soon as possible, thus reducing the area of bedrock exposed at any given time reducing potential impacts to groundwater.
- Removal of soil/subsoil from proposed extension areas will only be carried out during periods of low rainfall.



- Prior to the commencement of construction/enabling works the entire site will be subject to a confirmatory baseline ecology survey to identify any new or existing constraints. This will include checks to confirm that there are no Third Schedule Invasive plant species. In the event that are Third Schedule Plants are present the areas where these plants are growing will be mapped and no works will be allowed to proceed in these affected areas without the implementation of an Invasive Species Management Plan.
- A site-specific protocol for blasting will be implemented which will follow the current international best practice. This protocol will be employed to mitigate the potential effects of explosives on groundwater and surface water quality during blasting operations.
- A dedicated fuelling area on concrete hardstanding will be used for all vehicle re-fuelling operations at the proposed development.
- Fuel in this dedicated fuelling area will be stored in a double skinned, bunded, above ground oil tank.
- A spill tray will be used during refuelling operations and a spill kit will be positioned beside the fuel tank in case of a spillage.
- Drainage from the refuelling area will be routed through a full hydrocarbon interceptor and then a soakaway prior to discharge to ground.
- Refuelling will be completed in a controlled manner using drip trays (bunded container trays) at all times.
- Fuel containers will be stored within existing secondary containment system, e.g. garage, bunds for static tanks or a drip tray for mobile stores.
- Containers and bunding for storage of hydrocarbons and chemicals will have a holding capacity of 110% of the volume to be stored.
- Fuel and oil stores including tanks and drums will be regularly inspected for leaks and signs of damage.
- Drip-trays will be used for fixed or mobile plant such as pumps and generators in order to retain oil leaks and spills.
- Only designated trained operators will be authorised to refuel plant on site.
- Procedures and contingency plans will be set up to deal with emergency accidents or spills.
- An emergency spill kit with oil boom, absorbers etc. will be kept on-site for use in the event of an accidental spill.
- Water from the wheel wash will be recycled and will not enter the settlement ponds or be discharge to surface waters.
- All plant and machinery will be serviced before being mobilised to site and major repairs will be completed off site. Emergency mechanical repairs will use spill kits kept on-site.
- All water from the site will be passed through a hydrocarbon interceptor prior to discharge.
- The proposed development will utilise an established wastewater treatment system.
- The commitments provided in the EIAR in relation to normal working hours, traffic and parking controls to reduce noise/lighting disturbance will be applied.
- The site specific Material Assets chapter of the EIAR includes as Appendix 12.1 a Resource & Waste Management Plan (RWMP) which will be refined and implemented at operational stage as per EPA (2021) C&D Guidelines;



It is considered that with the implementation of the mitigation measures outlined above, the proposed development will not result in any likely, significant effects on groundwater and/or surface water. As a result, there will be no significant potential to affect the conditions within the designated sites hydrologically linked to the Site: River Barrow & River Nore SCA and Cloghrystick Wood pNHA. A NIS accompanies this planning application and with the application of the proposed environmental controls, mitigation and monitoring, it is objectively concluded that no significant effects arising from the proposed development are likely to occur in relation to the Natura 2000 sites (i.e. River Barrow & River Nore SCA or indeed any other Natura 2000 site in the wider hinterland).

Habitats and Flora

- A pre-commencement survey will be carried out to confirm the absence of Third Schedule Invasive Plant species. In the unlikely event that any such species are discovered their location will be mapped and no works will be allowed to continue within the affected areas until the successful implementation of an Invasive Species Management Plan is confirmed by a suitably qualified specialist.
- Acceptance criteria to minimise the potential for import of any soil contaminated with invasive species (e.g. as part of landscaping works) will be fully implemented.
- Excavated soil/subsoil material from the extension area will be used for landscaping throughout the proposed development site and in the construction of boundary berms and will be re-vegetated with native woodland species.
- The landscaping and aftercare commitments outlined in the site restoration plan will be fully implemented. Some progressive restoration will be incorporated into the landscape plan for the site.
- All works will be carried out according to best practice with standard environmental controls in place to prevent any damaging run-off from the site (see CIRIA 2001 & 2015). The environmental control measures outlined in the EMP and the mitigation detailed in the EIAR Chapters will be fully implemented.
- Post-closure of the facility and prior to the full implementation of the final site restoration the site will be surveyed to confirm the absence of rare, protected and invasive species. A suitably qualified ecologist will advise on the correct procedures to be followed to ensure that any rare, protected or invasive species present are dealt with according to the current best practice and legislative framework.

Amphibians

Mitigation for Smooth Newt will consist of the provision of new suitable habitat including a new permanent wildlife pond and a licensed capture and release programme including a long-term monitoring programme. Given the partly aquatic and partly terrestrial life-cycle of Smooth Newt, mitigation will comprise of the following:

- i. identification of suitable relocation sites
- ii. creation of a new pond habitat



- iii. provision and long-term retention of suitable terrestrial habitat (rough grassland, scrub, log and stone piles) around the new pond
- iv. a licensed capture and translocation programme targeting adults, sub-adults and larvae from quarry ponds prior to their removal
- v. a three-year monitoring programme to verify establishment of a viable breeding population and to allow adaptive management of the translocation sites if required.

The capture and release programme will consist of:

- Conduct night torch-light counts and, where appropriate, bottle trapping/hand-netting during the breeding season (spring) when adults are concentrated in ponds. The aim is to collect adults, sub-adults and, where possible, egg-laden females and larvae.
- After the aquatic capture phase, careful hand searches will be conducted of suitable terrestrial refuges (stone piles, rubble, sleepers, debris) in the pond margins before those features are removed. If feasible, suitable features (e.g. stone/rubble piles) will be used to provide suitable terrestrial refuges close to the receptor area(s).
- Release captured individuals directly into the new receptor pond(s) and nearby terrestrial refuges the same night or within 24 hours.

