

➤ **STANDARD OPERATIONAL MITIGATION MEASURES**

DISCIPLINE

Noise

- Use of plant fitted with effective exhaust silencers and noise insulation.
- Use of SMART reversing alarms where practicable to reduce the effects of reversing beepers on site vehicles.
- All plant to be regularly serviced, maintained and operated in accordance with the manufacturer's instructions. Machines that are intermittently used should be shut down in the intervening.
- Local communities to be kept informed of general site activities, including working hours via the Westdown quarry liaison committee.
- Ensuring that the direction of working of the extraction is such that plant operates behind a working face as much as possible to enhance the available barrier attenuation to any sensitive receptors.
- All reasonable steps should be taken to limit the amount of HGVs queuing or waiting to enter/exit the site.
- All activities in close proximity to the site boundary should be undertaken as quickly and efficiently as possible.
- With the exception of acoustically enclosed generators, pumps and electric plant, all static plant should be shut down when not in use.
- The stocking area be designed and operated in order to reduce the drop heights of materials wherever possible; and
- Appointment of onsite contact to which complaints/queries about construction activities can be directed. Any complaints to be investigated and action taken where appropriate.

Blasting and Vibration

- Making accurate surveys and recording of blast area.
- Ensuring correct blast design including correct relationship between burden, spacing and hole diameter.
- Ensuring accurate drilling, keeping sub drill to the minimum required.
- Making accurate surveys & recording of blast holes. If necessary, blast design would be revised in light of survey data.
- Maximising use of free faces including by careful planning of delay sequences.
- Optimising maximum instantaneous charge weight by (a) reducing the number of holes; (b) reducing instantaneous charge by decking charges; (c) reducing bench height or hole depth; (d) reducing borehole diameter.
- Optimising blast ratio in any changes to design.
- Where practicable ensuring direction of detonation away from sensitive areas.
- Wherever possible use of unconfined charges would be avoided particularly where fissures or broken ground or weaken of rock from previous blasting is known to be present.
- Stemming material would be of sufficient quality and quantity to confine adequately all explosives upon detonation. A coarse stemming material such as angular chippings should be considered. Drill fines should not be used.
- Bottom initiation would be considered in preference to top initiation.
- Misfire procedures would have due regard to under-burdened charges.
- If air overpressure is found to be a potential problem consideration would be given to reducing blast panel area.
- Blasting would be undertaken at regular times during the working day and only between the hours of 09:00 – 16:30 (Monday to Friday).
- Ground and airborne vibration levels would be monitored from every blast so that information may be employed into any necessary modifications of future blast designs; and
- Appointment of onsite contact to which complaints/queries about operational activities can be directed. Any complaints to be investigated and action taken where appropriate.

Air quality

- Soils will only be handled when dry and friable.
- Restored areas of the site will be seeded with grass as soon as practicable to prevent wind erosion of soils.
- All drilling rigs will operate with filters and blast holes would be stemmed with chippings.
- Drop heights will be minimised during the loading and unloading of minerals and soils.
- Stockpiles will be stored away from the site boundary and sensitive receptors.
- Water will be stored on-site to enable dust suppression measures to be carried out as and when required.
- Unsurfaced haul roads will be suitably graded and watered during dry conditions as necessary.
- External roads which may be subject to the effects of trackout will be managed by a mobile road sweeper.
- Vehicle speed limits will be controlled to prevent dust arising from haul roads.
- Vehicle exhausts will be directed away from the ground to minimise dust disturbance.
- All off-road site plant will comply with the Non-Road Mobile Machinery (Emissions of Gaseous and Particulate Pollution) Regulations 1999, as amended.
- Vehicles will not be left idling when not in use; and
- All loaded site traffic using the public highway will be sheeted.

Water

- During any sub-contractor tendering the expected level of environmental control would be included in the tender documents so that all contractors allow for mitigation measures in their costs and method statements.
- The site induction for contractors would also include a specific session on good practice to control water pollution from construction activities. Contractors would be made aware of their statutory responsibility not to “cause or knowingly permit” water pollution.
- The requirements for mitigating effects of dust and vehicle movements necessitate the dampening down of areas potentially producing dust and the provision of wheel washing facilities. Areas where these activities occur would provide sustainable drainage measures for sediment-entrained run-off, such as silt traps.
- To mitigate against accidental spillages, all chemical storage areas would be within areas of hardstanding, would be bunded so that 110% of the stored capacity is provided, and would be located at least 20m away from any surface watercourses, drains and recharge ponds, and outside the base of the quarry.
- Plant and machinery used during the quarrying would be well maintained to minimise the risks of oil leaks or similar. Maintenance and refueling of machinery would be undertaken off-site or within designated areas of temporary hardstanding. In these designated areas contingency plans would be implemented to ensure that the risk of spillages is minimised. Placing a drip tray beneath plant and machinery during refueling and maintenance would contain small spillages.
- Throughout the construction phase best working practices would be adopted and measures to protect the water environment would be taken by adopting recommendations set out in the Environment Agency’s discontinued (but still relevant) PPG (Pollution Prevention Guidelines) Notes.

Water

- Prior to each phase of works, update surveys would be undertaken for key protected species and habitats, including updating bat and great crested newt surveys in areas to be affected where existing survey data is over two years old.
- Any removal of vegetation or buildings with the potential to support nesting birds will, wherever possible, be undertaken outside the bird nesting season (March to August inclusive) to ensure compliance with the Wildlife and Countryside Act 1981 (as amended). If any clearance work must be undertaken during the breeding season period, it will only be undertaken after a qualified ecologist has confirmed that the feature does not support any nesting birds.
- Restoration will be undertaken in phases to minimise large-scale habitat change.
- Existing good practice measures will ensure that potential harm to on-site species is minimised e.g. standard dust management measures in line with the Institute of Air Quality Management’s dust management guidance will be implemented.

Soils

- Good practice measures for soil storage, handling and sustainable reuse will be incorporated into the working and restoration methodology in line with MAFF 2000 and Defra 2009 guidance. These include:
 - Topsoil and subsoil being stripped separately and, where possible, avoid handling topsoils during or shortly after heavy rainfall.
 - Storage of topsoil in bunds of no more than 3m in height, grassed and kept free from construction traffic.
 - Outside areas of development (for example environmental buffers and landscaped areas), minimising requirement for construction trafficking and therefore soil compaction.
 - Loosening of compacted subsoils before being covered by topsoil