The new pond will provide suitable habitat for Smooth Newt including the following details:

- Pond edge to include at least one area with a gentle slope of 1:10
- Pond will have a source of inflow and outflow
- Include some aquatic vegetation from existing ponds
- Pond will include larger rocks or stone refuges and some logs
- Base of the pond should be lined with pebbles/gravels
- Stock proof fence surrounding pond edge by 6m

Infilling or removal of ponds during peak larval period will be avoided. For Smooth Newt in Ireland the peak larval period in ponds is roughly mid-June to late July. Draining or infilling of the ponds will take place outside of peak breeding (June and July); preferably late autumn when ponds will hold fewer Smooth Newts and most individuals are terrestrial.

In addition, the measures outlined in Section 6.10.1 are largely those which will ensure that the risk of broadcast of pollutants to sensitive ponds within the proposed development site and sensitive downstream habitats are eliminated. These measures will also be effective in reducing the potential effects to aquatic species and habitats in the downstream watercourses.

- Mitigation measures outlined to protect water quality (as described above under the Designated Sites section) will be fully implemented.
- Biological water quality will be monitored annually upstream and downstream of the surface water discharge location.
- All requirements of the EPA for discharge of treated water from the facility will be fully observed.



Non-volant mammals

- The normal operational hours of the quarry facility will be 07:00 to 19:00, Monday to Saturday, except in the event of an emergency.
- A pre-construction mammal survey will be carried out by a suitably qualified ecologist immediately before the commencement of vegetation clearance. This will confirm the findings of the current study and identify any change in the usage of the site, particularly regarding the presence of any protected breeding or resting sites, in the period between the submission of the planning application and the commencement of associated site works. If any resting or breeding places of such species are present within the works footprint this will be discussed with NPWS and any necessary derogation licences (for Annex II/IV species) will be in place prior to works. This is a purely precautionary commitment as no such breeding or resting places were recorded during the site surveys in 2025.
 - Irish Hare can breed at any time of year and any areas due for clearance or significant construction works shall be walked in the week directly before such works are scheduled. In the event that a breeding site is suspected this will be marked and a trail camera erected to confirm activity. The ECoW will review the evidence and advise on any necessary exclusion of areas that need to be avoided until such time as the breeding effort has progressed or resolved. Works will only proceed in the area where a breeding site is suspected on the advice of the ECoW.
- The proposed site speed limits and hours of activity greatly reduce the risks of direct conflict with non-volant mammals.
- Site traffic will be limited to approved routes in order to limit accidental damage to potential foraging or nesting habitats.
- The lighting proposed as part of the development is minimal. Any lighting installed will be downward directed and cowled to minimise light spill. All site lighting that is not required for operation or security will be extinguished.
- Any temporary excavations on site will be fitted with an egress board and inspected prior to works.
- All edible and putrescible wastes will be stored and disposed of in an appropriate manner. Similarly, all construction materials will be stored and stockpiled at planned locations.
- No bioaccumulating pesticides will be used to control pest species on site. This will help protect the health of apex predators that may feed on non-volant mammal species including birds of prey.
- In addition, the measures outlined in Section 6.10.1 are largely those which will ensure that the risk of broadcast of pollutants to sensitive downstream habitats are eliminated. These measures will be effective in reducing the potential effects to aquatic species and habitats in the downstream watercourses.
- Mitigation measures outlined to protect water quality (as described above under the Designated Sites section) will be fully implemented.
- Biological water quality will be monitored annually upstream and downstream of the water treatment discharge location.
- All requirements of the EPA for discharge of treated water from the facility will be fully observed



Bats

- Although no known bat roosts will be lost as a result of the proposed works, in order to enhance bat roosting opportunities locally a minimum of 10 artificial bat roosts (bat-boxes) will be installed at suitable locations around the margins of the land-holding. As recommended in Marnell *et al.* (2022) 'woodcrete' bat boxes will be used as they are durable and long-lasting and do not require maintenance. A mixture of bat-box types will be used to cater for seasonal and species requirements. The following products (or similar) will be installed in consultation with a suitably qualified ecologist:
 - 4 x Schwegler 1FS Colony Bat Box 95
 - 4 x Schwegler 2F Universal Bat Box
 - 2 x Schwegler 2FN Bat Box 55
- Selection of locations for bat boxes will be decided with cognisance of the following:
 - Bat boxes will be installed at a minimum height of 4 meters above ground level, and in locations which are inaccessible to unaided climbing (to minimise risk of vandalism).
 - Boxes will be clustered with a minimum of two boxes on each chosen erection site.
 - Locations will be chosen which are not particularly vulnerable to artificial light or noise pollution.
 - Boxes will be installed so that they have southern or westerly aspects and preferably in locations where they will receive some direct sunlight.
 - Bat boxes will be monitored approximately 12 months following installation, Data on any confirmed roosts will be provided to the National Biodiversity Data Centre (NBDC).

Birds

- There will be no felling of trees, or clearance of woody vegetation, including along the margins of the site during the bird breeding season (March 1st to August 31st inclusive).
- No stockpiles with signs of nesting burrows of Sand Martin will be removed during the bird breeding season, at least until it is confirmed by the ECoW that there are no active burrows.
 - An artificial nesting colony for Sand Martin will be constructed close to the permanent wildlife pond.
 - The award-winning design of the OPW precast Sand Martin wall from the Templemore Flood Relief Scheme will be adopted. The walls are designed to stop predator access with the thickened stem and small entrance hole for the birds. The cavities within the wall widen out towards the rear for the nesting area, with removable caps fitted in the rear so that a bed of sand can be placed inside and to facilitate maintenance and monitoring.
- All stockpiles will be examined prior to excavation and if the presence of breeding birds is suspected all removal of the material in the immediate area will cease pending inspection by the ECoW.



- In the event that stockpiles with the potential for nesting burrows of Sand Martin are to be worked on in the bird breeding season the ECoW will advise on measures to pre-exclude birds from nesting in areas scheduled for removal or reprofiling.
- Any areas due for minor clearance or significant construction works shall be walked in the week directly before such works are scheduled. In the event that a breeding site is suspected this will be marked and a trail camera erected to confirm activity. The ECoW will review the evidence and advise on any necessary exclusion of areas that need to be avoided until such time as the breeding effort has progressed or resolved. Works will only proceed in the area where a breeding site is suspected on the advice of the ECoW.
- Peregrine Falcon activity will be monitored annually during the operational phase, with liaison maintained with NPWS to inform the local wildlife officials of the status of Peregrine Falcon and their nests at the site.
- In the event a nesting attempt is discovered at the site, no drilling or blasting activity will be permitted within 300m of the nest site in the period April-July (inclusive) without the agreement of the ECoW, who will be present to monitor any blasting undertaken in a period when nesting Peregrines are active. The ECoW will have 'stop works' authority for high impact activities (e.g. drilling and blasting).
- Any lighting proposed as part of the development will be downward directed and cowed to minimise light spill. All site lighting that is not required for operation or security will be extinguished.
- All edible and putrescible wastes will be stored and disposed of in an appropriate manner. Similarly, all construction materials will be stored and stockpiled at planned locations.

17.2.3 Land, Soils, and Geology

The following is an outline of the mitigation measures based on the assessments in Chapter 7, conducted by Hydro Environmental Services (HES).

17.2.3.1 Mitigation

Operational Phase

Land-Take and Topographic Changes

Given the local undulating topography of the local area, any change to topography is likely to be minimal within the context of the overall landscape. The stripped overburden material and the material from the existing stockpiles, will be used in the construction of boundary berms surrounding the proposed extraction area, with excess spoil to be stored in the proposed spoil storage area. The construction of the boundary berms will assist in screening the Proposed Development and assimilating into the landscape.

Mitigation will include a phased restoration plan which will return the proposed extraction areas to agricultural land and scrubland.



Excavation of Soils and Subsoils

The impacts of site earthworks will be localised (i.e. only within the proposed extraction area) and will be mostly mitigated through the adoption of a suitable landscape and restoration plan which will be undertaken as part of a phased restoration phase. The stripped topsoil will be used to form berms around the proposed extraction area, with any excess spoil being stored in the designated spoil storage area.

The soils/subsoils to be excavated are not notable from a geological heritage point of view.

Oil/Fuel Spillages and Leaks

The highest standards of site management and utmost care and vigilance will be followed to prevent accidental contamination of soils/subsoils and/or bedrock during the operational phase of the Proposed Development.

The mitigation measures include:

- A dedicated fuelling area on concrete hardstanding will be used for all vehicle re-fuelling operations at the Proposed Development Site;
 - Fuel in this dedicated fuelling area will be stored in a double skinned, bunded, above ground oil tank;
 - A spill tray will be used during refuelling operations and a spill kit will be positioned beside the fuel tank in case of a spillage;
 - Drainage from the refuelling area will be routed through a full hydrocarbon interceptor and then a soakaway prior to discharge to ground;
- All plant and machinery will be serviced before being mobilised to site;
- Refuelling will be completed in a controlled manner using drip trays (bunded container trays) at all times;
- Fuel containers will be stored within existing secondary containment system, e.g. garage, bunds for static tanks or a drip tray for mobile stores;
- Containers and bunding for storage of hydrocarbons and chemicals will have a holding capacity of 110% of the volume to be stored;
- Fuel and oil stores including tanks and drums will be regularly inspected for leaks and signs of damage;
- Drip-trays will be used for fixed or mobile plant such as pumps and generators in order to retain oil leaks and spills;
- Only designated trained operators will be authorised to refuel plant on site;



- Procedures and contingency plans will be set up to deal with emergency accidents or spills; and,
- An emergency spill kit with oil boom, absorbers etc. will be kept on-site for use in the event of an accidental spill.

Erosion of Exposed Soils and Subsoils

The following Mitigation Measures are proposed:

- Soil removed from the proposed lateral extension area will be used to create a boundary berm around the extraction site, with excess spoil being stored in the proposed designated spoil storage area;
- Where possible the upper vegetative layer (where still present) will be stored with the vegetation part of the sod facing the right way up to encourage growth of plants and vegetation at the surface of the stored soil within the restored areas; and,
- Re-seeding and spreading/planting will also be carried out in these areas.

Bedrock Extraction

The bedrock is considered to be of 'High' importance and has high potential for the development of a quarry. The Proposed Development is a lateral expansion of a historic quarry void. The presence of the historic quarry indicates the economic suitability of this area for the continuation and lateral expansion of the quarry.

The proposed bedrock extraction is considered to be an acceptable and unavoidable part of the Proposed Development. However, the effects will be localised within the proposed extraction area of ~15.52ha.

Therefore, no specific mitigation measures in relation to excavation of bedrock are required. The rock to be quarried at the Proposed Development Site is not notable from a geological heritage point of view.

17.2.4 Hydrology

The following is an outline of the mitigation measures proposed as part of the assessment under Chapter 8 of this EIAR, conducted by Hydro Environmental Services.

17.2.4.1 Mitigation Measures

Operational Phase

Groundwater Vulnerability



The main mitigation with respect groundwater quality protection during this phase will be employment of best practice measures with respect to oil usage and refuelling of plant and machinery which are dealt with in Section 8.6.1.6.

Furthermore, the operational phase will comprise of phased extraction and the subsoil/overburden material removed from each phase will be spread over the previous phased extraction area, thus reducing the area of bedrock exposed at any given time. The mitigation for the protection of groundwater vulnerability is therefore, through the implementation of the phased restoration.

Downstream Surface Water Flow Volumes

The proposed water management system will direct surface water and any minor groundwater inflows in the site towards suitably designed settlement lagoons on the quarry floor. These lagoons will serve to attenuate discharge from the site and will ensure that discharge rates do not exceed the greenfield runoff rates or the maximum permitted daily discharge volume as per the discharge licence.

The proposed infrastructure will attenuate storm water so that any increase in discharge volumes during storm events are gradual and controlled, preventing an increase in the flood risk downstream of the Proposed Development Site.

Suspended Solids in Surface Waters

Management of Drainage from Spoil Storage Areas: Excavated soil/subsoil material from the extension area will be used for landscaping throughout the Proposed Development Site and in the construction of boundary berms. Berms will be sealed with a digger bucket and vegetated as soon possible to reduce sediment entrainment in drainage water. Once re-vegetated and stabilised berms will no longer be a potential source of silt laden drainage water.

The topsoil/overburden removed from one phased extraction area will be spread over the void created in the previous phased extraction area. These reinstated areas will be within the quarry void, which will have a bowl-shaped topography and all run off will be directed to the water management system.

Timing of Site Preparation Works: The removal of soil/subsoil from the other proposed extension areas will only be carried out during periods of low rainfall. This will minimise the risk of entrainment of suspended sediment in drainage water.

No other mitigation measures are required.

Groundwater and Surface Water Quality Due to Blasting



Red Rock Quarry will operate a site-specific protocol for blasting which will follow the current international best practice. This protocol will be employed to mitigate the potential effects of explosives on groundwater and surface water quality during blasting operations.

Groundwater Levels

The proposed extraction will only extend to 300mOD, thereby significantly limiting the potential for effects on groundwater levels.

Site investigations and groundwater monitoring has revealed that the rock underlying the Proposed Development Site is of low permeability. No significant groundwater inflow occurs into the existing quarry void with the current discharge rate from the quarry estimated to be 172.8m³/day (2l/s). Groundwater inflow will therefore be minimal, and the Proposed Development will not have the potential to significantly impact local groundwater levels.

Furthermore, there will be no significant alteration of local groundwater recharge or surface water runoff rates as a result of the Proposed Development.

No specific mitigation measures are required.

Oil and Fuel Spillages

The Proposed Development will utilise a water management system designed to prevent contamination of local surface waters with hydrocarbons.

Water from the wheel wash will be recycled and will not enter the settlement ponds or be discharge to surface waters.

In addition, the following measures will be implemented to ensure that surface waters are not contaminated with hydrocarbons:

- Hydrocarbons at the Proposed Development site will be delivered via fuel truck;
- There will be no storage of hydrocarbons on site;
- Major repairs will be completed off site. Emergency mechanical repairs will use spill kits kept on-site;
- All water from the site will be passed through a hydrocarbon interceptor prior to discharge; and,
- All activities on site will be completed in accordance with the EMP.

Highest standards of site management will be maintained and utmost care and vigilance followed to prevent accidental contamination or unnecessary disturbance to the site and surrounding environment during the operation of the quarry.



Wastewater Disposal

The Proposed Development will utilise an established wastewater treatment system.

The Proposed Development does not include any discharge of untreated wastewater to ground or surface waters.

Ground Water Supplies

There will be no effects on the Ballinabranna GWS for the following reasons:

- The separation distance (~2.4km) between the Proposed Development Site and the boreholes which supply the Ballinabranna GWS;
- No area of the Proposed Development Site is located within the delineated Source Protection Area associated with this GWS. The Source Protection Area is located ~600m to the south;
- The low permeability of the bedrock underlying the Proposed Development Site means that the majority of potential groundwater recharge is rejected;
- Groundwater flowpaths will be short with groundwater discharging into nearby surface watercourses;
- Therefore, there is no potential for groundwater at the Proposed Development Site to reach the Ballinabranna GWS boreholes;
- Furthermore, there will be no significant inflow of groundwater into the quarry void and the Proposed Development has very limited potential to alter groundwater recharge rates;
- Detailed, tried and tested, best practice mitigation measures for the protection of groundwater quality are prescribed in Section 8.7.1.5 (hydrocarbons), Section 8.7.1.2 (suspended solids), Section 8.7.1.3 (blasting) and Section 8.6.1.7 (wastewater); and,
- These mitigation measures are used at similar bedrock quarries across the county and are proven to protect the hydrogeological environment.

Groundwater Well Supplies

There will be no effects on the local groundwater well supplies for the following reasons:

- The separation distance between the Proposed Development Site and local well supplies;
- The low permeability of the bedrock underlying the Proposed Development Site means that the majority of potential groundwater recharge is rejected;



- No conduits for groundwater flow are present at the Proposed Development Site that could act as a pathway for potential contaminants;
- Groundwater flowpaths will be short with groundwater discharging into nearby surface watercourses;
- There will be no significant inflows of groundwater into the quarry void and the Proposed Development has very limited potential to alter groundwater recharge rates;
- Therefore, there will be no potential for the Proposed Development to impact groundwater levels or groundwater quantity in local well supplies;
- Nevertheless, detailed, tried and tested, best practice mitigation measures for the protection of groundwater quality are prescribed in Section 8.7.1.5 (hydrocarbons), Section 8.7.1.2 (suspended solids), Section 8.7.1.3 (blasting) and Section 8.6.1.7 (wastewater); and,
- These mitigation measures are used at similar bedrock quarries across the county and are proven to protect the hydrogeological environment.

Downstream Designated Sites

There is no potential for effects on the River Barrow and River Nore SAC or Cloghrick Wood pNHA for the following reasons:

- Whilst the Proposed Development is hydrologically connected to the Barrow River and these designated sites, the Proposed Development is in excess of 2km from the Barrow;
- The length of the hydrological flowpath between the Proposed Development Site and the SAC is >2.5km whilst the flowpath to the pNHA is ~6km;
- There is limited potential for effects due to the volume of water within the Barrow River in comparison to the proposed discharge volumes;
- However, the Proposed Development does not rely on the dilution or assimilative capacity of any downstream watercourse;
- Nevertheless, the Proposed Development will utilise a water management system designed to prevent contamination of local surface waters with hydrocarbons or suspended solids;
- The detailed, tried and tested, best practice mitigation measures presented in Section 8.6.1.2 (surface water flows), Section 8.6.1.3 (suspended solids), Section 8.6.1.4 (blasting), Section 8.6.1.6 (hydrocarbons) and Section 8.6.1.7 (wastewater), will ensure the protection of all watercourses in the immediate vicinity of the Proposed Development Site;
- By ensuring the protection of watercourses proximal to the site, the status of all downstream designated sites is also protected.



WFD Status

Strict mitigation measures in relation to the protection of surface waters and groundwaters have been described in the preceding sections. The implementation of these mitigation measures will ensure the quantitative and qualitative status of the receiving SWB and the underlying GWB will not be altered.

There will be no change in the WFD status of the underlying GWB or downstream SWBs resulting from the Proposed Development. As such, the Proposed Development is compliant with the requirements of the Water Framework Directive (2000/60/EC).

Restoration Phase

Similar mitigation measures prescribed above for the construction phase will be implemented during the restoration phase.

17.2.4.2 Monitoring

Operational Phase

Groundwater level monitoring will continue at the exiting monitoring wells and data loggers have been installed in these wells for continuous groundwater level monitoring.

Surface water monitoring will be completed through the operational phase of the proposed development, with monitoring of discharge water quality and flow volumes.

Groundwater quality should also be completed on a bi-annual basis and shall include testing for the following parameters:

- pH
- BOD
- Ammonia (as N)
- Nitrate
- Total Nitrogen (as N)
- Orthophosphate (as P)
- Total Dissolved Solids
- Dissolved Metals ((Cd, Cu, Fe, Pb, Mg, Mn, Ni & Zn)
- Total Petroleum Hydrocarbons
- Diesel Range Organics
- Petrol Range Organics
- Total Coliforms
- Faecal Coliforms

No monitoring is required during the restoration phase.

17.2.5 Air



The following is an outline of the mitigation measures proposed as assessed under Chapter 9 of this EIAR, conducted by AWN Consulting Limited.

17.2.5.1 Mitigation Measures

There are a number of mitigation measures proposed to prevent significant dust emissions from on-site activities. These measures include:

- The site contains an existing wheel wash which will be maintained. All trucks must pass through the wheel wash prior to exiting onto the private site access road.
- Site roads will be dampened using wet methods during dry periods.
- Inspection, sweeping and cleaning of site roads and adjoining public roads will be undertaken on a regular basis, minimum every other day. A road sweeper will be utilised if required.
- All fine materials will be covered when leaving the site to prevent dust escaping.
- Speeds restrictions will in place on site. Speeds will be reduced to a maximum of 20 kmph.
- Drop heights will be minimised when handling material.
- The perimeter natural vegetation and screening mounds will be maintained to allow for natural screening of dust from nearby receptors.
- Idle times will be reduced by providing an efficient material handling plan that minimizes vehicle wait time.
- Regular maintenance of plant and equipment will be undertaken to ensure they will perform the most efficiently.
- Traffic management measures will be implemented.

Uncontrolled stockpiles are a significant source of dust emissions. Without adequate controls in place there is the potential for significant dust impacts from stockpiling activities. The following good practices in relation to stockpiles will be implemented:

- Where possible stockpiles will be sited to take advantage of shelter from wind. Stockpiles within the quarry void will be protected from significant dust blow due to the topography.
- All stockpiles will be kept damp using wet methods during dry periods.
- The bucket of the loading shovel will be kept low when tipping.
- Speeds will be reduced on the ramps to the stockpile.



- The destocking of a stockpile will be confined to a single discrete area.
- Regular toolbox talks will be held with the loading shovel drivers to ensure they employ best practice when working stockpiles.

These measures have been incorporated into the modelling assessment to determine the impact of the site on levels of dust deposition and ambient levels of particulate matter (PM10 / PM2.5). Without the above mitigation in place there is the potential for significant dust impacts. With mitigation in place impacts on ambient air quality will be insignificant.

17.2.5.2 Monitoring

Monitoring for dust deposition is proposed using the Bergerhoff Method as per German Standard VDI 2119. This monitoring methodology is best practice for quarry sites. Monitoring is recommended to occur along the site boundary and compliance with the TA Luft limit value of 350 mg/m²/day assessed over the monitoring period of 30 days (+/- 2 days). Monitoring will indicate whether dust mitigation measures are working satisfactorily and whether quarrying operations are leading to potential off-site dust impacts.

17.2.6 Climate

The following is an outline of the mitigation measures proposed during both the operational and construction phases for Chapter 10 conducted by AWN Consulting Limited.

17.2.6.1 Mitigation Measures

Construction Phase

Due to the minimal nature of the construction works significant impacts to climate are not predicted and no mitigation is proposed. The primary impacts to climate will occur as part of the day-to-day operational activities on site.

Operational Phase

A key target in CAP25 is reducing the embodied carbon of construction materials.

The Applicant (Milford Quarries) are actively engaged with the Sustainable Energy Authority Ireland (SEAI). under its Excellence in Energy Efficient Design (ExEED) program to support the electrification of the aggregate production process. The Applicant has completed a trial project with SEAI which was very successful and indicated energy reduction intensities of 30%. This project will be audited by NSAI in February 2026, and it is envisaged that the project will be certified to ExEED Designed Certification. Subsequently as a result of the success of this project two further ExEED projects have been approved by the SEAI. It is anticipated that further carbon reduction projects will be implemented at Milford Quarries. These measures will include the addition of renewable technologies such as solar.



The above indicates that at a company level the Applicant has a commitment to reducing its climate impact and the effects of their identified strategies through the ExEED projects can apply to the proposed development where appropriate.

These identified measures will aid in reducing the impact to climate during the operational phase of the proposed development in line with the goals of the Climate Action Plan.

17.2.6.2 Monitoring

Monitoring and reporting of the embodied carbon in the operational phase is recommended and the reporting of these as part of annual Scope 1, 2 and 3 GHG emissions. The aim of monitoring will be to seek further ways to minimise climate impacts. Monitoring will include contractual obligations, in line with the most recent Climate Action Plan and sectoral targets, to ensure that the proposed development stays in line with updated aims. Monitoring will include water usage, power and fuel usage, and waste generation (including reuse and recycling rates). Where monitoring shows that the proposed development is not meeting its targets, further mitigation will be put in place.

Monitoring shall also include reviewing potential for extreme weather events which may cause damage during operations. The applicant site's Environmental Management System (EMS) will include measures to address risks during such events i.e. flooding.

17.2.7 Noise & Vibration

The following is an outline of the mitigation measures proposed during both the operational and construction phases for Chapter 11 of this EIAR, conducted by Wave Dynamics.

17.2.7.1 Mitigation Measures

Construction Phase

Noise Mitigation Recommendations

Best practice control measures for noise from construction sites are found within BS 5228 (2009 +A1 2014) part 1. Construction noise impacts are expected to vary during the construction phase of the project; this impact will depend on the distance between the construction activities and noise sensitive receptor. The contractor will ensure that all best practice noise and control methods will be used, to ensure any negative noise impacts at off-site noise sensitive locations are minimised.

The best practice measures set out in BS 5228 (2009) Part 1 includes guidance on several aspects of construction site mitigation measures; this includes:

- The selection of quiet plant and equipment
- Noise control at source of the noise



- Screening; and
- Public liaison.

General Recommendations

This section of the report sets out noise mitigation options and detailed comment on each one specifically for this site.

Selection of Plant and Machinery

The noise impact of all plant and machinery should be assessed prior to selection of the plant for the project. Where an item of plant is identified as noisy with the potential to cause a negative noise impact it should be reviewed to check if there is an alternative quieter version of the same plant to undertake the same construction task.

Noise Control at Source

Where replacing a noisy item of plant is not viable or practical, consideration should be given to control that noise at source. This includes modifying the piece of plant or machinery to generate less noise, using dampening to control vibration induced noise or rattling. Example best practice mitigation measures to be considered are as follows:

- All plant and equipment to be switched off when idling.
- The use of white noise reversing alarms.
- Restriction on the dropping and loading of materials to less sensitive hours.
- The use of local screening for noisy activities or works with hand tools.
- Not dropping materials onto hard surfaces and using rubber mats etc for the dropping of materials.
- Ensure all plant and equipment is well maintained and cleaned, all lubrication should be in line with manufacturers guidelines.

Screening

Screening when used correctly can be an effective method of reducing the construction noise impact on the NSL's. The use of site hoarding and careful selection of areas for noise works, using buildings on the site, site offices and the building being constructed to screen noise from the works. Local screening of noisy works with the use of temporary acoustic barriers, examples are provided below:

- <https://ventac.com/acoustic-products/noisebreak-acoustic-barrier/>
- <https://echobarrier.com/>



Figure 17.1: Temporary Construction Noise Barrier ©Ventac, extracted from Chapter 11 of this EIAR by Wave Dynamics.

Public Engagement

It is recommended that a public liaison officer should be put forward by the contractor to liaise with the local residents on matters relating to noise. Residents should be informed of any noise works scheduled where there is the potential to generate high levels of construction noise or if specialist works etc need to be conducted out of the working hours. This person should also be the point of contact for all complaints and be responsible for reviewing the noise monitoring results and exceedances.

“Worst-Case” Scenario

The development has been assessed based on the “worst case” scenario basis. It considers all plant and equipment operating at the same time for both the operational assessment of the new development and the cumulative impact assessment.

Operational Phase

Blasting

Blasting can be an emotive issue for residents around an opencast site. Good liaison between operator and residents is essential to prevent unnecessary anxiety. Wherever possible, the operator should inform each resident of the proposed times of blasting and of any deviation from this programme in advance of the operations. On each day that blasting takes place it should be restricted as far as practicable to regular periods.



The nearer a site is to noise-sensitive receptors or locations, the more stringent should be the controls on noise emissions. During any blasting there are several methods of noise control:

- Earth mounds erected around the site boundary can provide acoustic as well as visual screening. A buffer zone can be maintained between the excavation area and the site boundary; the width of the zone needs to be decided on a case-by-case basis, depending on such factors as the nature and scale of extraction and the settlement pattern in the vicinity. Soft ground (e.g. grassland and cultivated fields) attenuation can sometimes have a greater impact in reducing noise than barrier attenuation, especially if the ground supports sound-absorbing vegetation;
- Conveyor belts and crushing/screening equipment can be housed to provide acoustic screening. It is important that sound-reduction equipment fitted to machinery is used and maintained properly;
- Haul roads within the site should have as low a gradient as possible, and paving should be considered if practicable where noise-sensitive receptors are likely to be affected;
- For deep workings, quarry faces may provide a barrier, depending on the relative location of the quarry face and the noise-sensitive area or property;
- The professional control of drilling and blasting operations can ensure, through design of the layout of the workings, that blasts are directed away from sensitive neighbouring dwellings. Use of the “delayed” blasting technique, whereby the blast takes place in a series of timed small explosions rather than a single large blast, helps to minimise the vibration in the rock body; and
- It is recommended that quarry operators provide advance notification of blasting to nearby residents, e.g. through written notices or by using warning sirens, or other locally agreed arrangements.

17.2.7.2 Monitoring

Construction Phase

Construction noise monitoring will be undertaken at periodic sample periods on the boundary with the nearest noise sensitive receptors by the Quarry operator.

Noise monitoring should be conducted in accordance with the International Standard ISO 1996: 2017: Acoustics – Description, measurement and assessment of environmental noise.

Vibration Monitoring

Vibration monitors should be erected during the site setup and access road construction works phase of the development. These should be erected on the boundary with the nearest sensitive receptors to the site.

The Vibration monitoring stations should continually log vibration levels using the Peak Particle Velocity parameter (PPV, mm/s) in the X, Y and Z directions, in accordance with BS ISO



4866: 2010: Mechanical vibration and shock – Vibration of fixed structures – Guidelines for the measurement of vibrations and evaluation of their effects on structures.

Vibration Limits

The recommended vibration limits to avoid cosmetic damage to buildings, as set out in:

- British Standard BS7385: 1993: Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from ground borne vibration, and;
- British Standard BS5228-2: 2009 + A1: 2014: Code of practice for noise and vibration control on construction and open sites – Vibration.

The standards note that minor structural damage can occur at vibration magnitudes which are greater than twice those presented below major damage to a building structure is possible at vibration magnitudes greater than four times the values set out in Definitions of the damage categories are presented in BS 7385-1:1990.

Vibration PPV at the closest part of sensitive property to the source of vibration		
Frequency		
4 to 10 HZ	15 to 40Hz	40Hz and above
15 mm/s	20 mm/s	50 mm/s

Table 17.1: Vibration Limits

17.2.8 Material Assets: Waste

The following is an outline of the mitigation measures proposed during both the operational and construction phases for Chapter 12 conducted by AWN Consulting Limited.

17.2.8.1 Mitigation Measures

This section outlines the measures that will be employed in order to reduce the amount of waste produced, manage the wastes generated responsibly and handle the waste in such a manner as to minimise the effects on the environment.

The concept of the 'circular economy'(CE) and 'waste hierarchy' are employed when considering all mitigation measures.

While the waste hierarchy states that the preferred option for waste management is prevention and minimisation of waste, followed by preparing for reuse and recycling / recovery, energy recovery (i.e. incineration) and, least favoured of all, disposal.

Construction Phase



The following mitigation measures will be implemented during the construction phase of the development:

WM_1: As previously stated, a project-specific RWMP has been prepared in line with the requirements of the EPA 'Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects' (2021) and is included as Appendix 12.1. The mitigation measures outlined in the RWMP will be implemented in full and form part of the mitigation strategy for the site. The mitigation measures presented in this RWMP will ensure effective waste management and minimisation, reuse, recycling, recovery and disposal of waste material generated during the excavation and construction phases of the Proposed Development.

- Prior to commencement, the appointed Contractor(s) will be required to refine / update the RWMP (Appendix 12.1) in agreement with CCC and in compliance with any planning conditions, or submit an addendum to the RWMP to CCC, detailing specific measures to minimise waste generation and resource consumption, and provide details of the proposed waste contractors and destinations of each waste stream.
- The Quarry Operator will implement the RWMP throughout the duration of the excavation and construction phases.

WM_2: A quantity of overburden (glacial tills) will need to be excavated to facilitate the Proposed Development. The Minerals Surveyors have estimated that all of the excavated material will be reused on-site. In the unlikely event if removal is required then correct classification and segregation of the excavated material is required to ensure that any potentially contaminated materials are identified and handled in a way that will not impact negatively on workers as well as on water and soil environments, both on and off-site.

WM_3: Building materials will be chosen to 'design out waste';

WM_4: On-site segregation of waste materials will be carried out to increase opportunities for off-site reuse, recycling and recovery. The following waste types, at a minimum, will be segregated:

- Clean Soil;
- Contaminated Soil (if located on site);
- Concrete rubble (including ceramics, tiles and bricks);
- Metals;
- Glass; and
- Timber

WM_5: Left over materials and any suitable construction materials shall be re-used on-site, where possible; (alternatively, the waste will be sorted for recycling, recovery or disposal);

WM_6: All waste materials will be stored in skips or other suitable receptacles in designated areas of the site;



WM_7: Any hazardous wastes generated (such as chemicals, solvents, glues, fuels, oils) will also be segregated and will be stored in appropriate receptacles (in suitably bunded areas, where required);

WM_8: A Resource Manager will be appointed by the main Contractor(s) to ensure effective management of waste during the excavation and construction works;

WM_9: All construction staff will be provided with training regarding the waste management procedures;

WM_10: All waste leaving site will be reused, recycled or recovered, where possible, to avoid material designated for disposal;

WM_11: All waste leaving the site will be transported by suitably permitted contractors and taken to suitably registered, permitted or licenced facilities;

WM_12: All waste leaving the site will be recorded and copies of relevant documentation maintained;

WM_13: These mitigation measures will ensure that the waste arising from the construction phase of the Development is dealt with in compliance with the provisions of the Waste Management Act 1996, as amended, associated Regulations and the Litter Pollution Act 1997, as amended and the NWMPCE. It will also ensure optimum levels of waste reduction, reuse, recycling and recovery are achieved and will promote more sustainable consumption of resources.

Operational Phase

During the facilities operations, waste materials will be segregated on-site, where possible, into at least the following non-hazardous waste types:

WM_14: Waste volumes generated on site are low and primarily consist of the following waste streams that will derive from either the canteen or the maintenance of on-site mobile plant:

- LoW/EWC 20 01 08 biodegradable kitchen and canteen waste
- LoW/EWC 20 03 01 mixed municipal waste
- LoW/EWC 16 01 07* oil filters
- LoW/EWC 16 01 13* brake fluids
- LoW/EWC 16 01 99 wastes not otherwise specified
- LoW/EWC 13 05 03* interceptor sludges

WM_15: All waste materials will be segregated into appropriate categories and will be stored in appropriate bins or other suitable receptacles in a designated, easily accessible areas of the site. Bins will be clearly identified with the approved waste type to ensure there is no cross contamination of waste materials.



WM_16: All wastes generated by the servicing and maintenance of plant is immediately removed from site by the service contractor.

WM_17: Sludges from the on-site interceptor is removed on a regular basis (at least annually) by a suitably licensed operator.

WM_18: During the operational phase, personnel will monitor waste generation volumes against previous yearly quantities. There may be opportunities to reduce the waste receptacles, collection frequencies and equipment required where estimates have been too conservative. Reductions in equipment/bin requirements will reduce waste contractor costs. Waste legislation should also be consulted on a regular basis in case of any changes which may impact on waste management procedures.

WM_19: The operator and staff will ensure that all waste leaving the site will be transported by suitably permitted contractors and taken to suitably registered, permitted, or licensed facilities.

These mitigation measures will ensure the waste arising from the development is dealt with in compliance with the provisions of the Waste Management Acts 1996 - 2011 and associated Regulations, the Litter Pollution Act of 1997 as amended and the NWMPCE. It will also ensure optimum levels of waste reduction, reuse, recycling and recovery are achieved.

17.2.8.2 Monitoring

The management of waste during the construction phase will be monitored by the Contactor's appointed Resource Manager to ensure compliance with the above-listed mitigation measures, and relevant waste management legislation and local authority requirements, including maintenance of waste documentation.

The management of waste during the operational phase will be monitored by the Operator / Personnel to ensure effective implementation of the operational mitigation by the nominated waste contractor(s).

Likely Significant Effect	Monitoring Proposals
Litter Pollution (Construction Phase)	The Contractor will review and maintain waste records and site audits
Unlicensed Waste Collection (Illegal Dumping) (Construction Phase)	A register will be maintained and reviewed. A copy of all waste collection permits will be maintained.
Insufficient Waste Facilities	A register will be maintained and reviewed. A copy of all waste collection permits will be maintained.
Lack of Waste Classification	An appointed Resource Manager will monitor all on-site waste segregation and classification



Unlicensed Waste Collection (Illegal Dumping) (Operational Phase)	The operator/facilities management company will maintain waste receipts on-site for a period of 7 years and make available to CCC as requested.
Poor Waste Segregation	Waste generation volumes and cross contamination will be monitored by the operator/facilities management company
Litter Pollution (Operational Phase)	Waste storage areas will be monitored by the operator/facilities management company

Construction Phase

The objective of setting targets for waste management is only achieved if the actual waste generation volumes are calculated and compared. This is particularly important during the excavation and construction phases where there is a potential for waste management to become secondary to progress and meeting construction schedule targets.

The management of waste during the construction phase shall be monitored to ensure compliance with relevant local authority requirements, and effective implementation of the RWMP, including maintenance of waste documentation. The mitigation measures in the RWMP specify the need for a Resource Manager to be appointed who will have responsibility to monitor the actual waste volumes being generated and to ensure that contractors and sub-contractors are segregating waste as required. Where targets are not being met, the Resource Manager shall identify the reasons for targets not being achieved and work to resolve any issues. Recording of waste generation during the construction phase will enable better management of waste contractor requirements and identify trends. The data will be maintained to advise on future projects.

Operational Phase

The management of waste during the operational phase shall be monitored to ensure effective implementation of mitigation measures by facilities management and the nominated waste contractor(s). There may be opportunities to reduce the number of bins and equipment required in the Waste Storage Area where estimates have been too conservative. Reductions in bin and equipment requirements will improve efficiency and reduce waste contractor costs.

17.2.9 Traffic

The following is an outline of the mitigation measures proposed during both the operational and construction phases for Chapter 13 conducted by Transport Insights.

17.2.9.1 Mitigation Measures

Construction Phase

As part of the construction phase, a number of mitigation measures are proposed. These are as follows;



- In order to minimise the potential impact on the local road network surfaces, road cleaning is proposed to be implemented on site during the earliest construction phase (e.g. earth extraction) to mitigate against material such as dust, earth, debris etc. from entering the local road network, as required.
- Furthermore, as outlined above, the site shall be cleared to allow the parking of all construction vehicles including staff vehicles within the bounds of the subject site.
- Haul routes outlined within Figures 13.9 & 13.10 will be strictly adhered to by construction vehicles so as not to have an undue impact on unsuitable local roads.
- These haul routes shall be strictly controlled by the client or the appointed main constructor during the duration of the construction phase with all construction vehicle operators employed being issued maps of sanctioned haul routes to and from the site and under strict instructions to follow these routes.

Operational Phase

As part of the operational phase, several mitigation measures are proposed, which are as follows:

- To ensure adequate visibility for vehicles egressing the site of oncoming traffic to both the north and south, it is proposed to ensure that the required sightlines of 90 metres (in accordance with the County Development Plan) are achievable in both directions to ensure adequate visibility of drivers egressing the site of oncoming traffic. See Appendix 13.1 of this document.
- The site access junction will also be provided with stop road markings and signage to ensure that vehicles egressing the site are mandated to come to a full stop before turning onto the L7130.
- Haul routes outlined within Figures 13.9 & 13.10 shall be strictly controlled by the client for the duration of the operational phase with all heavy vehicle operators employed being issued maps of sanctioned haul routes to and from the site and under strict instructions to follow these routes.

17.2.9.2 Monitoring

Construction Phase

The potential impact of construction traffic on the local road network in the vicinity of the site will be monitored during the construction phases, with regular observations of the local road network. Should monitoring indicate any excess mud or debris on the road, a road sweeper can be organised (if required) to clean the surface.

Compliance with haul routes to site will be monitored for the duration of the construction phase with spot checks carried out to ensure that any construction vehicles follow the haul routes prescribed.



Operational Phase

Compliance with haul routes to site will be monitored continuously during the operational phase with spot checks carried out to ensure that all heavy vehicles follow the haul routes prescribed. Only pre-approved sources, authorised collection companies, sign up to agreed haulage routes as part of approval process.

17.2.10 Archaeology

The following is an outline of the mitigation measures proposed during both the operational and construction phases for Chapter 14 conducted by Dr. Charles Mount Archaeology and Cultural Heritage.

No direct effects warranting specific mitigation were identified during the cultural heritage assessment. Due to the possibility of the survival of previously unknown sub-surface archaeological deposits or finds within the application area, in areas 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 all soil-stripping in these areas should be archaeologically monitored under licence from the National Monuments Service.

17.2.11 Landscape Visual Impact Assessment

The following is an outline of the mitigation measures proposed during both the operational and construction phases for Chapter 13 of this EIAR, conducted by Macro Works (APEM).

The main mitigation by avoidance measure employed in this instance is the siting of the proposed development adjacent and contiguous with the existing quarry, which is a long-established land use in the area. Additionally, the proposed development is situated in a contained landscape context that avails of a high degree of existing screening in the form of existing vegetated berms and surrounding mature vegetation. The proposed development is also contained in a landscape context already influenced by the extractive industry within the study area, which limits its potential to present as a new or incongruous development type.

A restoration plan is also proposed as part of the application, which outlines the proposed restoration of the site once it is decommissioned. This will involve the pulling back of steep slopes for both safety and native vegetation establishment in a naturalistic mosaic pattern that maximises potential for biodiversity.

Retention of existing vegetated berms around the site will retain visual screening of the quarry from visual receptors in the surrounding area. The implementation of additional restoration planting will ensure dense and consistent screening of the quarry in perpetuity.

As mitigation measures are largely embedded in the siting and design of the proposed quarry extension there is no material differentiation between pre-mitigation and post-mitigation effects in this instance.